Rethinking the Meaning of Public Health

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Public health is a dynamic field. Outbreaks of new diseases, as well as changing patterns of population growth, economic development, and lifestyle trends all may threaten public health and thus demand a public health response. As the practice of public health evolves, there is an ongoing need to reassess its scientific, ethical, legal, and social underpinnings. Such a reappraisal must consider the disagreement among public health officials, public health scholars, elected officials, and the public about the proper role of public health and the distinctions, for example, between public health and clinical care, and public health and health promotion.

In this article I will attempt to characterize the main points of contention as well as offer my own views regarding the proper scope of public health. Greater clarity and consensus on the meaning of public health are likely to lead to more efficient and effective public health interventions as well as increased public and political support for public health activities.

Alternative Definitions of "Public Health"

Human rights as public health

There is a growing trend to include within the sphere of public health all the societal factors that affect health. This is a very long list, including war, violence, poverty, economic development, income distribution, natural resources, diet and lifestyle, health-care infrastructure, overpopulation, and civil rights.[1] There is much to recommend viewing the sources of health broadly — in other words, considering health as more than the absence of illness and disease. Yet the conceptual value of considering the health of a population in light of a wide array of factors does not necessarily translate into a practical framework for implementing policy. The term "public health" is a legal term of art, and it refers to specifically delineated powers, duties, rights, and responsibilities. Even beyond its legal usage, public health applies to specific institutions and individuals, such as public health departments and public health officials.

The "human rights as public health" definition has been applied both internationally and domestically. According to Morris Schaefer: "The health of most people in the world depends less on access to medical services than on efficient farming, distributive justice, ensuring 'domestic tranquility,' and broad-based, sustainable development of natural and built environments."[2] Similarly, on a national level, William R. Breakey has written: "We should be as much concerned about the thousands of people who are homeless in American cities and the thousands of children in residentially unstable families as we are when there is an epidemic of an infectious disease affecting a few hundred people, and we should respond with the same urgency."[3] Schaefer and Breakey are certainly right in their assessments. Nevertheless, just because war, crime, hunger, poverty, illiteracy, homelessness, and human rights abuses interfere with the health of individuals and populations does not mean that eliminating these conditions is part of the mission of public health.

It is understandable why knowledgeable and caring health professionals would want to improve the health of individuals and communities by focusing on the root causes of illness and disease. Analyzing political, economic, and social issues in a scientific manner is appealing by providing essential data and more rigorous methodology. It also seems to help make the concerns more objective and their remediation more achievable. Unfortunately, labeling so many activities as pub-

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lic health does little if anything to eliminate the problem of poor health. "Even if we claimed that poverty is the root cause of all disease, which it surely is not, we would hardly be closer to solving the problem — just as we were no closer to eliminating the threat of nuclear war after pointing out that Armageddon would interfere with physicians' treatment of their patients."[4]

Ilan H. Meyer and Sharon Schwartz refer to the transformation of social issues into health issues as the "public healthification" of social problems, which they consider analogous to the medicalization of individual social problems.[5] In their view, public health provides too narrow a perspective to be effective. "In the case of many social problems, public health research questions as currently conceptualized are less complex than the social and political issues (conflicting interest groups, conflicting value systems, power relationships) that need to be resolved for interventions to be successfully applied."[6]

In a recent article, Larry Gostin describes three main reasons the all-inclusive notion of public health is not only ineffective but counterproductive.[7] First, the field of public health lacks precision if it includes such disparate areas of concern that have as their only commonality causing adverse effects on health. Second, as the field of public health expands well beyond its core area of expertise, it can claim no special abilities to end wars, modernize agriculture, or restructure economies. Third, by becoming involved with economic redistribution and social restructuring, the field becomes highly politicized.

The human rights definition of public health also raises practical problems. What curriculum could possibly train public health professionals on all the various root causes of poor health? What political system or public health budget will support far-ranging interventions by those charged with protecting public health? What effect will such seemingly quixotic activities have on the ability of public health professionals to combat traditional public health problems, such as infectious diseases and poor sanitation, as well as new threats, such as bioterrorism?

Individuals trained in public health should not give up the noble struggle to ensure that every person has a minimum standard of living to support a healthy life. But this battle must be fought together with people from all disciplines and all walks of life and without using the self-defeating strategy of annexing human rights into the public health domain.

Population health as public health

A somewhat less expansive, but still broad definition is the one traditionally used in public health. Under the traditional conception, public health focuses on the health of entire populations rather than individual patients. According to Dan Beauchamp and Bonnie Steinbock: "Whereas in medicine, the patient is an individual person, in public health, the 'patient' is the whole community or population. The goal of public health is to reduce disease and early death in populations."[8]

One of the most commonly cited definitions of public health in this vein comes from the Institute of Medicine (IOM) report *The Future of Public Health*: "Public health is what we, as a society, do collectively to assure the conditions for people to be healthy."[9] Although I would place this definition in the traditional category, it is a vague definition that fails to indicate the primary objective or scope of public health. Unlike most other definitions of public health, it does not explicitly state that public health is concerned with the health of the population rather than individuals.

The IOM report also makes public health the responsibility of everyone, although it gives primacy to government efforts: "The mission of public health is addressed by private organizations and individuals as well as by public agencies. But the governmental public health agency has a unique function: to see to it that vital elements are in place and that the mission is adequately addressed."[10] In contrast to this government-centered approach, a more expansive definition of public health cited in, but not necessarily endorsed by the IOM report is the following: "It's anything that affects the health of the community on a mass basis."[11] Under such a view, efforts to improve access to health care as well as more general measures to prevent injury and illness and reduce morbidity and mortality, such as advice to use sunscreen and eat healthy foods, would be considered public health. I term this conception of public health the "population health as public health" model.

There are three important characteristics of the "population health as public health" model. Each characteristic, however, raises concerns. First, this version of public health is the province of both the public and private sectors. Thus, public health would include the efforts of nonprofit organizations, commercial entities, and private citizens to promote healthy lifestyles. A beer company's "drink with moderation" campaign, a cigarette company's program to discourage underage smoking, and a religious organization's promotion of abstinence to reduce teen pregnancy would all be considered public health efforts. With such a broad approach, there is a risk that the urgency of public health will become diluted, and the public will have an increasingly difficult time in distinguishing public health from public relations.

Second, "population health as public health" fails to establish any meaningful lines of demarcation between individual health and public health. Under the "population health as public health" approach, when individual health measures are performed on or addressed to an unspecified but sufficient number of individuals, then this becomes public health. For example, when primary care physicians adopt as the standard of care a new type of screening test or treatment modality, the result may be to improve the health of numer-

ous individuals. But it is unclear at what point cumulative individual health measures become population health. It is also unclear when responsibility for such a health measure shifts from the individual health-care provider to a public health official.

Third, unlike traditional public health measures, such as infectious disease control, the failure to undertake population health measures, such as a treatment or preventive measure for a person who is sick or at risk, does not place the health of other individuals in jeopardy. Consequently, when population health is based on multiple individual health actions, it may not justify coercive measures on the part of the government. Responsibility for these interventions would lie with individual health providers, non-governmental organizations, and government agencies acting in their non-coercive, population health role. The "population health as public health" approach is thus ill-defined, with diverse actors pursuing widely divergent strategies to deal with the same health problems, tackling health problems of varying severity, and often pursuing their own agendas with little coordination or accountability. Furthermore, it is ill-advised to adopt a definition of public health that mixes government with non-government initiatives, coercive with non-coercive measures, and harms that affect individual health with those that affect the health of the public.

Government intervention as public health

The third conception of public health, and the one I advocate, is more limited in scope. "Government intervention as public health" involves public officials taking appropriate measures pursuant to specific legal authority, after balancing private rights and public interests, to protect the health of the public. These measures may be coercive. The existence of a public threat demands a public response, and in a representative political system it is the government that is authorized to act on behalf of the public.[12] The police power is the constitutional authority on which public health measures are based. According to the U.S. Supreme Court:

> According to settled principles, the police power of a state must be held to embrace, at least, such reasonable regulations established directly by legislative enactment as will protect the public health and the public safety.... There are manifold restraints to which every person is necessarily subject for the common good. On any other basis organized society could not exist with safety to its members.[13]

The moral and political authority (and duty) of the government to mandate public health actions, including quarantine, isolation, immunization, contact tracing, property seizures, and environmental regulation, derives from one of the following three conditions. First, the health of the population is threatened. The paradigmatic public health threat is an infectious disease, where the threat to the public is through the horizontal transmission of infection. Other health threats may have a public health effect because they involve common resources and because the failure to control the problem at the source will lead to adverse health consequences to many people. Thus, person-to-person transmission is not necessary to have a public health threat. Food safety, sanitation, water fluoridation, insect and vermin control, and pollution control are examples of public health measures to address health threats to the public.

The second type of condition to justify a public health intervention occurs when the government has unique powers and expertise related to an essential aspect of public health. Disease reporting and surveillance illustrates this category. Legally mandated reporting of certain types of health conditions, such as some infectious diseases, occupational diseases, cancers, sexually transmitted diseases, gunshot wounds, child fatalities, and suspected cases of domestic violence, are all important to the collective health of the community. Reporting allows for data aggregation and analysis as well as more direct intervention to prevent additional cases. Without mandatory reporting, important cases would be lost, and only the government has the authority to mandate reporting. Moreover, government public health agencies have access to the trained professionals needed to interpret the data.

The third type of condition to justify a public health intervention occurs when government action is more efficient or more likely to produce an effective intervention. An example would be newborn screening programs, which are mandated by law in every state. Public health programs to identify inborn errors of metabolism and other heritable disorders offer uniformity in standards and reporting. In addition, screening programs are often tied to publicly financed follow-up and treatment.

The key element of public health is the role of the government — its power and obligation to invoke mandatory or coercive measures to eliminate a threat to the public's health. Without a threat to the public, it is much more difficult to make a case for the use of coercive powers; in the absence of such legal authority, the participation of individuals in health-enhancing activities ordinarily must be voluntary. Applying these principles to the three sources of moral and political authority for governmental public health activity, the justification for activity goes in descending order from (1) population-wide health threat; to (2) unique governmental powers and expertise about an essential aspect of public health; to (3) the need for more efficient and effective governmental action in ensuring public health. Public health activities in this third category may overlap with population health measures. Consequently, newborn screening for phenylketonuria (PKU), congenital hypothyroidism, and other disorders; school-based medical screening for scoliosis, tu-

berculosis, vision and hearing problems, dental caries, and other conditions; and broad health promotion activities may be considered in varying degrees by different jurisdictions to lack the urgency and public health effects necessary to require universal participation.

Under this narrower definition of public health, a "public health clinic" providing primary care is *not* engaged in public health; it is a public entity providing individual health care. In the United States, because there is no guaranteed access to health care, the responsibility for providing health care to uninsured individuals often falls to public health agencies. One effect of this allocation of responsibility is that providing primary care services tends to be commingled with, and to crowd out, other public health functions. As a result, many health departments lack the resources to engage in core public health functions, such as epidemiology, disease surveillance, and environmental regulation.

Dr. Barry Levy, former president of the American Public Health Association, observed that 97 percent of those questioned in a Harris poll did not know what public health is, and that a substantial number of the respondents said that public health is health care for the indigent.[14] According to Dr. Levy: "It should therefore not surprise us that many of our elected officials believe that when you move so-called indigent people into private-sector managed care programs, there is no need for public health anymore."[15]

In support of a narrower definition

There are five reasons I believe it is desirable to embrace a narrower definition of public health. First, health-related activities that trigger the coercive power of government raise the most serious and complex legal and ethical issues; only activities falling within a narrow definition of public health can justify the use of this power. Second, the narrow and more specific classification of public health activities indicates the outer limits of coercion for government programs. Third, the classification scheme helps in allocating responsibilities for public, population, and individual health among the private, public, and not-for-profit sectors. Fourth, classifying possible government activities according to public health roles helps in setting priorities. Fifth, because public health has been the justification for some overreaching or even reprehensible prior government activities, ranging from eugenics to unethical research on human subjects, a narrow definition of public health will help steer public health officials away from activities that are inappropriate for the government.

This last point is illustrated by the recent emphasis on public health genetics.[16] Public health involves government action, coercive powers, and societal interests taking precedence over individual rights. In genetics, the dominant values are autonomy, reproductive freedom, and privacy. Thus, public health genetics seems paradoxical, thereby strongly suggesting that any undertaking in the field must be approached with great care. Any government activity is of particular concern when applied to genetics and reproduction. After all, paternalistic, coercive, government efforts to improve the nation's health through genetic intervention were the hallmarks of the eugenics programs adopted in the first third of the twentieth century. Public policy in genetics has yet to recover from this debacle of mixing public health powers with the scientific means to achieve ostensibly desirable social objectives. Accordingly, those who would advocate a broad view of public health genetics beyond proven measures, such as newborn screening, should have to demonstrate that government action is essential and that detailed measures have been taken to protect individual rights.

Public health genetics also must draw clear distinctions with clinical genetics and clinical medicine. For example, hereditary hemochromatosis is a recessively inherited disorder of iron overload. It can cause serious organ damage if undetected, but it is relatively easy to test for presymptomatically using a genetic test, and it is easy to treat through periodic phlebotomies. Is reducing the morbidity associated with hemochromatosis a public health issue or a clinical issue that can be resolved through genetic testing by primary care providers in the course of regular medical examinations? I would argue that it is an individual health issue that, collectively, may become a population health issue, but it is not a public health issue.

Public Health Professionals, Schools, and Agencies

The taxonomy I am proposing may seem threatening to some public health professionals who may view the classification scheme as unsupportive of their work, misguided, naïve, dangerous, or callous. I believe that such views would reflect an inaccurate interpretation of my proposal. I unequivocally support all of the health-related activities under the categories of individual health, population health, and public health. I also support even the broadest aims of the "human rights as public health" model. What I oppose is the use of the term "public health" as an open-ended descriptor of widely divergent efforts to improve the human condition. It surely will not hasten the elimination of disparate forms of human privations to call them public health issues.

A return to a narrow definition of public health should not have any effect on the curricula of schools of public health, although it might be appropriate to change their names to schools of public and population health. Even though aspects of health promotion, health education, health policy, health services, health research, and health law may be outside the "government intervention as public health" model, these and similar subjects are an essential part of the public (and population) health curriculum. So, too, are epidemiology, biostatistics, toxicology, sanitation, occupational and environmental health sciences, and all of the other methodology and basic science disciplines on which public health is

based. For educational purposes, it does not matter whether particular methods and skills belong to population health or public health, and it does not matter whether the students subsequently work in the public, non-profit, or private sector.

The narrow definition of public health may have an effect on setting the priorities of public health agencies. The top priorities should be those matters requiring mandatory interventions and therefore falling within the narrow definition of public health. In theory, the issues described as population health, including health promotion and health research, would be the next priority. This allocation of responsibilities, however, assumes that the public health agency is not responsible for providing basic medical care, such as prenatal and well-baby care, and other services. To the extent that these are health department responsibilities, then they will need to be integrated into the second level of priorities, after those measures that directly and immediately affect the health of the population.

The Ethical Foundations of Public Health

According to the definition I have suggested, public health invariably involves a balancing of individual and group interests, or private and public interests. Viewed in terms of bioethics, the conflict is between autonomy and paternalism. Decisions about where to strike the balance are not static, and they are influenced by varied and often changing value systems — on an individual, group-wide, and population-wide basis. This fact suggests several necessary responses by public health officials. First, public health interventions must be culturally sensitive and take into account a range of values on issues such as privacy, autonomy, liberty, and dignity. Second, because public attitudes change over time, public health officials must continually justify public health interventions, even longstanding measures of proven efficacy. Third, public health officials and their allies in the public and private sectors must be vigilant. For example, according to the Centers for Disease Control and Prevention report *Public Health's Infrastructure: A Status Report*: "Complacency about the need to maintain vigilance against public health threats has allowed the costly resurgence of many nearly eliminated diseases, including, most recently, tuberculosis and measles...."[17]

A few examples will demonstrate the balancing of group versus individual and public versus private interests. Immunization requirements have been a keystone of public health practice since the early part of the twentieth century. Within the last ten years, however, there have been a number of efforts in state legislatures to increase the statutory exemptions from mandatory immunization. In many states, parents have long been permitted to raise religious objections to immunizations. Some advocates would extend the grounds for exemption to include general personal beliefs about the safety or efficacy of immunization. Broad exemptions, however, raise the distinct possibility of a resurgence of vaccine-preventable disease.[18] Thus, in terms of public health policy, it is necessary to recognize the objections to immunization among growing segments of the population and to demonstrate the current safety, efficacy, and importance of mandatory immunization. Without such documentation, policy development in the legislative arena may afford greater weight to individual liberty interests and asserted parental rights than to public health.

In some instances, public health policy development involves the balancing of two competing private interests. For example, occupational and environmental health are traditional areas of public health activity. New research has established that individuals vary in their risk of illness from occupational exposure based on genetic factors. Should an employer be permitted to use genetic tests to exclude from hazardous exposures individuals who have a genetically increased risk of occupational illness?[19] From a scientific standpoint, numerous factors must be considered, including the absolute risk, the relative risk, the severity of the risk, the latency period, and whether the condition is treatable.[20] Assuming that it made sense from a scientific standpoint to reduce the exposure of at-risk individuals, this would only be a starting point for the policy analysis. The interests of the employer in productivity and profitability (as well as the public interest in preventing illness) would still need to be balanced against the privacy and economic interests of the individual. Here, the conflict between autonomy and paternalism involves primarily private interests, but the government's role in public health (as well as in civil rights and employment policy) is to strike the proper balance.

Conclusion

In common parlance, "public health" is now a general, descriptive term and not a term of art. It is incongruous to embrace the broadest meaning of public health at the same time that our legal system and public health infrastructure are based on a narrow definition of public health jurisdiction, authority, and remedies. Moreover, the boundless conception of public health now gaining in popularity not only may fail to achieve its goal of alleviating the economic and social roots of ill health, but it may actually impede the ability of public health officials to provide traditional public health services.

The moral and political power of governments to act in the realm of public health devolves from the existence of a serious threat to the public. Coercive public health measures are justified by the natural law principle of self-preservation applied on a societal basis. Indeed, modern public health traces its philosophical roots to nineteenth century utilitarianism.[21] The broad power of government to protect public health includes the authority to supersede individual liberty and property interests in the name of preserving the greater

public good. It is an awesome responsibility, and therefore it cannot and must not be used indiscriminately.

According to the definition I support, only public health officials can undertake public health actions because their coercive powers are firmly grounded in constitutional provisions and enabling legislation. In my view, public health does not include providing basic health services or population health measures, such as health promotion, and it does not include private actors undertaking similar individual or population health measures. The distinctions among the definitions of public health and their various applications are more than semantic. A clearer understanding of the role of public health helps to allocate responsibilities, set priorities, and avoid inappropriate government activities.

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