

A NEW VOCABULARY

The term public health is commonly used in two senses. The first sense is most easily described by the distinction between public and private services: public health most often denotes a set of resources—government services, or public services provided by a nonprofit agency. Or it means free medical care—free in quotation marks, of course; one does not pay a fee upon receiving a direct service, but the services must be paid for out of general revenue or earmarked taxes. Another way of looking at this type of public health is to specify its location or spatial context: these are services provided in a public space to which everyone is presumed to have access, but in practice in the United States only the marginalized use them.

The second and much more common usage of public health, and the sense in which the term is most often used in this book, is community health, in contradistinction to the personal health services of clinical medicine. Public health, in this sense, concerns a set of needs for protection from hazards that are rooted outside the individual; it embraces a wide range of community health services that affect large numbers of people—for example, epidemiological intelligence and vital and health statistics that are provided in the United States by the Public Health Service and the Centers for Disease Control and globally by the World Health Organization. In contrast, clinical medicine is typically practiced one-on-one with emphasis on curative care.

All kinds of combinations of public health and clinical medicine are possible, which seems contradictory. One can do public health work while employed by a private company; for example, in the

context of a for-profit organization like Exxon or Nestlé one may practice one of the public health disciplines such as occupational health. Conversely, one can practice clinical medicine as a government employee; in the United States, for example, one may be a clinician with the Veteran's Administration or one may join the clinical medical service that the United Nations runs for its staff. The definitions, while clear, are used in confusing ways.

In addition to what public health is and where it is practiced, there are questions of how it is practiced and by whom. When public health work was limited to the provision of clean water supplies, sewerage, and garbage collection, it was easily distinguished from clinical medicine by the training of its practitioners. Public health inspectors were sanitarians, hygienists, and sanitary engineers, whereas physicians, surgeons, and nurses practiced medicine. Today the distinctions are blurred by the growing numbers of auxiliary personnel in clinical medicine (X-ray and lab technicians, dental hygienists and physical therapists) and by the assimilation of so many public health disciplines into clinical medicine-for example, occupational health, nutrition, and maternal and child health. Some would say public health itself has become a branch of medicine in the United States.

If what characterizes clinical medicine is one-on-one work, then the hallmark of public health is community action. Public health is concerned with factors that impact on health but are not normally associated with individual well-being—such as handguns, excise taxes, and highway speed limits. Yet a great deal of public health work does affect individuals; even when measures are planned on a community basis, they affect individuals or, even if they are directed at a group of individuals, they have their health impact by affecting a single individual. For example, sanitation, garbage collection, and street cleaning are community measures not designed to affect specific individuals or control single diseases, but they can have that ultimate effect. Upton Sinclair's novel The Jungle illustrates this point: the child of Jurgis Rudkus, the hero, falls off a makeshift sidewalk in a Chicago slum and drowns in a muddy street lacking drains that heavy spring rains have turned into a canal.

Another community measure not directed at a single individual and not singling out any particular group is legislation, such as the

1958 Delaney Clause that prohibits the use of carcinogenic food additives in the United States; this kind of regulation ultimately protects individuals from cancer. Mass vaccination campaigns, while planned on a community basis, are practiced on individuals. Even when clinical medicine deals with large numbers of people (as in mass screening for breast cancer), its concern is to identify and treat sick individuals. By contrast, even when public health targets individuals (as in tests for tuberculosis), its aim is to manage a problem that is identified as a threat to the community. These distinctions are important in planning programs and anticipating consequences of action.

René Dubos (1959; 1968) traces two streams of thought—the clinical, representing medicine, and the environmental, characterizing public health—back to ancient Greece, to Asclepius and Hygeia, respectively. Clinical medicine derives from the concern of the healer (Asclepius) with the individual, with the functioning of the individual body, with disease processes that take place within the body, and with interventions to alter the course of disease within the individual's body. Public health (or hygiene, from Hygeia) derives from community concerns with the environment and the interaction between societies and their environment, what is now called human ecology.

Public health is an interdisciplinary field and encompasses a number of disciplines including environmental health, occupational health, epidemiology, biostatistics, health education, nutrition, mental health, and health care organization and administration. Other disciplines of the social sciences have medical specialties that became part of public health, for example, geography, anthropology, sociology, economics, ethics, politics, law, and demography. Public health has a greater impact on our lives and affects many more of us than does clinical medicine, as the nineteenth-century sanitary reforms in Great Britain and the United States demonstrated. But, because clinical medicine, unlike public health, does not threaten vested interests, it and its technically dazzling disciplines (especially surgery) are more often in the news and get more good press, so that in our minds public health shrinks and becomes a narrow field. A review of the scope of public health will correct many misapprehensions.

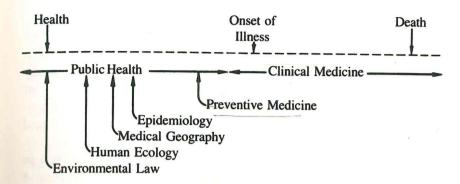
THE SCOPE AND ORIGINS OF PUBLIC HEALTH

A review could usefully begin by distinguishing clinical disciplines, such as preventive medicine, from public health disciplines, such as medical geography and human ecology. One way to distinguish them is by whether they act directly or indirectly on health status. Clinical medicine intervenes directly: acts are either surgical, chemical (as with drugs), electrical (electroconvulsive treatment), or physically manipulative (chiropracty). Public health intervenes indirectly using non-medical measures to affect health status. One function of public health workers is to monitor the environment for sources of potential ill health—for example, sanitarians inspect restaurants—or they alter a potentially harmful environment—for example, by fluoridating water or by monitoring the iodization of salt and the nutritional supplementation of food as in vitamin-enriched white bread.

To distinguish public health from clinical medicine in another way, plot the disciplines on a scale (see figure 1). Draw a straight line, representing a spectrum of states of health, with life or health at the left end and death at the right. Then distribute the disciplines along this spectrum according to where their practitioners intervene to affect health status. Somewhere near the middle is the onset of illness: this is where clinical medicine intervenes, at the moment of illness. Preventive medicine appears just to the left of clinical medicine; its practitioners apply a variety of tests to apparently healthy individuals in order to detect abnormalities at the earliest stages and prevent disabling conditions (for example, monthly blood pressure tests on pregnant women to monitor for hypertension and avoid toxemia).

The disciplines of public health appear to the left of preventive medicine. Epidemiology, the study of the spread of disease, may be placed next, and medical geography to its left; medical geographers map environmental and disease patterns, searching for unusual occurrences or factors that explain the patterns. Global maps of cancer have shown us the role of industrialization in that disease and have revealed interesting information about the role of diet, which showed up on cancer maps of Africa and China. Human ecology is to the left of medical geography, almost at the

Figure 1. Selected Public Health Disciplines



beginning of the scale closest to health. Human ecology, a recent field that grew out of biology and incorporated a lot of sociology and anthropology, is the study of the interactions of populations with their environment and the identification of potentially harmful interactions. Environmental law, which deals with legislation and regulations designed to conserve nature, might be placed last.

Public health is concerned with social organization—with what René Dubos (1968, 82) refers to as ways of life or what Jacques May (1954, 422), a prominent medical ecologist, called the culture that promotes and supports the survival of the group. Public health workers look at the interplay of social and environmental hazards; in traffic accidents, for example, they look at unsafe roads and unsafe cars, atmospheric and climatic conditions, and patterns of drug and alcohol abuse among drivers.

Because it represents direct action, vaccination is unlike other public health work. In order to protect communities from the spread of infection, public health workers administer vaccines that make exposed individuals immune to communicable disease. Logically, immunization belongs to clinical medicine, not public health. It became an important part of public health work in the nineteenth century because the poor could not afford vaccinations; the urban middle classes, threatened by epidemics, pressured governments to protect them by filling gaps in private medical coverage. Similarly, maternal and child health services belong to preventive medicine but have become part of public health because the poor could not afford obstetric and pediatric care and

factory owners needed to ensure the birth of the next generation of workers (that is, the reproduction of the labor force)

Public health has a tradition of managing the physical environment which goes back hundreds of years to the first quarantine laws adopted in fourteenth-century Venice to arrest the bubonic plague, which was spread from rat-infested ships. Present-day public health practice in environmental management derives most immediately from the sanitary reform movement of nineteenthcentury England, which improved urban sewerage, drainage, and water supplies. Management of the industrial environment, initially confined to regulation of the workplace, also occurred in this period. After the sanitary reforms were encoded in successive public health and factory acts that improved the lot of the poor in Great Britain and the United States, public health was depicted by conventional public health historians as a champion of workers and their families, a role that brought it into conflict with industry. Liberals like George Rosen (1958) portray public health heroically as government intervention to protect the working classes from the worst excesses of industrialization and urbanization. In this guise, public health has attracted well-meaning reformers from Edwin Chadwick, the architect of English sanitary reform, and Rudolf Virchow, his German counterpart, to the host of young professionals who flocked to the Carter administration in the late 1970s.

A more radical view of public health, the one adopted in this book, is that the working classes, in their confrontations with the business classes over such issues as housing, wages, and hours of employment, won industrywide regulations that are administered publicly (changes in a single factory or company can be managed privately). Workers and their families agitate for better working and living conditions; but the response to their demands, made palatable to business by various concessions, is a series of public health regulations and services. In effect, workers hope for profound economic and social change but get limited legislative reform. Ironically, there is compelling evidence that improved living and working conditions have had a far greater impact on health than public health and clinical medicine combined (McKeown 1976).

Industry has resisted—and continues to resist—public health

regulations. One example of industry's confrontation with government is the ongoing resistance to occupational safety and health legislation (others could be drawn from the regulation of alcohol or tobacco). U.S. corporations challenge the rules of the Occupational Safety and Health Administration in court as soon as they are promulgated. The 1978 cotton dust regulations to protect workers from bysinossis (brown lung disease), for example, were contested in the New Orleans Fifth Circuit Court the same day they were issued. Business has also used government control of public health to increase its hold over workers. Historically, it has used municipal public health administrations for social control and to reorganize the labor force, as in the measures taken when epidemics of cholera and smallpox occurred in nineteenth-century America. Health departments used the occasions to increase their powers and effectiveness. They were often opposed by the working class, who experienced the measures as extending control over their daily lives rather than improving their health and who were provoked to riot by the imposition of such public health measures as mass vaccination, quarantine, and hospital isolation in New Orleans, Milwaukee, New York, and elsewhere (Leavitt 1976; Stark 1977).

In the United States, clinicians and public health doctors have mediated confrontations between labor and management in situations that affect public health and industrial safety, sometimes on the side of business, sometimes for government, far less often for workers, their unions, or their communities. One common explanation of why physicians readily align their interests with business is that they are from the same social class as corporate leaders (see Turshen 1975, 86-100 for an analysis of the international evidence). Some Marxists believe that the medical profession is controlled by capitalists who reward doctors for their service to the highly profitable health care industry with money and prestige (McKinlay 1977). This approach emphasizes the class nature of the medical care system in capitalist societies (Navarro 1976). An alternative explanation is that, because it fails to address large social determinants of health, a medical approach to well-being is inherently limited (Stark 1982, Turshen 1977).

Even when public health workers testify on behalf of government or for unions in cases involving corporate challenges to the