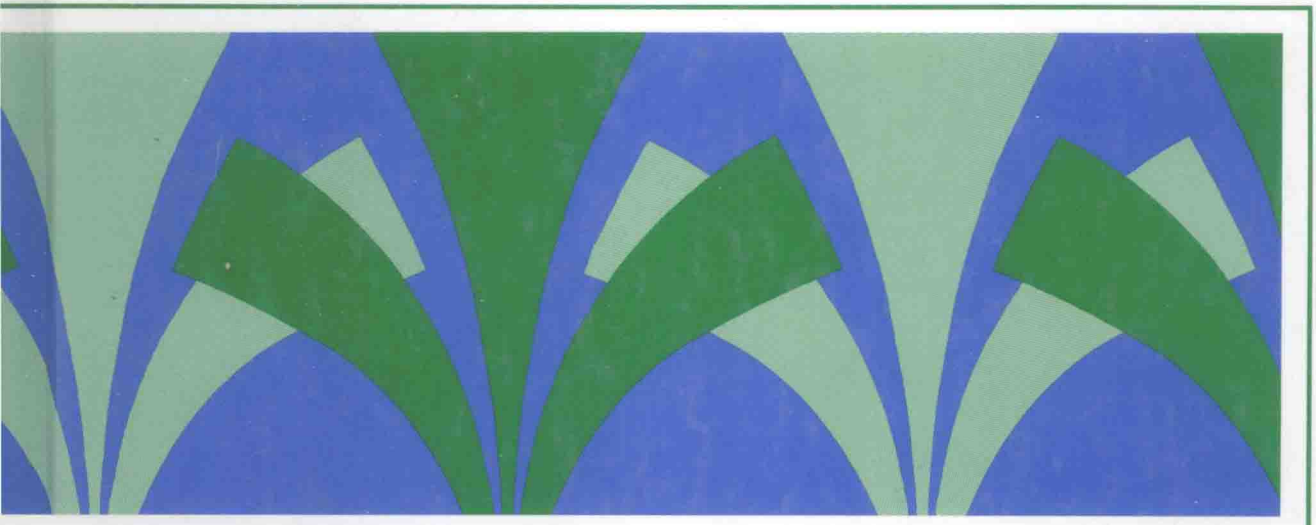
NINTH EDITION

PUBLIC HEALTH

Administration and practice



PICKETT/HANLON

PUBLIC HEALTH

Administration and practice

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NINTH EDITION

with 19 illustrations

TIMES MIRROR/MOSBY
COLLEGE PUBLISHING

ST. LOUIS • TORONTO • BOSTON • LOS ALTOS 1990

Editor: Pat Coryell
Editorial Assistant: Loren Stevenson
Editing and Production: Editing, Design & Production, Inc.
Book Design: Candace Conner
Cover Design: Elise A. Stimac

NINTH EDITION

Printed in the United States of America

Library of Congress Cataloging in Publication Data

Pickett, George E. (George Eastman, 1935–
Public health: administration and practice / George Pickett, John J. Hanlon. – 9th ed.
p. cm.
Hanlon's name appears first on earlier ed.
Includes bibliographies and index.
ISBN 0-8016-2501-7
1. Public health. 2. Public health administration. I. Hanlon, John J. (John Joseph), 1912–1988. II. Title.
[DNLM: 1. Public Health Administration – United States. WA 540 AA1 P52p]
RA425.H29 1990
362.1'068 – dc20
DNLM/DLC
for Library of Congress 89–12721
CIP

GW/RRD/RRD 9 8 7 6

To John and Frances Hanlon

Preface

When the first edition of this book appeared, more than four decades ago, public health and indeed the world were very different. Having endured the global trauma of World War II, there was widespread enthusiasm and hope for a peaceful, prosperous, and stable future in a world without disease, rich with energy, devoid of pollution, endowed with justice for all, and without poverty of psyche or soma.

World War II had, as had its predecessor, brought with it amazing advances in the biological and physical sciences: antibiotics, new surgical techniques, advances in virology, a better understanding of mental illness, and, moreover, nuclear energy to be used for peaceful purposes. It also ushered in a new era in which the industrial and economic power of the United States was expected to fuel the world's economy. Millions of returning veterans had experienced the benefits of an organized system of health care. This stratified system employed trained paramedics at the front line, who were backed up by field stations equipped to do emergency surgery and a tertiary care system which could bring the most up-to-date medical technology to all members of the armed forces without regard to their rank, income, or ethnic group. These returning veterans and their children moved into the ranks of industry, business, labor, politics, education, and public health in the ensuing 40 years. They had experienced a different environment than that of their parents and they had different expectations of their government. The epidemics of lung cancer due to smoking and of AIDS were as yet unknown.

Public health departments at that time fit a classic American model: a physician, a nurse, and a sanitarian provided a limited array of services intended to protect the public against communicable diseases. More than 80% of the nation's population lived in areas served by a public health department. There was a clear line of communication from the Surgeon General of the U.S. Public Health Service to the state health officer to the director of the local health department. Faced with a threatened outbreak of typhoid or polio in a community, an epidemiologist from the Centers for Disease Control in Atlanta could be on a train within 24 hours. Medical care was widely available for those with a modest income, as well as for veterans. In many communities there were public hospitals which provided medical care for the poor. In others, the local welfare budget paid for needed care, provided that need could be proved to the local policy makers. Mental health care (but few treatment services) was provided in large state hospitals. The state and local health departments were responsible for the sanitation of the environment: milk and food inspection, sewage systems, and the water supply.

By 1989, all of that had changed. Health care for the poor (both employed and unemployed) was a major issue in every state legislative body, with nearly 37 million people in peril because they had no insurance with which to buy their way into a zealously entrepreneurial and private medical care system, even though state and federal expenditures for health care for the aged (Medicare) and the poor (Medicaid) were nearly three times greater than the entire federal budget in 1950. And matters appeared to be getting worse: the price of medical care continued to rise faster than virtually all other segments of the economy, as benefits for workers and the poor became more and more constricted. The mental health system had been drastically changed, with state hospitals playing a minor role and community mental health centers attempting to care for larger and larger populations of chronically mentally ill people, living in but hardly with the community, and growing numbers of homeless individuals, AIDS patients, and the victims of substances such as alcohol and "crack."

Environmental health services had been splintered into numerous agencies both at the federal and state level. Separate agencies were created for occupational health programs. In only a handful of states is the state health department the lead environmental agency. In some states there are departments of natural resources, environmental protection agencies, agriculture departments, occupational health programs, toxic waste authorities, environmental review boards, and radiation con-

trol agencies involved in providing environmental health services, along with the state and local health departments, the police, and the fire department. In spite of the efforts, there is serious concern about the rising tide of environmental pollution and a growing perception that it may not be possible to live in a risk-free world.

Public health agencies themselves have been reorganized dozens of times since this book was first written. Umbrella human service agencies have been formed and then dissolved, and umbrella environmental agencies have been established which effectively split the traditional concerns of public health, assigning some to social welfare organizations and the others to environmental protection agencies, which many think are not the same as environmental *health* agencies. At the end of 1988, the Institute of Medicine published its long-awaited study *The Future of Public Health** and described the scene as one of "disarray." It is true—there is confusion about the purposes of public health in the United States. While public health continues to provide an enormous range and variety of services, directly touching the lives of 60 to 70 million people each year, and indirectly providing services which protect all of us, the public and its elected leaders are not clear about what is intended and who should do it. While there is no dispute about the desire to prevent dangerous communicable diseases, there is less consensus about the role of government in preventing or otherwise controlling such diseases as heart disease, cancer, substance use and abuse, and injuries. While there is widespread conviction that medical care costs too much and that those without adequate access have a right to obtain it, there is disagreement about the responsibility of government for needed reforms and programs and who should pay how much. Public health has not been intimately involved in these discussions in most states. While there is grave concern for the number of mentally ill people who are living in abominable circumstances in every community of the land, there is confusion about the role of institutions in providing protective and treatment services. While there is a consensus that pollution must be controlled, there is disagreement about how to do it and who should pay.

The disarray of public health foreshadows the disarray that will emerge in other sectors of society in the few short years before this century gives way to the next. It is apparent that the most important problems of society cannot be solved by traditional, single agencies and it is becoming apparent that continually reorganizing the agencies of government will not make solutions easier. New and more efficient approaches to transorganizational policy formation and implementation are needed if the public's health is to be protected within the boundaries of the resources and the social policies of the nation. It is to this task that public health must turn its attention in the 1990s. It is for the purpose of helping to prepare the leaders of that effort that this book has been written.

The book is intended for graduate students in public health, community health, and health administration programs, as well as students in nursing, medicine, dentistry, and other health professions who need some knowledge of the public health effort in the United States. While its title includes the word "administration," this is not a "how-to" book. It is really a more descriptive and analytical source. The skills of management are better acquired in course work, as an apprentice and through books specifically intended to cover such topics as organizational behavior, public sector financial management, and human resource management.

Part One consists of four chapters which describe the historical, philosophical, and scientific roots of public health. The five chapters of Part Two discuss the basic tools of public health (epidemiology, prevention, and the law) and its organization in the United States. Part Three provides an overview of the management of public health in the United States as well as a chapter which briefly describes how public health is managed in other countries. (This is a much neglected subject in the United States and the reader is encouraged to examine public health systems in other countries to gain better insight into the U.S. system.)

In Part Four, although the separation of infectious diseases from noninfectious diseases is at first seemingly arbitrary, it does have some conceptual basis. Health efforts directed at chronic diseases involve a different social purpose—that of not only protecting the individual against disease but the public's purse as well, which is somewhat different

* Institute of Medicine: The future of public health, Washington, DC, 1988, National Academy Press.

from the social mandate to protect everyone from other people's infectious diseases. A new chapter dealing with AIDS is included. The disease had scarcely been recognized at the time the last edition was written.

Part Five includes chapters dealing with occupational health and safety, injury control, and public health nutrition. (The latter subject can be treated as an environmental issue or as a welfare issue, but was chosen to be included here.) Part Six includes four chapters which are devoted to different segments of the developmental life span: pregnancy and perinatal health and child health—traditional concerns of public health for more than a century—and adolescence and aging—emerging areas of concern and interest. It is significant that there is not a chapter dealing with the group between adolescence and the elderly, namely the working age, adult population of the country. While many of the activities of public health protect the health of adults, they have not been singled out as an area of special concern in this country, unlike the socialist nations which prize their workforce or other nations with national health insurance.

Part Seven describes the public role in the behavioral arena, including mental health, substance use and abuse, and violence. Part Eight describes the personal health services programs of the public sector, with distinct chapters dealing with public health nursing and organized efforts to assure access to medical care.

When this book was first written by John Hanlon, he was able to write authoritatively about the entire range of public health, and he contributed to the initial development of many of the topics covered. Now, of course, there are numerous monographs written by specialists in each of the areas covered by this book, and there is an array of journals covering virtually every topic described here. It is a little audacious for a single person to attempt to cover so much. With the exception of the two chapters on environmental health contributed by Dr. Barry Rabe, however, that apparently is what this book represents. However, it is much more than that. It includes the ideas and reflections of hundreds of current public health professionals who have shaped the thoughts of the author during the past 25 years.

Most importantly, the book includes a large amount of the wisdom of John Hanlon, who was an extraordinary person, both professionally and personally. It includes ideas which have been listened to and assimilated from the many people whose friendship has been experienced because of John's enthusiasm and thoughtfulness. The author has enjoyed the rich experience of learning from the best of the present as well as the past, and it is their wisdom which shapes this book.

GEORGE E. PICKETT

Contents

PART ONE

Roots of public health

Before embarking on a study of public health in the United States, it is necessary to consider the roots of public health: its origins, its historical evolution, and its meaning at the dawn of the twenty-first century. These introductory chapters will describe the philosophy and purpose of public health, review the impact of culture and society on health status and vice versa, provide a historical perspective on the evolution of public health, and offer a brief overview of the global or international nature of public health problems and programs. The purpose of these chapters is to broaden understanding of the unique nature of public health and thereby make more comprehensible the more detailed discussions in subsequent chapters of the organization of public health, the problems assigned by society to its public health agencies, and the policies that are explicit or implicit in the organization and application of public health resources.

CHAPTER 1

Philosophy and purpose of public health

PUBLIC HEALTH AS A PROFESSION

Throughout the world there are now large numbers of people from many professions engaged in the field of public health. They are unusual in that their common bond is the conviction that the public's health can be improved by altering conditions—behavior, the environment, biological interactions, and the organization of services—that might otherwise, at a future time, have an adverse impact on health. Unlike most professions, which have a common body of knowledge and a shared educational experience to bind their members together, the public health profession has an intended outcome as its common ground, as the cohering force that binds its members together in a global effort. Their training and educational backgrounds are widely diversified: medicine, nursing, law, engineering, sociology, statistics, management, psychology, microbiology, dentistry, economics, accounting, political science—virtually every type of professional education from administration to zoology, from meteorology to social work, can be applied in the field of public health.

Public health workers are often described as idealistic and dedicated, but they can be found in many settings, including industry, government agencies, academic institutions, and private practice. They are increasingly well paid in a competitive environment that values education and skills. There is a persistent argument about who is a public health professional. Deans of schools of public health maintain that their graduates are public health professionals regardless of the setting in which they work. The American Public Health Association tends to define a public health worker as someone who works in a public health organization, regardless of training. Some argue that the chief executive officer of a hospital or a nursing home administrator is involved in public health work, while others assert that these are personal care agencies, which are more often than not involved in a profit-making enterprise. Is a pediatrician immunizing a child a public health practitioner for the moment?

This book is not about the education of public health professionals or the practice of preventive medicine; it is about public health as an organized, social effort, centered in official agencies but intimately involved with voluntary and not-for-profit organizations, intended to protect, promote, and restore the people's health.

What can be accomplished by public health workers in the face of an environment made increasingly hazardous by our own actions, human behavior that often leads us to risky actions or inactions, biological threats such as cancer, heart disease, diabetes, and AIDS, and an often ambivalent political process for allocating scarce resources among competing social needs such as education, health, highways, welfare, and national defense? One is reminded of a statement by the Irish parliamentarian Edmund Burke (1729-1797) in the face of repeated criticism: "Those who carry on great public schemes must be proof against the most fatiguing delays, the most mortifying disappointments, the most shocking insults, and what is worst of all, the presumptuous judgments of the ignorant." Sir Henry Cole once showed this statement to his close friend public health pioneer Edwin Chadwick and commented that Chadwick should have it pinned to his sleeve as an epigraph.

An essential point to be made is that despite all handicaps, spectacular successes of far-reaching consequences have been achieved during an amazingly brief historical period. At the time of Cole's comment to Chadwick in the midnineteenth century, the average age at death in large English cities was only 36 years for the gentry, 22 years for

tradespeople, and 16 years for the laborers. More than half the children of the working class and a fifth of the children of the gentry died before their fifth birthday. Since then, the average life expectancy at birth has increased in the United States and several other countries to well over 70 years, and the death rate before the fifth birthday has decreased about 95%.

The late Milton J. Rosenau justified patience on the basis that the recorded history of civilization encompasses relatively few generations. Only 3,500 years have passed since the time of Moses; and if the average length of a generation has been about 35 years, there have been only about 100 generations from Moses to the present. When one considers that the modern era of the biological sciences is scarcely 140 years old, most of the progress in public health has taken place in just the past 3 to 4 of those 100 generations—a blink of the eye in the course of human history.

Public health necessarily has been closely identified with medicine. The practice of medicine is commonly regarded as one of the oldest professions. Yet modern medicine is hardly more than a century old. Indeed, it has been said that not until 1910 did the average patient in the United States have a fifty-fifty chance of being diagnosed correctly.[1] Effective treatment was something else again. Now medical knowledge and techniques become outdated with accelerating rapidity. The modern public health movement, although presaged by occasional and sporadic earlier glimmerings, is fairly recent too.

It also is important to realize that these developments have not occurred by themselves. They have been intimately related in conception and development to a broad and multifaceted philosophic and social revolution that has had as its driving force a growing adherence to the concept of justice. These developments have been a critical part of a broad spectrum of social reforms that includes public education, public welfare, racial and sexual equity, the rights of labor, the humane care of the mentally ill, and penal management, to mention only a few.

These relationships have prompted Beauchamp[2] to conclude that "while many forces influenced the development of public health, the historic dream of public health that preventable death and disability ought to be minimized is a dream of social justice." Public health must really be regarded as an ethical enterprise, an agent of social change, not just for the sake of change but to make possible the achievement of other social goals. For much of its history, public health has striven for this goal through professional application of scientific and technical knowledge. Dubos[3] has pointed out that changes in the human environment require new adaptive responses that if inadequate result in ill health and other consequences. Changes, hence the need for adaptation, are constantly occurring, since both we and our environment are dynamic, not static. New factors are introduced into the human environment not only by technical innovations and geologic or climatic changes but also by ever evolving human wants, habits, and aspirations. Perhaps the greatest challenge results from the fact that although science may provide solutions to problems inherited from the past, it seldom if ever can do the same for problems of the future—because it does not know what they will be. Public health workers must always be ready to contend with the unknown problems of the future. They must think and be ready to act prospectively, in contrast with those in therapeutic professions who think and act on a retrospective basis. This often places public health workers in a difficult position, since so many other professions and most public officials are unaccustomed to this point of view. As stated by Draper and associates[4]:

> Public health not only involves, it actually *demands* confrontation with received wisdom and the established powers. All this is not to say, however, that being controversial is a *sufficient* qualification for being effective today in public health, but it certainly seems to be a *necessary* qualification. But if persuasion and sometimes open conflict are not occurring, we should realize that we have lost a "public health movement."

DEFINITIONS OF PUBLIC HEALTH

To define *public health,* it is first necessary to attempt to define *health.* The traditional, dictionary definition of health is "freedom from disease or pain." The constitution of the World Health Organization defines health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Neither definition is particularly helpful for purposes of this discussion.

Until recently, many people pursued health as an ultimate goal in itself. Increasingly, however, it is

realized that health has value only to the extent that it promotes efficiency and makes possible a satisfactory total living experience. It is the quality of life that is meaningful, not merely the quantity. Health in and of itself is of little if any use. Its true value lies in the worthwhile activities made possible by virtue of it. Furthermore, it is erroneous to think of complete and lasting health as attainable or even desirable. Dubos[5] used this as the theme of his provocative book *Mirage of Health.* He emphasized that health and happiness, so long regarded as absolute and permanent values supposedly achieved by some in the golden ages of the past and still sought after in our time, appear to be illusions. As he indicated, complete freedom from disease, stress, frustration, and struggle is incompatible with the process of living and evolution. In this vein, he mused:

> Life is an adventure in a world where nothing is static, where unpredictable and ill-understood events constitute dangers that must be overcome, often blindly and at great cost; where man himself, like the sorcerer's apprentice, has set in motion forces that are potentially destructive and may someday escape his control. Every manifestation of existence is a response to stimuli and challenges, each of which constitutes a threat if not adequately dealt with. The very process of living is a continual interplay between the individual and his environment, often taking the form of a struggle resulting in injury or disease.

He concluded wryly that "complete and lasting freedom from disease is but a dream remembered from imaginings of a Garden of Eden designed for the welfare of man."

Health is better understood as a continuum. A *disease* or *injury* is any phenomenon that may lead to an *impairment. Impairments* are abnormalities of body structure at the organ or system level, such as decreased lung capacity due to cigarette smoking or a broken bone. Impairments may lead to *disabilities,* which are disturbances at the level of the whole body. For example, impaired lung capacity may lead to a disability if the normal demands of the individual exceed the residual capacity of the lung to provide adequate ventilation. In turn, a *disability* may lead to a state of *dependency* at the level of the individual's environmental or social interactions. A *dependency* is a condition that requires external resources, such as a cane or an attendant or medicine, to carry out activities of daily living.

Health in this continuum may be defined as "the absence of a disability."

What is *public health?* There have been many attempts to define it. Chronologically, these definitions present a word picture of the evolution of the field. Early definitions were limited essentially to sanitary measures invoked against nuisances and health hazards with which the individual was powerless to cope. Thus initially insanitation and later communicability were the criteria followed in deciding whether a problem fell within the purview of public health. With the great bacteriologic and immunologic discoveries of the late nineteenth and early twentieth centuries and the subsequent development of techniques for their application, the concept of prevention of disease in the individual was added. Public health then came to be regarded as integration of sanitary science and medical science. As will be discussed later, it has more recently come to be regarded as a social science.

In 1920 Winslow,[6] a strong advocate of this broader viewpoint, enunciated what became the best known and most widely accepted definition of public health and its relationship to other fields. For analytic purposes it is presented here in outline form:

> Public Health is the Science and Art of (1) preventing disease, (2) prolonging life, and (3) promoting health and efficiency through organized community effort for
>
> (a) the sanitation of the environment,
> (b) the control of communicable infections,
> (c) the education of the individual in personal hygiene,
> (d) the organization of medical and nursing services for the early diagnosis and preventive treatment of disease, and
> (e) the development of the social machinery to insure everyone a standard of living adequate for the maintenance of health,
>
> so organizing these benefits as to enable every citizen to realize his birthright of health and longevity.

Winslow's definition was timely and comprehensive. It allowed inclusion of almost everything in the fields of social service as they related to health and well-being. In addition, it provided a concise summary, not only of public health and its administration, but also of its historic development.

The definition had some shortcomings, however, which have become more apparent as social expec-

tations have changed. The emphasis on prolonging life has begun to alter as longevity has approached the outer limits of what may be possible and quality of life has taken on added importance. Winslow did not include medical care per se and made no mention of the broad field of mental health. (He perhaps can be excused for the now unacceptable use of the pronoun *he.*) Winslow included social change to assure everyone an adequate standard of living, an appropriate goal of public health, but it is also a goal of education and welfare agencies and thus lacks a distinguishing capacity.

Working with the definition of health presented above, *public health* may be defined as *the organization and application of public resources to prevent dependency, which would otherwise result from disease or injury.* This definition refers to *dependency,* not impairment or disability. It may appear to be unnecessarily conservative as a statement of purpose, but it defines a purpose that can be agreed to by a broad spectrum socially and politically. The prevention of some diseases and injuries and their resulting impairments may be considered practically impossible in many circumstances, and since an impairment may not create a functional disability, it may have little social or public consequence. Even a disability, so long as it does not interfere with social interaction or require the consumption of additional resources, may not be of social concern. But dependencies, by definition, are a matter for social or public concern. It should be noted that the best and often the only way to prevent dependency may be to prevent the disease in the first place, as is true of measles, lung cancer, and AIDS.

It is evident from these definitions that there has occurred a gradual extension of the horizons of public health. In conformance with the advances of medical and scientific knowledge and keeping pace with social and political progress, public health work has expanded from its original concern with gross environmental insanitation to, in sequence of addition, sanitary engineering, preventive physical medical science, preventive mental medical science, the positive or promotive as well as social and behavioral aspects of personal and community medicine, and more recently, the promotion and assurance of comprehensive health services for all.

The inevitable and continuous extension of the boundaries of public health was clearly recognized a third of a century ago by Mountin,[7] who stated:

> The progressive nature of public health makes any restricted definition of the functions and responsibilities of health departments difficult. More than that—there is a real danger in attempting to narrow down a moving or growing thing. To tie public health to the concepts that answered our needs 50 years ago, or even a decade ago, can only hamstring our contribution to society in the future.

This perceptive statement still remains valid.

THERAPEUTIC MEDICINE, PREVENTIVE MEDICINE, AND PUBLIC HEALTH

A short discussion of the distinctions between therapeutic medicine, preventive medicine, and public health is appropriate. To a major extent, the practice of medicine has been concerned with diagnosis and treatment of damage already done—the realignment of a broken limb, the healing or removal of a diseased organ, or the readjustment of an unsettled mind. It is important to note that treatment accepts the existence of an impairment and includes some degree of dependency. The nature of the problems necessitates an individualized approach that is important in its own right. Preventive medicine is concerned with the prevention of disease in the individual. Thus it consists of four areas of action:

1. The prevention by biologic means of certain diseases, such as specific communicable and deficiency diseases
2. The prevention of some of the consequences of preventable or treatable diseases, such as syphilis, tuberculosis, cancer, diabetes, and hypertension
3. The minimization of some of the consequences of nonpreventable and noncurable diseases, such as many genetic conditions
4. The motivation of improved health in individuals by changed lifestyles that minimize the potential impact of behavioral and other health hazards

Because of the increasing number of possibilities for the application of preventive concepts to the early diagnosis and treatment of incipient or

established diseases, preventive medicine should be regarded as a component of good clinical medical practice. As a result of the increased teaching of community and family medicine, the development of comprehensive care systems, and emphasis on continuity of care, there is a growing tendency by private physicians to incorporate preventive medicine into their practices.

It is possible to go further, however, and encourage the development of constructive and promotive health in which the center of interest is still the individual but now as a social or community integer, a member of a family and of a social group. It is notable that the emphasis in public health has changed from the physical environment, or sanitation, to preventive medicine and, more recently, back to the individual and the environment but now in terms of the individual's relationship with the complex social and physical environment.

It would be preferable, of course, if medical practitioners served in a total sense—as personal or family health counselor, therapist, and provider of all preventive and health education and promotive services. To be able to do so, however, would require some philosophic reorientation, some reorganization, more time, and a more extensive use of allied health personnel as well as automated and electronic technology. A method increasingly used is personal health hazard appraisal or risk assessment. This useful tool of prospective medicine is discussed in Chapter 17 in relation to health maintenance. Its wide acceptance and use will probably depend on effective cooperative efforts of public health organizations, schools of medicine, practitioners of medicine, educational institutions, and insurance and similar companies. Already it serves as an important concept in the national health program of Canada.[8]

From what has been said earlier, it is evident that public health goes a step further than therapeutic or even preventive medicine. Its patient is the entire community or indeed the world, and its armamentarium is more extensive than those of the other fields. Therapeutic care systems use only the tools of medicine and surgery, with the occasional adjunctive input of psychology. Health problems, such as alcoholism or low birth weight, are seen as medical problems requiring medical solutions. Public health has a much broader purview. It is a multidisciplinary endeavor, and solutions are crafted from a wide variety of skills and professions: the law, medicine, engineering, psychology, political science, education—whatever works and is acceptable and affordable.

There are several other important distinctions between public health and medical care. The priorities of public health are socially determined; the priorities of medical care are unrelated to social goals except by coincidence. This is not to say that one set of goals is necessarily of greater value or a more accurate reflection of personal or social needs: they are simply different.

Medical care in the United States seeks to maximize the chance that the best possible outcome will occur. To that end, it is often unlimited by any resource constraints, and marginal benefits may be sought at enormous cost. Public health, on the other hand, seeks to minimize the chance that the worst possible outcome will occur. Public health accepts risk as an essential component of life and tries to manage it in a calculus that combines, implicitly if not explicitly, an estimation of both benefits and costs. The eradication of smallpox was the result of such a calculus. Similar calculations resulted in a different approach to measles, since eradication appeared to carry too high a price for the marginal benefits that might be obtained. These calculations may produce a different answer at some time in the future if technology or other factors change. The therapeutic system, however, should and does insist on absolute protection of each individual patient, although its success will be variable. This contrast in approaches can lead to real conflicts between professionals in the therapeutic system and their counterparts in public health who may be concerned with the optimal allocation of scarce resources.

The distinctions between therapeutic care and public health are profound and important, and they are not widely understood. Clinicians often do not understand why a public health agency may decide not to apply a particular screening device in an effort to find people who may have a particular disease, such as glaucoma or cancer of the colon. Public health workers may not always appreciate a therapist's willingness to use every tool available to correct an impairment. These different perceptions,

which are often manifest in the confusion of the general public about public health goals and objectives, are at the heart of many current health policy dilemmas. They will become more apparent in the chapters that follow.

SCOPE OF PUBLIC HEALTH

During recent years, the perimeters of public health concern have been expanding rapidly. Whereas not long ago many would have limited the scope of public health matters to general sanitation and the control of infectious disease, today all aspects of Winslow's famous definition are not only included but even surpassed. With reference to our environment, public health workers now think in the broadest possible terms—the total ecologic relationship between people and their environment. As for personal health services, public health agencies are already deeply involved, not only in problems of distribution and quality of health personnel and facilities, but also in the assurance of adequate comprehensive health care for all. This has been evidenced by a spectacular increase in significant legislative actions and programs during recent years.

In general, public health is concerned with four broad areas: (1) lifestyle and behavior, (2) the environment, (3) human biology, and (4) the organization of health programs and systems. Most of the activities of public health also fall into one of the following nine categories (adapted from a report of the Sun Valley Forum on National Health[9]):

1. Preventive health services for all age groups, including screening, early detection, immunization programs, health education and other activities
2. Coordination of public health services to bring the resources of other public sector and community services to bear on complex problems
3. Assuring access to care, especially for low-income, minority, and geographically isolated populations
4. Prevention or control of physical, chemical, and other hazards to health
5. Health status assessment, including surveillance of diseases, measurement of health status and assessment of service utilization trends
6. Quality assurance of individual professionals, institutions, and organizations, including public sector service systems
7. Catalyzing the development of needed services, such as long-term care programs for AIDS victims
8. Such other functions as community health planning and advocacy
9. Management of public sector programs and service systems

These categories include a wide variety of services, many of which are discussed in subsequent chapters. Obviously many public health agencies do not find it possible or necessary to engage in all of these activities. In many communities an agency other than the official public health department may be responsible for services that are considered to be in the broad field of public health, such as mental health, substance abuse, or personal health care services. Variation across communities may reflect either differences in real needs or differences in social determination of what matters.

Because public health is a term applied to a concept as well as to an agency, and because local and state public health agencies are so variable, it is necessary to find an abstract way to define what public health is in practice. This has given rise to the very useful concept of a *governmental presence in health.*[10] This concept, paraphrased, states that government, whether at the state or local level, is responsible for assuring that an agreed-upon set of standards and services is available and met in *every* community. There may be numerous agencies involved, such as the local health department, a community mental health center with its own board, a federally funded primary care center, a local hospital emergency room, and the district office of a state department of natural resources. But all of the people in each community are served by a unit of government, usually a local health department or a part of the state health department, which is responsible for the public's health and whose job it is to ensure that all the agreed-upon services are available and that whatever standards exist are met. Inherent in this concept is the need for an agency that can function across organizational boundaries, forming necessary coalitions in order to meet the needs of the community.

HEALTH AND GOVERNMENT

Some object to the concept that the protection and promotion of the public's health is an appropriate concern of government. Social and political philosophy did not always encourage this concept. The Roman Empire was notable for its concern for the protection and enhancement of the health and well-being of its own people. During most of history, however, the prevailing attitude has been to regard any such action as unnecessary and dangerous pampering of the masses. Indeed, this was one of the basic points made by Malthus[11]—that not only should the genetically and otherwise inferior be allowed to die according to nature's plan, but the conditions of the poor should not be improved lest they lose a sense of responsibility and moral restraint. Subsequently, lack of positive action was also justified on the basis of unwarranted and improper interference on the part of government in the private rights of the individual. Beck-Storrs[12] describes the dilemma in her discussion of the beginning of public health legislation in England in the late nineteenth century against a background of liberalism and individualism. She points to the conflict between the concept of public health and the prevailing idea of freedom of the individual:

> It suddenly dawned upon Englishmen that the modern apostles of health challenged the tradition of local government. They thought that they were called upon to make a decision between two evils, namely, either to let disorder and disease continue as before, or to suffer the monster of a civilized state.

She points out that public health threatened the Englishman's "right to be dirty" if he were so inclined. The affluent and the legislators, in the face of widespread communicable disease, were willing to agree to certain changes to protect themselves, but they did not want to go too far. The recommendations of The Royal Sanitary Commission, which was established in 1869, required the services of inspectors—but how could their authority be limited? To control the spread of infectious diseases, a system of compulsory notification would be necessary. Rules would have to be enforced for slum clearance. Minimum specifications for low-cost housing for workers were likely to force landlords and landowners to spend more money than they had intended. According to Beck-Storrs:

> Here for the first time in the modern period, arose the problem of state supported welfare measures which threatened to interfere with the economic activities of private citizens. And this happened at a time when economic liberalism was believed to be the principal reason for the prosperity of the 19th century.

To the extent possible, the government of England attempted to present the desired changes in a positive context—rights rather than restrictions, protections rather than prohibitions. Thus the state was empowered to ensure that people were no more likely to have their wells poisoned through the neglect of their neighbors than they were to be robbed with impunity. Health inspectors were given the responsibility of surveillance over drainage and sewerage systems, water supplies, bathhouses, and washhouses, as well as health conditions in workshops, mines, and bakeshops. Under the existing circumstances, the inspectors were natural targets of a public highly sensitive to its freedoms. Success depended on their training and tact and also on whether the instinctive resentment against such invasions of a person's private affairs could be overcome. The Royal Sanitary Commission, anticipating this reaction, therefore recommended "employment of only well-trained men, capable of administering on a national level the measures instituted by the proposed central authority." It may be worth observing parenthetically that this recommendation is as valid now as it was at the time it was made (except for its restriction to men).

In the developing United States, attitudes were if anything even more individualistic. As Roemer[13] has pointed out, the Western world's negative attitude toward government has deep roots, especially in America, where the colonists revolted against a domineering British monarchy. One result was the explicit limitation placed on the central government in the Constitution and the absence of Constitutional reference to health as either a personal right or a governmental responsibility. Roemer also emphasizes that the medical profession, having much earlier achieved independence from feudal landlords and religious authority in Europe, was doubly suspicious of governmental interference. As a result, as Shryock[14] has reasoned, medicine had little tangible impact on