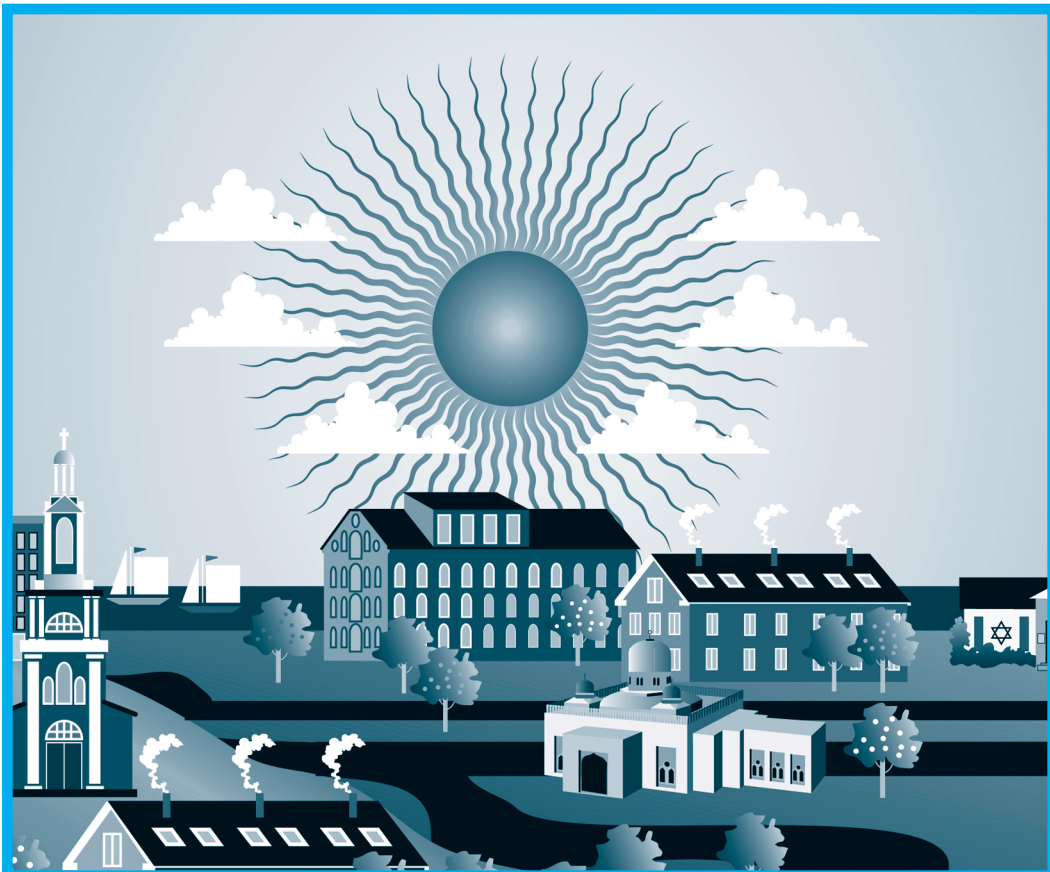


U N I T O N E

FOUNDATIONS OF COMMUNITY HEALTH



Chapter 1

Community Health: Yesterday, Today, and Tomorrow

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Introduction

Definitions • Factors That Affect the Health of a Community

A Brief History of Community and Public Health

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Outlook for Community Health in the Twenty-First Century

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Chapter Objectives

After studying this chapter, you will be able to:

- 1 Accurately define the terms *health*, *community*, *community health*, *population health*, *public health*, and *public health system*.
- 2 Briefly describe the five major determinants of health.
- 3 Explain the difference between personal and community health activities.
- 4 List and discuss the factors that influence a community's health.
- 5 Briefly relate the history of community/public health, including the recent U.S. history of community and public health in the twentieth century.
- 6 Provide a brief overview of the current health status of Americans.
- 7 Describe the status of efforts to improve world health and list some plans for the future.
- 8 Describe the purpose of the *Healthy People 2010* goals and objectives as they apply to the planning process of the health of Americans.
- 9 Briefly describe the impact terrorism has on community/public health.

SCENARIO

Amy and Eric are a young working couple who are easing into a comfortable lifestyle. They have good-paying jobs, drive nice cars, are buying a home in a good neighborhood, and have two healthy preschool children. When Amy picked her children up from day care earlier in the day she learned from the head teacher that another parent had reported that his child was diagnosed with hepatitis. This news frightened Amy and made her begin to question the quality of the day care center. Amy told Eric of this situation when he got home from work. As the couple discussed whether or not they should take

their children to day care as usual the following day, they discovered that they have many unanswered questions. How serious is hepatitis? What is the likelihood that their children will be at serious risk for getting the disease? What steps are being taken to control the outbreak? Is any state or local agency responsible for standardizing health practices at private day care centers in the community? Does the city, county, or state carry out any type of inspection when they license these facilities? And, if the children do not attend day care, which parent will stay home with them?

INTRODUCTION

In reflecting on the twentieth century, it is easy to point to the tremendous progress that was made in the health and life expectancy of those in the United States (see Box 1.1) and of many people of the world. Infant mortality dropped, many of the infectious diseases have been brought under control, and better family planning became available. However, there is still room for improvement! Individual health behaviors, such as the use of tobacco, poor diet, and physical inactivity, have given rise to an unacceptable number of cases of illness and death from noninfectious diseases such as cancer, diabetes, and heart disease. New and emerging infectious diseases, such as pandemic influenza (also referred to as “pan flu” and H5N1) and those caused by drug-resistant pathogens, are stretching resources available to control them. And the events stemming from the terrorist attacks on the United States on September 11, 2001 (referred to as 9/11), and the subsequent anthrax mailings have caused us to refocus our priorities. Those events “disturbed the sense of complacency many people felt about the health and safety of their living conditions.”¹ In addition, those events revealed the vulnerability of the United States’ ability to respond to such circumstances and highlighted the need for improvements in emergency response and the infrastructure of the public health system. Even with all that has happened in recent years in the United States and around the world, the achievement of good health remains a worldwide goal of the twenty-first century. Governments, private organizations, and individuals throughout the world are working to improve health. Although individual actions to improve one’s own personal health certainly contribute to the overall health of the community, organized community actions are often necessary when health problems exceed the resources of any one individual. When such actions are not taken, the health of the entire community is at risk.

This chapter introduces the concepts and principles of community health, explains how community health differs from personal health, and provides a brief history of community health. Some of the key health problems facing Americans are also described, and an outlook for the twenty-first century is provided.

BOX
1.1

A LOOK BACK ON THE TWENTIETH CENTURY IN THE UNITED STATES

As the twentieth century came to a close, the overall health status and life expectancy in the United States were at all-time highs. Since 1900, the average lifespan of people in the United States had lengthened by more than 30 years; 25 of these years have been attributed to advances in public health.² There were many public health achievements that can be linked to this gain in life expectancy, however. The Centers for Disease Control and Prevention (CDC), the U.S. government agency charged with protecting the public health of the nation, singled out the “Ten Great Public Health Achievements” in the United States between 1900 and 1999. Some of these achievements will be discussed in greater detail in other chapters of this book where they are more relevant to the content being presented. Here is the entire list:³

1. *Vaccination.* Vaccines are now available to protect children and adults against 15 life-threatening or debilitating diseases. Rates of all vaccine-preventable diseases are down more than 97% from peak levels before vaccines were available.⁴
2. *Motor vehicle safety.* A number of advances over the years, including safety belts, air bags, safer cars and roads, and enforcement of drunk driving and other laws, have saved many lives.⁴
3. *Safer workplaces.* A number of voluntary and mandatory practices in the workplace have created a much safer work environment. In the early 1900s, the work-related death rate was about 21 per 100,000. By the mid-1990s, that number had dropped to about 4 per 100,000.⁵
4. *Control of infectious diseases.* At the beginning of the century, the leading causes of death were infectious diseases, but by mid-century many of these diseases were under control. This control can be attributed to cleaner water, improved sanitation, and antibiotics.
5. *Decline of deaths from coronary heart disease and stroke.* While these remain the leading causes of death, significant progress has been made in reducing the death rates since 1950. This progress can be attributed to the identification and modification of risk factors such as smoking and high blood pressure, and the improved access to early detection and better treatment.
6. *Safer and healthier foods.* Over the century much of the microbial contamination of food has been significantly reduced, and the nutritional value of foods has been greatly enhanced.
7. *Healthier mothers and babies.* Infant and maternal mortality rates have decreased 90% and 99%, respectively. This can be attributed to advances in hygiene, nutrition, antibiotics, medical technology, and access to health care.
8. *Family planning.* Advances in family planning and contraceptive services have provided for greater health benefits for mothers and babies, and have reduced the transmission of several sexually transmitted diseases.
9. *Fluoridation of drinking water.* Though fluoridation of water only began in mid-century, it has played an important role in the reduction of both tooth decay and tooth loss.
10. *Recognition of tobacco use as a health hazard.* Recognition of tobacco as the single most preventable cause of death in the United States has saved the lives and suffering of millions of people in this country.

Definitions

The word *health* means different things to different people. Similarly, there are other words that can be defined in various ways. Some basic terms we will use in this book are defined in the following paragraphs.

Health

The word *health* is derived from *hal*, which means “hale, sound, whole.” When it comes to the health of people, the word *health* has been defined in a number of different ways—often in its social context, as when a parent describes the health of a child or when an avid fan defines the health of a professional athlete. The most widely quoted definition of health was the one created by the World Health Organization (WHO) in 1946. That definition states that “health is a state of complete physical, mental, and social well-being and not merely the

health

a dynamic state or condition of the human organism that is multidimensional in nature, a resource for living, and results from a person's interactions with and adaptations to his or her environment; therefore, it can exist in varying degrees and is specific to each individual and his or her situation

absence of disease and infirmity.”⁶ More recently, the WHO has also indicated that health is “a cumulative state, to be promoted throughout life in order to ensure that the full benefits are enjoyed in later years.”⁷ Good health is vital for maintaining an acceptable quality of life.⁷ Others have stated that health cannot be defined as a state because it is ever changing. Therefore, we have chosen to define **health** as a *dynamic* state or condition of the human organism that is multidimensional (i.e., physical, emotional, social, intellectual, spiritual, and occupational) in nature, a resource for living, and results from a person's interactions with and adaptations to his or her environment. Therefore, it can exist in varying degrees and is specific to each individual and his or her situation. “For example, a person can be healthy while dying, or a person who is a quadriplegic can be healthy in the sense that his or her mental and social well-being are high and physical health is as good as it can be.”⁸

A person's health status is dynamic in part because of the many different factors that determine one's health. It is widely accepted that health status is determined by the interaction of five domains: gestational endowments (i.e., genetic makeup), social circumstances (e.g., education, employment, income, poverty, housing, crime, and social cohesion), environmental conditions where people live and work (i.e., toxic agents, microbial agents, and structural hazards), behavioral choices (e.g., diet, physical activity, substance use and abuse), and the availability of quality medical care.⁹ “Ultimately, the health fate of each of us is determined by factors acting not mostly in isolation but by our experience where domains interconnect. Whether a gene is expressed can be determined by environmental exposures or behavioral patterns. The nature and consequences of behavioral choices are affected by social circumstances. Our genetic predispositions affect the health care we need, and our social circumstances affect the health care we receive.”¹⁰

Community

Traditionally, a community has been thought of as a geographic area with specific boundaries—for example, a neighborhood, city, county, or state. However, in the context of community health, a **community** is “a group of people who have common characteristics; communities can be defined by location, race, ethnicity, age, occupation, interest in particular problems or outcomes, or common bonds.”¹¹ Communities are characterized by the following elements:

- (1) membership—a sense of identity and belonging; (2) common symbol systems—similar language, rituals, and ceremonies; (3) shared values and norms; (4) mutual influence—community members have influence and are influenced by each other; (5) shared needs and commitment to meeting them; and (6) shared emotional connection—members share common history, experiences, and mutual support.¹²

Examples of communities include the people of the city of Columbus (location), the Asian community of San Francisco (race), the Hispanic community of Miami (ethnicity), seniors in the church (age), the business or the banking communities (occupation), the homeless of Indiana (specific problem), those on welfare in Ohio (particular outcome), or local union members (common bond). A community may be as small as the group of people who live on a residence hall floor at a university or as large as all of the individuals who make up a nation. “A healthy community is a place where people provide leadership in assessing their own resources and needs, where public health and social infrastructure and policies support health, and where essential public health services, including quality health care, are available.”¹³

Public, Community, and Population Health

Prior to defining the three terms *public health*, *community health*, and *population health*, it is important to note that often the terms are used interchangeably by both laypeople and professionals who work in the various health fields. When the terms are used interchangeably, most people are referring to the collective health of those in society and the actions or activi-

community

a group of people who have common characteristics; communities can be defined by location, race, ethnicity, age, occupation, interest in particular problems or outcomes, or other common bonds

ties taken to obtain and maintain that health. The definitions provided here for the three terms more precisely define the group of people in question and the origin of the actions or activities.

Of the three terms, *public health* is the most inclusive. The Institute of Medicine (IOM) defined **public health** in 1988 in its landmark report *The Future of Public Health* as “what we as a society do collectively to assure the conditions in which people can be healthy.”¹⁴ The **public health system**, which has been defined as “activities undertaken within the formal structure of government and the associated efforts of private and voluntary organizations and individuals,”¹⁴ is the organizational mechanism for providing such conditions. Even with these formal definitions, some still see public health activities as only those efforts that originate in federal, state, and local governmental public health agencies such as the Centers for Disease Control and Prevention and local (i.e., city and county) health departments.

Community health refers to the health status of a defined group of people and the actions and conditions to promote, protect, and preserve their health. For example, the health status of the people of Muncie, Indiana, and the private and public actions taken to promote, protect, and preserve the health of these people would constitute community health.

The term *population health*, which is similar to *community health*, has emerged in recent years. The primary difference between these two terms is the degree of organization or identity of the people. **Population health** refers to the health status of people who are not organized and have no identity as a group or locality and the actions and conditions to promote, protect, and preserve their health. Men younger than 50, adolescents, prisoners, and white-collar workers are all examples of populations.¹⁵

Personal Health versus Community Health

To further clarify the definitions presented in this chapter, it is important to distinguish between the terms *personal health activities* and *community health activities*.

Personal Health Activities

Personal health activities are individual actions and decision making that affect the health of an individual or his or her immediate family members. These activities may be preventive or curative in nature but seldom directly affect the behavior of others. Choosing to eat wisely, to regularly wear a safety belt, and to visit the physician are all examples of personal health activities.

Community Health Activities

Community health activities are activities that are aimed at protecting or improving the health of a population or community. Maintenance of accurate birth and death records, protection of the food and water supply, and participating in fund drives for voluntary health organizations such as the American Lung Association are examples of community health activities.

Within this book, you will be introduced to the many community health activities and to the organizations that are responsible for carrying them out. The following are some of the key topics that are covered in this text:

- Organizations that contribute to community health
- How communities measure health, disease, injury, and death
- Control of communicable and noncommunicable diseases
- How communities organize to solve health problems
- Community health in schools
- Community health needs of people at different stages of life
- Community health needs of special populations
- Community mental health
- Abuse of alcohol, tobacco, and other drugs

public health
things that society does collectively to assure the conditions in which people can be healthy

public health system
the organizational mechanism of those activities undertaken within the formal structure of government and the associated efforts of private and voluntary organizations and individuals

community health
the health status of a defined group of people and the actions and conditions to promote, protect, and preserve their health

population health
the health status of people who are not organized and have no identity as a group or locality and the actions and conditions to promote, protect, and preserve their health

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- The health care delivery system
- Environmental health problems
- Intentional and unintentional injuries
- Occupational safety and health

Factors That Affect the Health of a Community

There are a great many factors that affect the health of a community. As a result, the health status of each community is different. These factors may be physical, social, and/or cultural. They also include the ability of the community to organize and work together as a whole as well as the individual behaviors of those in the community (see Figure 1.1).

Physical Factors

Physical factors include the influences of geography, the environment, community size, and industrial development.

Geography

A community's health problems can be directly influenced by its altitude, latitude, and climate. In tropical countries where warm, humid temperatures and rain prevail throughout the year, parasitic and infectious diseases are a leading community health problem (see Figure 1.2). In many tropical countries, survival from these diseases is made more difficult because poor soil conditions result in inadequate food production and malnutrition. In temperate climates with fewer parasitic and infectious diseases and a more than adequate food supply, obesity and heart disease are important community health problems.

Environment

The quality of our environment is directly related to the quality of our stewardship over it. Many experts believe that if we continue to allow uncontrolled population growth and continue to deplete nonrenewable natural resources, succeeding generations will inhabit communities that are less desirable than ours. Many feel that we must accept responsibility for this stewardship and drastically reduce the rate at which we foul the soil, water, and air.

Community Size

The larger the community, the greater its range of health problems and the greater its number of health resources. For example, larger communities have more health professionals and better health facilities than smaller communities. These resources are often needed because communicable diseases can spread more quickly and environmental problems are often more severe in densely populated areas. For example, the amount of trash generated by the approx-

imately 8+ million people in New York City is many times greater than that generated by the entire state of Wyoming, with its population of about 515,000.

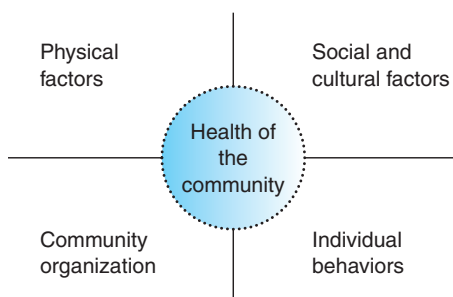
It is important to note that a community's size can have both a positive and negative impact on that community's health. The ability of a community to effectively plan, organize, and utilize its resources can determine whether its size can be used to good advantage.

Industrial Development

Industrial development, like size, can have either positive or negative effects on the health status of a community. Industrial development provides a community with added resources for community health programs, but it may bring with it environmental pollution and occupational illnesses. Communities that experience rapid

FIGURE 1.1

Factors that affect the health of a community.



industrial development must eventually regulate the way in which industries (1) obtain raw materials, (2) discharge by-products, (3) dispose of wastes, (4) treat and protect their employees, and (5) clean up environmental accidents. Unfortunately, many of these laws are usually passed only after these communities have suffered significant reductions in the quality of their life and health.

Social and Cultural Factors

Social factors are those that arise from the interaction of individuals or groups within the community. For example, people who live in urban communities, where life is fast-paced, experience higher rates of stress-related illnesses than those who live in rural communities, where life is more leisurely. On the other hand, those in rural areas may not have access to the same quality or selection of health care (i.e., hospitals or medical specialists) that is available to those who live in urban communities.

Cultural factors arise from guidelines (both explicit and implicit) that individuals “inherit” from being a part of a particular society. Culture “teaches us what to fear, what to respect, what to value, and what to regard as relevant in our lives.”¹⁶ Some of the factors that contribute to culture are discussed in the following sections.

Beliefs, Traditions, and Prejudices

The beliefs, traditions, and prejudices of community members can affect the health of the community. The beliefs of those in a community about such specific health behaviors as exercise and smoking can influence policy makers on whether or not they will spend money on bike trails and no-smoking ordinances. The traditions of specific ethnic groups can influence the types of food, restaurants, retail outlets, and services available in a community. Prejudices of one specific ethnic or racial group against another can result in acts of violence and crime. Racial and ethnic disparities will continue to put certain groups, such as black Americans or certain religious groups, at greater risk.

Economy

Both national and local economies can affect the health of a community through reductions in health and social services. An economic downturn means lower tax revenues (fewer tax dollars) and fewer contributions to charitable groups. Such actions will result in fewer dollars being available for programs such as welfare, food stamps, community health care, and other community services. This occurs because revenue shortfalls cause agencies to experience budget cuts. With less money, these agencies often must alter their eligibility guidelines, thereby restricting aid to only the neediest individuals. Obviously, many people who had been eligible for assistance before the economic downturn become ineligible.

Employers usually find it increasingly difficult to provide health benefits for their employees as their income drops. The unemployed and underemployed face poverty and deteriorating health. Thus, the cumulative effect of an economic downturn significantly affects the health of the community.

Politics

Those who happen to be in political office, either nationally or locally, can improve or jeopardize the health of their community by the decisions they make. In the most general terms, the argument is over greater or lesser governmental participation in health issues. For example, there has been a long-standing discussion in the United States on the extent to which the government should involve itself in health care. Historically, Democrats have been

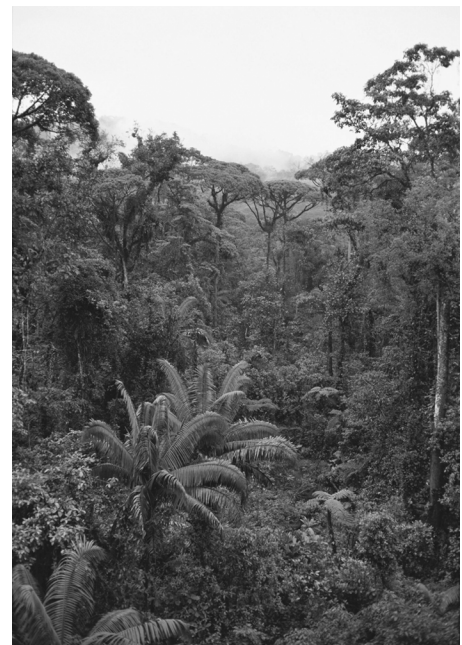


FIGURE 1.2

In tropical countries, parasitic and infectious diseases are leading community health problems.

in favor of such action while Republicans have been against it. However, as the cost of health care continues to grow, both sides see the need for some kind of increased regulation. Local politicians also influence the health of their communities each time they vote on health-related measures brought before them, such as a nonsmoking ordinance.

Religion

A number of religions have taken a position on health care and health behaviors. For example, some religious communities limit the type of medical treatment their members may receive. Some do not permit immunizations; others do not permit their members to be treated by physicians. Still others prohibit certain foods. For example, Kosher dietary regulations permit Jews to eat the meat only of animals that chew cud and have cloven hooves and the flesh only of fish that have both gills and scales, while still others, like the Native American Church of the Morning Star, use peyote, a hallucinogen, as a sacrament.

Some religious communities actively address moral and ethical issues such as abortion, premarital intercourse, and homosexuality. Still other religions teach health-promoting codes of living to their members. Obviously, religion can affect a community's health positively or negatively (see Figure 1.3).

Social Norms

The influence of social norms can be positive or negative and can change over time. Cigarette smoking is a good example. During the 1940s, 1950s, and 1960s, it was socially acceptable to smoke in most settings. As a matter of fact, in 1960, 53% of American men and 32% of American women smoked. Thus, in 1960 it was socially acceptable to be a smoker, especially if you were male. Now, early in the twenty-first century, those percentages have dropped to 23.4% (for males) and 18.5% (for females), and in most public places it has become socially unacceptable to smoke.¹⁷ The lawsuits against tobacco companies by both the state attorneys general and private citizens provide further evidence that smoking has fallen from social acceptability. Because of this change in the social norm, there is less secondhand smoke in many public places, and in turn the health of the community has improved.

Unlike smoking, alcohol consumption represents a continuing negative social norm in America, especially on college campuses. The normal expectation seems to be that drinking is fun (and almost everyone wants to have fun). Despite the fact that most college students are too young to drink legally, approximately 85% of college students drink.¹⁸ It seems fairly obvious that the American alcoholic-beverage industry has influenced our social norms.

Socioeconomic Status

"In both the United States and Western Europe, the gap in health status and mortality between those commanding, and those who lack, economic power and social resources continues to widen. These parallel trends—of growing economic inequalities and growing social inequalities in health—reflect, in part, the relationship between people's socioeconomic position as consumers and employers or employees and their social, biological, and mental well-being."¹⁹ That is, those in the community with the lowest socioeconomic status (SES) also have the poorest health and the most difficulty in gaining access to health care. The point of entry into the health care system for most Americans is the family doctor. The economically disadvantaged seldom have a family doctor. For them, the point of entry is the local hospital emergency depart-

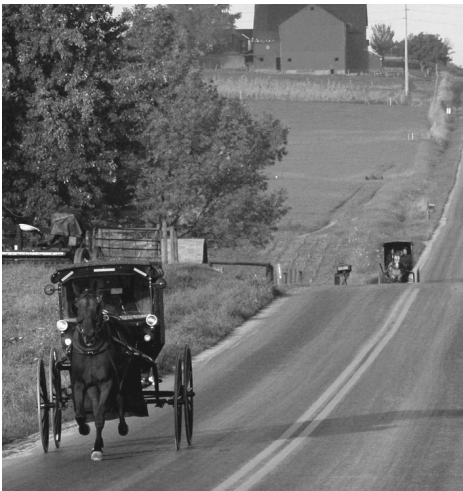


FIGURE 1.3

Religion can affect a community's health either positively or negatively.

ment. In addition to health care access, higher incomes enable people to afford better housing, live in safer neighborhoods, and increase the opportunity to engage in health-promoting behaviors.²⁰

Community Organizing

The way in which a community is able to organize its resources directly influences its ability to intervene and solve problems, including health problems. **Community organizing** “is a process through which communities are helped to identify common problems or goals, mobilize resources, and in other ways develop and implement strategies for reaching their goals they have collectively set.”²¹ It is not a science but an art of building consensus within a democratic process.²² If a community can organize its resources effectively into a unified force, it “is likely to produce benefits in the form of increased effectiveness and productivity by reducing duplication of efforts and avoiding the imposition of solutions that are not congruent with the local culture and needs.”¹³ For example, many communities in the United States have faced community-wide drug problems. Some have been able to organize their resources to reduce or resolve these problems, whereas others have not. (See Chapter 5 for a full explanation of community organizing.)

Individual Behavior

The behavior of the individual community members contributes to the health of the entire community. It takes the concerted effort of many—if not most—of the individuals in a community to make a program work. For example, if each individual consciously recycles his or her trash each week, community recycling will be successful. Likewise, if each occupant would wear a safety belt, there could be a significant reduction in the number of facial injuries and deaths from car crashes for the entire community. In another example, the more individuals who become immunized against a specific disease, the slower the disease will spread and the fewer people will be exposed. This concept is known as **herd immunity**.

A BRIEF HISTORY OF COMMUNITY AND PUBLIC HEALTH

The history of community and public health is almost as long as the history of civilization. This brief summary provides an account of some of the accomplishments and failures in community and public health. It is hoped that a knowledge of the past will enable us to better prepare for future challenges to our community’s health.

Earliest Civilizations

In all likelihood, the earliest community health practices went unrecorded. Perhaps these practices involved taboos against defecation within the tribal communal area or near the source of drinking water. Perhaps they involved rites associated with burial of the dead. Certainly, the use of herbs for the prevention and curing of diseases and communal assistance with childbirth are practices that predate archeological records.

Ancient Societies (Before 500 B.C.)

Excavations at sites of some of the earliest known civilizations have uncovered evidence of community health activities (see Figure 1.4). Archeological findings from the Indus Valley of northern India,

community organizing
a process through which communities are helped to identify common problems or goals, mobilize resources, and in other ways develop and implement strategies for reaching their goals they have collectively set

herd immunity
the resistance of a population to the spread of an infectious agent based on the immunity of a high proportion of individuals

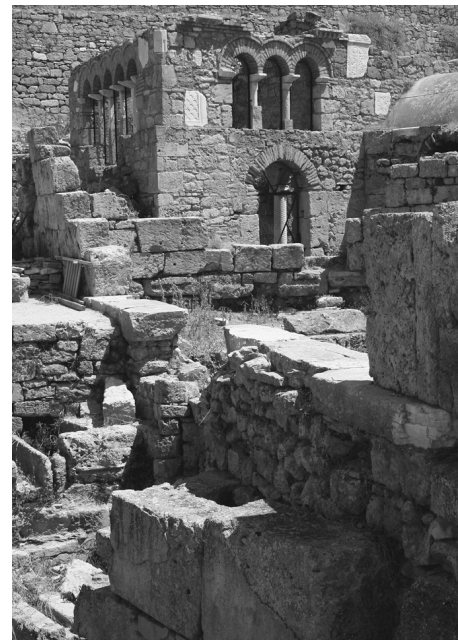


FIGURE 1.4

Archeological findings reveal community health practices of the past.

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**FIGURE 1.5**

The Code of Hammurabi included laws pertaining to physicians and health practices.

dating from about 2000 B.C., provide evidence of bathrooms and drains in homes and sewers below street level. Drainage systems have also been discovered among the ruins of the Middle Kingdom of ancient Egypt (2700–2000 B.C.). The Myceneans, who lived on Crete in 1600 B.C., had toilets, flushing systems, and sewers.²³ Written medical prescriptions for drugs have been deciphered from a Sumerian clay tablet dated at about 2100 B.C. By 1500 B.C. more than 700 drugs were known to the Egyptians.²⁴

Perhaps the earliest written record concerning public health is the Code of Hammurabi, the famous king of Babylon, who lived 3,900 years ago. Hammurabi's code of conduct included laws pertaining to physicians and health practices (see Figure 1.5). The Bible's Book of Leviticus, written about 1500 B.C., provides guidelines for personal cleanliness, sanitation of campsites, disinfection of wells, isolation of lepers, disposal of refuse, and the hygiene of maternity.²⁵

Classical Cultures (500 B.C.–A.D. 500)

During the thirteenth and twelfth centuries B.C., the Greeks began to travel to Egypt and continued to do so over the next several centuries. Knowledge from the Babylonians, Egyptians, Hebrews, and other peoples of the eastern Mediterranean was included in the Greeks' philosophy of health and medicine.²⁴ During the "Golden Age" of ancient Greece (in the sixth and fifth centuries B.C.), men participated in physical games of strength and skill and swam in public facilities. There is little evidence that this emphasis on fitness and on success in athletic competition was imparted equally to all members of the community.²⁶ Participation in these activities was not encouraged or even permitted for women, the poor, or slaves.

The Greeks were also active in the practice of community sanitation. They supplemented local city wells with water supplied from mountains as far as 10 miles away. In at least one city, water from a distant source was stored in a cistern 370 feet above sea level.²³

The Romans improved upon the Greek engineering and built aqueducts that could transport water for many miles. Evidence of some 200 Roman aqueducts remains today, from Spain to Syria and from northern Europe to northern Africa. The Romans also built sewer systems and initiated other community health activities, including the regulation of building construction, refuse removal, and street cleaning and repair.²⁵

The Roman Empire was the repository for Greek medical ideas, but with few exceptions, the Romans did little to advance medical thinking. However, they did make one important contribution to medicine and health care—the hospital. Although the first hospitals were merely infirmaries for slaves, before the end of the Roman era, Christians had established public hospitals as benevolent charitable organizations.²⁴ When the Roman Empire eventually fell in A.D. 476, most of the public health activities ceased.

Middle Ages (A.D. 500–1500)

The period from the end of the Roman Empire in the West to about 1500 has become known as the Middle Ages. The Eastern Roman Empire (the Byzantine Empire), with its capital in Constantinople, continued until 1453. While the Greco-Roman legacy of society was largely preserved in the Eastern Roman Empire, it was lost to most of western Europe. Most of what knowledge remained was preserved only in the churches and monasteries.

The medieval approach to health and disease differed greatly from that of the Roman Empire. During this time, there was a growing revulsion for Roman materialism and a growth of spirituality. Health problems were considered to have both spiritual causes and spiritual solutions.²³ This was especially true at the beginning of the Middle Ages, during a period known as the Dark Ages (500–1000). Both pagan rites and Christian beliefs blamed disease on supernatural causes. St. Augustine, for example, taught that diseases were caused by demons sent to torment the human spirit, and most Christians generally believed that disease was a punishment for sins.²⁴

The failure to take into account the role of the physical and biological environment in the causation of communicable diseases resulted in the failure to control the unrelenting epidemics during this **spiritual era of public health**. These epidemics were responsible for the suffering and death of millions. One of the earliest recorded epidemic diseases was leprosy. It has been estimated that by 1200, there were 19,000 leper houses and leprosaria in Europe.²³

The deadliest of the epidemic diseases of the period was the plague. It is hard for us, living here in the twenty-first century, to imagine the impact of plague on Europe. Three great epidemics of plague occurred: The first began in A.D. 543, the second in 1348, and the last in 1664. The worst epidemic occurred in the fourteenth century, when the disease became known as the “black death.” An estimated 25 million people died in Europe alone. This is more than the total number of people who live in the states of Ohio and Pennsylvania today. Half of the population of London was lost, and in some parts of France only 1 in 10 survived.²⁵

The Middle Ages also saw epidemics of other recognizable diseases, including smallpox, diphtheria, measles, influenza, tuberculosis, anthrax, and trachoma. Many other diseases, unidentifiable at the time, took their toll. The last epidemic disease of this period was syphilis, which appeared in 1492. This, like the other epidemics, killed thousands.

spiritual era of public health
a time during the Middle Ages when the causation of communicable disease was linked to spiritual forces

Renaissance and Exploration (1500–1700)

The Renaissance period was characterized by a rebirth of thinking about the nature of the world and of humankind. There was an expansion of trade between cities and nations and an increase in population concentrations in large cities. This period was also characterized by exploration and discovery. The travels of Columbus, Magellan, and many other explorers eventually ushered in a period of colonialism. The effects of the Renaissance on community health were substantial. A more careful accounting of disease outbreaks during this period revealed that diseases such as the plague killed saints and sinners alike. There was a growing belief that diseases were caused by environmental, not spiritual, factors. For example, the term *malaria*, meaning bad air, is a distinct reference to the humid or swampy air that often harbors mosquitoes that transmit malaria.

More critical observations of the sick led to more accurate descriptions of symptoms and outcomes of disease. These observations led to the first recognition of whooping cough, typhus, scarlet fever, and malaria as distinct and separate diseases.²³

Epidemics of smallpox, malaria, and plague were still rampant in England and throughout Europe. In 1665, the plague took 68,596 lives in London, which at the time had a population of 460,000 (a population loss of almost 15%). Explorers, conquerors, and merchants and their crews spread disease to colonists and indigenous people throughout the New World. Smallpox, measles, and other diseases ravaged the unprotected natives.

The Eighteenth Century

The eighteenth century was characterized by industrial growth. In spite of the beginnings of recognition of the nature of disease, living conditions were hardly conducive to good health. Cities were overcrowded, and water supplies were inadequate and often unsanitary. Streets

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**FIGURE 1.6**

Prior to the elimination of smallpox, millions died or were severely disfigured by the disease.

were usually unpaved, filthy, and heaped with trash and garbage. Many homes had unsanitary dirt floors.

Workplaces were unsafe and unhealthy. A substantial portion of the workforce was made up of the poor, which included children, who were forced to work long hours as indentured servants. Many of these jobs were unsafe or involved working in unhealthy environments, such as textile factories and coal mines.

One medical advance made at the end of the eighteenth century deserves mention because of its significance for public health. In 1796, Dr. Edward Jenner successfully demonstrated the process of vaccination as a protection against smallpox. He did this by inoculating a boy with material from a cowpox (*Vaccinia*) pustule. When challenged later with material from a smallpox (*Variola*) pustule, the boy remained healthy.

Dr. Jenner's discovery remains as one of the great discoveries of all time for both medicine and for public health. Prior to Dr. Jenner's discovery, millions died or were severely disfigured by smallpox (see Figure 1.6). The only known prevention had been "variolation," inoculation with smallpox material itself. This was a risky procedure because people sometimes became quite ill with smallpox. Nonetheless, during the American Revolution, General George Washington ordered the Army of the American Colonies "variolated." He did this so that he could be sure an epi-

A. Early Civilizations

1. Ancient Societies (prior to 500 B.C.)

- a. Prior to 2000 B.C.: archeological findings provide evidence of sewage disposal and written medical prescriptions for drugs
- b. Ca. 1900 B.C.: Code of Hammurabi created; includes laws for physicians and health practices
- c. Ca. 1500 B.C.: Book of Leviticus written; includes guidelines for personal cleanliness and sanitation

2. Classical Cultures (500 B.C.–A.D. 500)

- a. Fifth and sixth centuries B.C.: Evidence that Greek men participated in physical games
- b. Greeks involved in public sanitation
- c. Romans built aqueducts and created hospitals

B. Middle Ages (A.D. 500–1500)

1. A.D. 500–1000 (Dark Ages): most thought health problems and solutions were spiritual in nature
2. Epidemics a concern (e.g., plague epidemics in A.D. 543 and 1348)
3. A.D. 1200: over 19,000 leper houses
4. A.D. 1492: syphilis epidemic was last epidemic of period

C. Renaissance and Exploration (1500–1700)

1. Belief that disease was caused by environmental, not spiritual, factors
2. Epidemics (e.g., smallpox, malaria, and plague) still rampant

D. Eighteenth Century (1700s)

1. Period characterized by industrial growth; workplaces were unsafe and unhealthy
2. 1790: first U.S. census
3. 1793: yellow fever epidemic in Philadelphia
4. 1796: Dr. Edward Jenner successfully demonstrated smallpox vaccination
5. 1798: Marine Hospital Service (forerunner to U.S. Public Health Service) was formed
6. By 1799: several of America's largest cities, including Boston, Philadelphia, New York, and Baltimore, had municipal boards of health

E. First Half of Nineteenth Century (1800–1848)

1. U.S. government's approach to health is laissez faire
2. 1813: first visiting nurse in United States

FIGURE 1.7

Brief history of community and public health prior to the modern era of public health (ca. 1850).

demic of smallpox would not wipe out his colonial forces.²³ Interestingly enough, the average age at death for one living in the United States during this time was 29 years.

Following the American Revolution, George Washington ordered the first U.S. census for the purpose of the apportionment of representation in the House of Representatives. The census, first taken in 1790, is still conducted every 10 years and serves as an invaluable source of information for community health planning.

As the eighteenth century came to a close, a young United States faced numerous disease problems, including continuing outbreaks of smallpox, cholera, typhoid fever, and yellow fever. Yellow fever outbreaks usually occurred in port cities such as Charleston, Baltimore, New York, and New Orleans, where ships arrived to dock from tropical America. The greatest single epidemic of yellow fever in America occurred in Philadelphia in 1793, where there were an estimated 23,000 cases, including 4,044 deaths in a population estimated at only 37,000.²⁷

In response to these continuing epidemics and the need to address other mounting health problems, such as sanitation and protection of the water supply, several governmental health agencies were created. In 1798, the Marine Hospital Service (forerunner to the U.S. Public Health Service) was formed to deal with disease that was occurring onboard water vessels. By 1799, several of America's largest cities, including Boston, Philadelphia, New York, and Baltimore, also had founded municipal boards of health.

The Nineteenth Century

During the first half of the nineteenth century, few remarkable advancements in public health occurred (see Figure 1.7). Living conditions in Europe and England remained unsanitary, and industrialization led to an even greater concentration of the population within cities. However, better agricultural methods led to improved nutrition for many.

During this period, America enjoyed westward expansion, characterized by a spirit of pioneering, self-sufficiency, and rugged individualism. The federal government's approach to health problems was characterized by the French term *laissez faire*, meaning noninterference. There were also few health regulations or health departments in rural areas. Health quackery thrived; this was truly a period when "buyer beware" was good advice.

Epidemics continued in major cities in both Europe and America. In 1854, another cholera epidemic struck London. Dr. John Snow studied the epidemic and hypothesized that the disease was being caused by the drinking water from the Broad Street pump. He obtained permission to remove the pump handle, and the epidemic was abated (see Figure 1.8). Snow's action was remarkable because it predated the discovery that microorganisms can cause disease. The predominant theory of contagious disease at the time was the "miasmas theory." According to this theory, vapors, or miasmas, were the source of many diseases. The miasmas theory remained popular throughout much of the nineteenth century.

In the United States in 1850, Lemuel Shattuck drew up a health report for the Commonwealth of Massachusetts that outlined the public health needs for the state. It included recommendations for the establishment of boards of health, the collection of vital statistics, the implementation of sanitary measures, and research on diseases. Shattuck also recommended health education and controlling exposure to alcohol, smoke, adulterated food, and nostrums (quack medicines).²⁵ Although some of his recommendations took years to



FIGURE 1.8

In London, England, 1854, John Snow helped interrupt a cholera epidemic by having the handle removed from this pump, located on Broad Street.

modern era of public health
the era of public health that began in 1850 and continues today

implement (the Massachusetts Board of Health was not founded until 1869), the significance of Shattuck's report is such that 1850 is a key date in American public health; it marks the beginning of the **modern era of public health**.

Real progress in the understanding of the causes of many communicable diseases occurred during the last quarter of the nineteenth century. One of the obstacles to progress was the theory of spontaneous generation, the idea that living organisms could arise from inorganic or nonliving matter. Akin to this idea was the thought that one type of contagious microbe could change into another type of organism.

In 1862, Louis Pasteur of France proposed his germ theory of disease. Throughout the 1860s and 1870s, he and others carried out experiments and made observations that supported this theory and disproved spontaneous generation. Pasteur is generally given credit for providing the death blow to the theory of spontaneous generation.

It was the German scientist Robert Koch who developed the criteria and procedures necessary to establish that a particular microbe, and no other, causes a particular disease. His first demonstration, with the anthrax bacillus, was in 1876. Between 1877 and the end of the century, the identity of numerous bacterial disease agents was established, including those that caused gonorrhea, typhoid fever, leprosy, tuberculosis, cholera, diphtheria, tetanus, pneumonia, plague, and dysentery. This period (1875–1900) has come to be known as the **bacteriological period of public health**.

Although most scientific discoveries in the late nineteenth century were made in Europe, there were significant public health achievements occurring in America as well. The first law prohibiting the adulteration of milk was passed in 1856, the first sanitary survey was carried out in New York City in 1864, and the American Public Health Association was founded in 1872. The Marine Hospital Service gained new powers of inspection and investigation under the Port Quarantine Act of 1878.²⁵ In 1890 the pasteurization of milk was introduced, and in 1891 meat inspection began. It was also during this time that nurses were first hired by industries (in 1895) and schools (in 1899). Also in 1895, septic tanks were introduced for sewage treatment. In 1900, Major Walter Reed of the U.S. Army announced that yellow fever is transmitted by mosquitoes.

bacteriological period of public health
the period of 1875–1900, during which the causes of many bacterial diseases were discovered

The Twentieth Century

As the twentieth century began, life expectancy was still less than 50 years.²⁸ The leading causes of death were communicable diseases—influenza, pneumonia, tuberculosis, and infections of the gastrointestinal tract. Other communicable diseases, such as typhoid fever, malaria, and diphtheria, also killed many people.

There were other health problems as well. Thousands of children were afflicted with conditions characterized by noninfectious diarrhea or by bone deformity. Although the symptoms of pellagra and rickets were known and described, the causes of these ailments remained a mystery at the turn of the century. Discovery that these conditions resulted from vitamin deficiencies was slow because some scientists were searching for bacterial causes.

Vitamin deficiency diseases and one of their contributing conditions, poor dental health, were extremely common in the slum districts of both European and American cities. The unavailability of adequate prenatal and postnatal care meant that deaths associated with pregnancy and childbirth were also high.

Health Resources Development Period (1900–1960)

Much growth and development took place during the 60-year period from 1900 to 1960. Because of the growth of health care facilities and providers, this period of time is referred to as the **health resources development period**. This period can be further divided into the

health resources development period
the years of 1900–1960, a time of great growth in health care facilities and providers

reform phase (1900–1920), the 1920s, the Great Depression and World War II, and the postwar years.

The Reform Phase (1900–1920)

By the beginning of the twentieth century, there was a growing concern about the many social problems in America. The remarkable discoveries in microbiology made in the previous years had not dramatically improved the health of the average citizen. By 1910, the urban population had grown to 45% of the total population (up from 19% in 1860). Much of the growth was the result of immigrants who came to America for the jobs created by new industries (see Figure 1.9). Northern cities were also swelling from the northward migration of black Americans from the southern states. Many of these workers had to accept poorly paying jobs involving hard labor and low wages. There was also a deepening chasm between the upper and lower classes, and social critics began to clamor for reform.

The years 1900 to 1920 have been called the **reform phase of public health**. The plight of the immigrants working in the meat packing industry was graphically depicted by Upton Sinclair in his book *The Jungle*. Sinclair's goal was to draw attention to unsafe working

reform phase of public health the years of 1900–1920, characterized by social movements to improve health conditions in cities and in the workplace



11164-U. S. Inspectors examining eyes of immigrants, Ellis Island, New York Harbor. Copyright Underwood & Underwood. U-97328

FIGURE 1.9

Ellis Island immigration between 1860 and 1910 resulted in dramatic increases in the urban population in America.

conditions. What he achieved was greater governmental regulation of the food industry through the passage of the Pure Food and Drugs Act of 1906.

The reform movement was broad, involving both social and moral as well as health issues. Edward T. Devine noted in 1909 that “Ill health is perhaps the most constant of the attendants of poverty.”²⁸ The reform movement finally took hold when it became evident to the majority that neither the discoveries of the causes of many communicable diseases nor the continuing advancement of industrial production could overcome continuing disease and poverty. Even by 1917, the United States ranked fourteenth of sixteen “progressive” nations in maternal death rate.²⁸

Although the relationship between occupation and disease had been pointed out 200 years earlier in Europe, occupational health in America in 1900 was an unknown quantity. However, in 1910 the first International Congress on Occupational Diseases was held in Chicago.²⁹ That same year, the state of New York passed a tentative Workman’s Compensation Act, and over the next 10 years most other states passed similar laws.²⁰ Also in 1910, the U.S. Bureau of Mines was created and the first clinic for occupational diseases was established in New York at Cornell Medical College.²⁸ By 1910, the movement for healthier conditions in the workplace was well established.

This period also saw the birth of the first national-level volunteer health agencies. The first of these agencies was the National Association for the Study and Prevention of Tuberculosis, which was formed in 1902. It arose from the first local voluntary health agency, the Pennsylvania Society for the Prevention of Tuberculosis, organized in 1892.³⁰ The American Cancer Society, Inc., was founded in 1913. That same year, the Rockefeller Foundation was established in New York. This philanthropic foundation has funded a great many public health projects, including work on hookworm and pellagra, and the development of a vaccine against yellow fever.

Another movement that began about this time was that of public health nursing. The first school nursing program was begun in New York City in 1902. In 1918, the first School of Public Health was established at Johns Hopkins University in Baltimore. This was followed by establishment of another school at Harvard University in 1923. Also in 1918 was the birth of school health instruction as we know it today.

These advances were matched with similar advances by governmental bodies. The Marine Hospital Service was renamed the Public Health and Marine Hospital Service in 1902 in keeping with its growing responsibilities. In 1912, it became the U.S. Public Health Service.²⁵

By 1900, 38 states had state health departments. The rest followed during the first decades of the twentieth century. The first two local (county) health departments were established in 1911, one in Guilford County, North Carolina, and the other in Yakima County, Washington.

The 1920s

In comparison with the preceding period, the 1920s represented a decade of slow growth in public health, except for a few health projects funded by the Rockefeller and Millbank foundations. Prohibition resulted in a decline in the number of alcoholics and alcohol-related deaths. While the number of county health departments had risen to 467 by 1929, 77% of the rural population still lived in areas with no health services.³⁰ However, it was during this period in 1922 that the first professional preparation program for health educators was begun at Columbia University by Thomas D. Wood, M.D., whom many consider the father of health education. The life expectancy in 1930 had risen to 59.7 years.

The Great Depression and World War II

Until the Great Depression (1929–1935), individuals and families in need of social and medical services were dependent on friends and relatives, private charities, voluntary agencies, com-

munity chests, and churches. By 1933, after three years of economic depression, it became evident that private resources could never meet the needs of all the people who needed assistance. The drop in tax revenues during the Depression also reduced health department budgets and caused a virtual halt in the formation of new local health departments.³⁰

Beginning in 1933, President Franklin D. Roosevelt created numerous agencies and programs for public works as part of his New Deal. Much of the money was used for public health, including the control of malaria, the building of hospitals and laboratories, and the construction of municipal water and sewer systems.

The Social Security Act of 1935 marked the beginning of the government's major involvement in social issues, including health. This act provided substantial support for state health departments and their programs, such as maternal and child health and sanitary facilities. As progress against the communicable diseases became visible, some turned their attention toward other health problems, such as cancer. The National Cancer Institute was formed in 1937.

America's involvement in World War II resulted in severe restrictions on resources available for public health programs. Immediately following the conclusion of the war, however, many of the medical discoveries made during wartime made their way into civilian medical practice. Two examples are the antibiotic penicillin, used for treating pneumonia, rheumatic fever, syphilis, and strep throat, and the insecticide DDT, used for killing insects that transmit diseases.

During World War II, the Communicable Disease Center was established in Atlanta, Georgia. Now called the Centers for Disease Control and Prevention (CDC), it has become the premier epidemiological center of the world.

The Postwar Years

Following the end of World War II, there was still concern about medical care and the adequacy of the facilities in which that care could be administered. In 1946, Congress passed the National Hospital Survey and Construction Act (the Hill-Burton Act). The goal of the legislation was to improve the distribution of medical care and to enhance the quality of hospitals. From 1946 through the 1960s, hospital construction occurred at a rapid rate with relatively little thought given to planning. Likewise, attempts to set national health priorities or to establish a national health agenda were virtually nonexistent.

The two major health events in the 1950s were the development of a vaccine to prevent polio and President Eisenhower's heart attack. The latter event helped America to focus on its Number 1 killer, heart disease. When the president's physician suggested exercise, some Americans heeded his advice and began to exercise on a regular basis.

Period of Social Engineering (1960–1973)

The 1960s marked the beginning of a period when the federal government once again became active in health matters. The primary reason for this involvement was the growing realization that many Americans were still not reaping any of the benefits of 60 years of medical advances. These Americans, most of whom were poor or elderly, either lived in underserved areas or simply could not afford to purchase medical services.

In 1965, Congress passed the Medicare and Medicaid bills (amendments to the Social Security Act of 1935). **Medicare** assists in the payment of medical bills for the elderly and certain people with disabilities, and **Medicaid** assists in the payment of medical bills for the poor. These pieces of legislation helped provide medical care for millions who would not otherwise have received it, and this legislation also improved standards in health care facilities. Unfortunately, the influx of federal dollars accelerated the rate of increase in the cost of health care for everyone. As a result, the 1970s, 1980s, and the 1990s saw repeated attempts and failures to bring the growing costs of health care under control.

Medicare
government health
insurance for the
elderly and those with
certain disabilities

Medicaid
government health
insurance for the poor

Period of Health Promotion (1974–present)

By the mid-1970s, it had become apparent that the greatest potential for saving lives and reducing health care costs in America was to be achieved through means other than health care.

Most scholars, policymakers, and practitioners in health promotion would pick 1974 as the turning point that marks the beginning of health promotion as a significant component of national health policy in the twentieth century. That year Canada published its landmark policy statement, *A New Perspective on the Health of Canadians*.³¹ In [1976] the United States, Congress passed PL 94-317, the Health Information and Health Promotion Act, which created the Office of Health Information and Health Promotion, later renamed the Office of Disease Prevention and Health Promotion.³²

In the late 1970s, the Centers for Disease Control conducted a study that examined premature deaths (defined then as deaths prior to age 65, but now as deaths prior to age 75) in the United States in 1977. That study revealed that approximately 48% of all premature deaths could be traced to one's lifestyle or health behavior—choices that people make. Lifestyles characterized by a lack of exercise, unhealthy diets, smoking, uncontrolled hypertension, and the inability to control stress were found to be contributing factors to premature mortality.³³ This led the way for the U.S. government's publication *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*.³⁴ "This document brought together much of what was known about the relationship of personal behavior and health status. The document also presented a 'personal responsibility' model that provided Americans with the prescription for reducing their health risks and increasing their chances for good health."³⁵

Healthy People was then followed by the release of the first set of health goals and objectives for the nation, called *Promoting Health/Preventing Disease: Objectives for the Nation*.³⁶ These goals and objectives, now in their third edition called ***Healthy People 2010***,²⁰ have defined the nation's health agenda and guided its health policy since their inception (see Figure 1.10).

Healthy People 2010
the third set of health goals and objectives for the U.S that defines the nation's health agenda and guides its health policy

Community Health in the Early 2000s

Early in the new millennium, it is widely agreed that while decisions about health are an individual's responsibility to a significant degree, society has an obligation to provide an environment in which the achievement of good health is possible and encouraged. Furthermore, many recognize that certain segments of our population whose disease and death rates exceed the general population may require additional resources, including education, in order to achieve good health.

The American people face a number of serious public health problems. These problems include the continuing rise in health care costs, growing environmental concerns, the ever-present lifestyle diseases, emerging and re-emerging communicable diseases, serious substance abuse problems, and disasters, both natural and humanmade. In the paragraphs that follow, we have elaborated on each of these problems briefly because they seem to represent a significant portion of the community health agenda for the years ahead.

Health Care Delivery

Arguably, health care delivery continues to be the single greatest community health challenge in the United States. The exorbitant cost of health care is affecting the entire economy in America. Even though the annual growth rate in national health expenditure slowed during the late 1990s due primarily to the advent of managed care, the United States continues to spend more money on health care than any other industrialized country. In 2006, health care expenditures made up approximately 16.2% of America's gross domestic product, up from 10.2% in 1985. Also in 2006, national health care expenditures totaled \$2.2 trillion,

- A. Second Half of 19th Century (1848–1900)
 1. 1849, 1854: London cholera epidemics
 2. 1850: Modern era of public health begins
 3. 1850: Shattuck's report
 4. 1854: Snow has pump handle removed from Broad Street pump
 5. 1863: Pasteur proposed germ theory
 6. 1872: American Public Health Association founded
 7. 1875–1900: Bacteriological period of public health
 8. 1876: Koch established relationship between a particular microbe and a particular disease.
 9. 1900: Reed announced that yellow fever was transmitted by mosquitos
- B. Twentieth Century
 1. Health Resources Development Period (1900–1960)
 - a. The Reform Phase (1900–1920)
 - 1902: First national-level voluntary health agency created
 - 1906: Sinclair's *The Jungle* published
 - 1910: First International Congress on Occupational Diseases
 - 1910: 45% of U.S. population was in the cities
 - 1911: First local health department established
 - 1913: American Cancer Society founded
 - 1917: United States ranked 14th of 16 in maternal death rate
 - 1918: Birth of school health instruction
 - 1918: First school of public health established in United States
 2. 1920s
 - a. 1922: Wood created first professional preparation program for health educators
 - b. 1930: Life expectancy in the United States was 59.7 years
 3. The Great Depression and WWII
 - a. 1933: New Deal; included unsuccessful attempt at national health care program
 - b. 1935: Social Security Act passed
 - c. 1937: National Cancer Institute formed
 4. Postwar Years
 - a. 1946: National Hospital Survey and Construction (Hill-Burton) Act passed
 - b. 1952: Development of polio vaccine
 - c. 1955: Eisenhower's heart attack
- C. Period of Social Engineering (1960–1973)
 1. 1965: Medicare and Medicaid bills passed
- D. Period of Health Promotion (1974–present)
 1. 1974: Nixon's unsuccessful attempt at national health care program
 2. 1974: *A New Perspective on the Health of Canadians* published
 3. 1976: Health Information and Health Promotion Act passed
 4. 1979: *Healthy People* published
 5. 1980: *Promoting Health/Preventing Disease: Objectives of the Nation* published
 6. 1990: *Health People 2000* published
 7. 1997: Clinton's unsuccessful attempt at a national health care program
 8. 2000: *Health People 2010* published

FIGURE 1.10

Brief history of community and public health from 1848 to 2000.

an average of more than \$7,129 per person.³⁷ If left unchecked, it is estimated that the cost of health care will continue to rise faster than the rate of inflation. It was estimated that total health care expenditures would reach \$4 trillion in 2015 and consume 20% of the gross domestic product.³⁷

If the costs of health care were not enough, there is still a significant portion of the U.S. population without health care insurance. In 2005, the proportion of the population without

health care insurance (either public or private) was approximately 16%. In other words, more than 46.6 million Americans were uninsured throughout 2005. Millions more lacked health insurance coverage for shorter periods during that year.³⁸

Environmental Problems

Millions of Americans live in communities where the air is unsafe to breathe, the water is unsafe to drink, or solid waste is disposed of improperly. With a few minor exceptions, the rate at which we pollute our environment continues to increase. Many Americans still believe that our natural resources are unlimited and that their individual contributions to the overall pollution are insignificant. In actuality, we must improve upon our efforts in resource preservation and energy conservation if our children are to enjoy an environment as clean as ours. These environmental problems are compounded by the fact the world population continues to grow; it is now over 6.6 billion people and expected to reach 7.2 billion by the year 2015.³⁹

Lifestyle Diseases

The leading causes of death in the United States today are not the communicable diseases that were so feared 100 years ago but chronic illnesses resulting from unwise lifestyle choices. “The prevalence of obesity and diseases like diabetes are increasing.”⁶ The four leading causes of death in the early 2000s are heart disease, cancer, stroke, and chronic lower respiratory diseases.⁴⁰ Although it is true that everyone has to die from some cause sometime, too many Americans die prematurely because of their unhealthy lifestyles. In the latter part of the twentieth century, it was known that better control of behavioral risk factors alone—such as lack of exercise, poor diet, use of tobacco and drugs, and alcohol abuse—could prevent between 40% and 70% of all premature deaths, one-third of all acute disabilities, and two-thirds of chronic disabilities.⁴¹ As we begin the twenty-first century, behavior patterns continue to “represent the single most prominent domain of influence over health prospects in the United States.”¹⁰ (See Table 1.1.)

Communicable Diseases

Although communicable (infectious) diseases no longer constitute the leading causes of death in the United States, they remain a concern for several reasons. First, they are the primary reason for days missed at school or at work. The success in reducing the life-threatening

Table 1.1
Comparison of Most Common Causes of Death and Actual Causes of Death

Most Common Causes of Death, United States, 2004	Actual Causes of Death, United States, 2000
1. Diseases of the heart	1. Tobacco
2. Malignant neoplasms (cancers)	2. Poor diet and physical inactivity
3. Cerebrovascular diseases (stroke)	3. Alcohol consumption
4. Chronic lower respiratory diseases	4. Microbial agents
5. Unintentional injuries (accidents)	5. Toxic agents
6. Diabetes mellitus	6. Motor vehicles
7. Alzheimer's disease	7. Firearms
8. Influenza and pneumonia	8. Sexual behavior
9. Nephritis, nephrotic syndrome, and nephrosis	9. Illicit drug use
10. Septicemia	

Sources: Miniño, A. M., M. P. Heron, and B. L. Smith (2006). “Deaths: Preliminary Data for 2004.” *National Vital Statistics Reports*, 54(19); Mokdad, A. H., J. S. Marks, D. F. Stroup, and J. L. Gerberding (2004). “Actual Causes of Death, in the United States, 2000.” *Journal of the American Medical Association*, 291(10): 1238–1245; and Mokdad, A. H., J. S. Marks, D. F. Stroup, and J. L. Gerberding (2005). “Correction: Actual Causes of Death, in the United States, 2000.” *Journal of the American Medical Association*, 293: 293–294.

nature of these diseases has made many Americans complacent about obtaining vaccinations or taking other precautions against contracting these diseases. With the exception of smallpox, none of these diseases has been eradicated although several should have been, such as measles.

Second, as new communicable diseases continue to appear, old ones such as tuberculosis re-emerge, sometimes in drug-resistant forms, demonstrating that communicable diseases still represent a serious community health problem in America. Legionnaires' disease, toxic shock syndrome, Lyme disease, acquired immunodeficiency syndrome (AIDS), and severe acute respiratory syndrome (SARS) are diseases that were unknown only 30 years ago. The first cases of AIDS were reported in June 1981.⁴² By August 1989, 100,000 cases had been reported,⁴³ and it took only an additional two years to report the second 100,000 cases.⁴⁴ By June 2006, over a million cases of the disease had been reported to the CDC.⁴⁵ (See Figure 1.11.) Also, diseases that were once only found in animals are now crossing over to human populations and causing much concern and action. Included in this group of diseases are avian flu, *Escherichia coli* O157:H7, hantavirus, mad cow disease, and SARS.¹

Third, and maybe the most disturbing, is the use of communicable diseases for bioterrorism. **Bioterrorism** involves “the threatened or intentional release of biological agents (virus, bacteria, or their toxins) for the purpose of influencing the conduct of government or intimidating or coercing a civilian population to further political or social objectives. These agents can be released by way of the air (as aerosols) food, water or insects.”¹¹ Concern in the United States over bioterrorism was heightened after 9/11 and the subsequent intentional distribution of *Bacillus anthracis* spores through the U.S. postal system (the anthrax mailings). The anthrax mailings resulted in 22 people developing anthrax, 5 of whom died. In addition, thousands more were psychologically affected, and between 10 and 20 thousand people were advised to take postexposure prophylactic treatment because they were at known or potential risk for inhalational anthrax.⁴⁶

Alcohol and Other Drug Abuse

“Abuse of legal and illegal drugs has become a national problem that costs this country thousands of lives and billions of dollars each year. Alcohol and other drugs are often associated with unintentional injuries, domestic violence, and violent crimes.”⁴⁷ Federal, state, and local governments as well as private agencies are attempting to address the supply and demand problems associated with the abuse of alcohol and other drugs, but a significant challenge remains for America.

Disasters

Disasters can be classified into two primary categories—natural (or conventional) and human-made (or technological disasters).^{1,48} Whereas *natural disasters* are the result of the combination of the forces of nature (e.g., hurricane, flood, blizzard, tornado, earthquake, landslide) and human activities,⁴⁹ *humanmade disasters* result from either unintentional (e.g., spill of a toxic substance into the environment) or intentional (e.g., bioterrorism) human activities, often associated with the use or misuse of technology. Both types of disasters have the potential to cause injury, death, disease, and damage to property on a large scale.¹ In recent years, the United States has felt the large-scale impact of both types of disasters via 9/11 and Hurricanes Katrina and Rita. Each of these events showed us that the preparation for such disasters was not adequate.

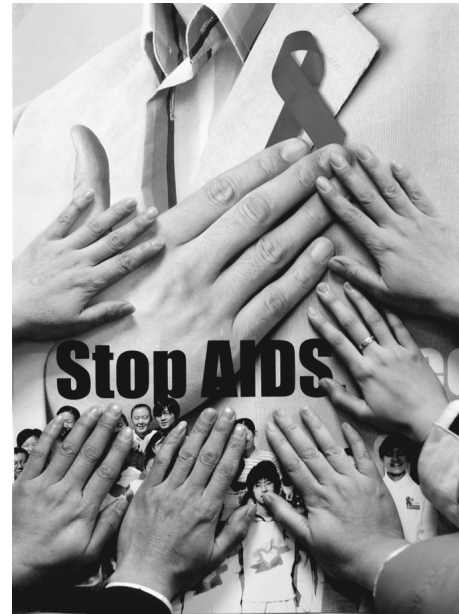


FIGURE 1.11

AIDS is one of the most feared communicable diseases today.

bioterrorism
the threatened or intentional release of biological agents for the purpose of influencing the conduct of government or intimidating or coercing a civilian population to further political or social objectives

**FIGURE 1.12**

Terrorism has become a concern throughout the world.

Even though the causes of the two categories of disasters are different, preparedness for them has many common elements. It has been noted that preparedness for natural disasters is the foundation for preparedness for humanmade disasters.⁴⁸ That is, in preparing for natural disasters, the basic components of an adequate disaster response system have been defined, and the steps necessary to build disaster preparedness capacity have been established.⁴⁸ What needs to be added are specific steps to deal with the peculiarity of the humanmade disasters. An example of this would be the need for decontamination following exposure to a biological agent.

Even given the devastating consequences of natural disasters, such as Hurricanes Katrina and Rita or the forest fires that consume many thousands of acres of woodlands each year (see Chapter 16 for more on natural disasters), it has been the intentional humanmade disasters—specifically terrorism—that have occupied much of our attention in recent years (see Figure 1.12).

Mention was made earlier of the use of a communicable disease as part of terrorism. However, in fact there are a number of agents that could be used as part of terrorism. Since the anthrax mailings, community and public health professionals have focused on the possibility that future terrorism could include chemical, nuclear/radiological, and/or biological (CNB) agents, resulting in mass numbers of casualties. Such concern led to an evaluation of community and public health emergency preparedness and response. “Determining the level of state and local health departments’ emergency preparedness and response capacities is crucial because public health officials are among those, along with firefighters, emergency medical personnel, and local law enforcement personnel, who serve on ‘rapid response’ teams when large-scale emergency situations arise.”¹³ Results of that evaluation showed that the public health infrastructure was not where it should be to handle large-scale emergencies, as well as a number of more common public health concerns.

The . . . public health infrastructure has suffered from political neglect and from the pressure of political agendas and public opinion that frequently override empirical evidence. Under the glare of a national crisis, policy makers and the public became aware of vulnerable and outdated health information systems and technologies, an insufficient and inadequately trained public health workforce, antiquated laboratory capacity, a lack of real-time surveillance and epidemiological systems, ineffective and fragmented communications networks, incomplete domestic preparedness and emergency response capabilities, and communities without access to essential public health services.¹³

Based on the results of several different evaluations that exposed many weaknesses in emergency preparedness in general and in the public health infrastructure more specifically, investment in public health preparedness has increased since September 11, 2001. Those federal departments that have been responsible for most of the effort have been the Departments of Homeland Security (DHS) and Health and Human Services (DHHS). The DHS has the responsibility of protecting America, whereas the DHHS, through the Centers for Disease Control and Prevention and the Health Resources and Services Administration, has worked to improve public health preparedness. The money has been “used for planning, training, improving communication and coordination, strengthening hospitals and laboratories, and improving epidemiology and disease surveillance in state and local areas.”¹ Though much of the funding was distributed specifically to improve public health preparedness activities, there was a spillover

effect on traditional public health activities. For example, even though funds may have been used to improve laboratory capacity and hire epidemiologists, these same labs and personnel have improved public health capabilities in general, not just for bioterrorism.⁵⁰ What must be recognized now is that much of the money that was spent was used for one-time capital investments—such as lab equipment, communications systems, and decontamination equipment—yet there will be an ongoing need for funds to maintain these preparedness efforts.⁵⁰

Even with all the emphasis that has been placed on preparedness since 9/11, both for emergencies in general and public health, there is still much to do. In December 2006, the Trust for America's Health (TFAH), a nonprofit, nonpartisan organization, released its report on the state of public health preparedness in the United States.⁵¹ The report, titled *Ready or Not? Protecting the Public's Health from Disease and Bioterrorism, 2006*, contained preparedness scores for all 50 states and the District of Columbia based on 10 key indicators to assess health emergency preparedness capabilities. Half of the states scored 6 or lower, and Oklahoma was the only state to score a 10.⁵¹ Key findings from the report included the following:⁵¹

- Only 15 states are rated at the highest preparedness level to provide emergency vaccines, antidotes, and medical supplies from the Strategic National Stockpile.
- Twenty-five states would run out of hospital beds within two weeks of a moderate pandemic flu outbreak.
- Forty states face a shortage of nurses.
- Rates for vaccinating seniors for the seasonal flu decreased in 13 states.
- Eleven states and D.C. lack sufficient capabilities to test for biological threats.
- Four states do not test year-round for the flu, which is necessary to monitor for a pandemic outbreak.
- Six states cut their public health budgets from fiscal year 2005 to 2006; the median rate for state public health spending is \$31 per person per year.

The executive director of the TFAH summed up the report by saying, “The nation is nowhere near as prepared as we should be for bioterrorism, bird flu, and other health disasters. We continue to make progress each year, but it is limited. As a whole, Americans face unnecessary and unacceptable levels of risk.”⁵¹

OUTLOOK FOR COMMUNITY HEALTH IN THE TWENTY-FIRST CENTURY

So far in this chapter we have discussed community health, past and present. Now we will describe what community health leaders in the United States and elsewhere in the world hope to achieve in the coming years.

World Planning for the Twenty-First Century

World health leaders recognized the need to plan for the twenty-first century at the thirtieth World Health Assembly of the World Health Organization, held in 1977. At that assembly, delegations from governments around the world set as a target “that the level of health to be attained by the turn of the century should be that which will permit all people to lead a socially and economically productive life.”⁵² This target goal became known as “Health for All by the Year 2000.” The following year in Alma-Ata, U.S.S.R., the joint WHO/UNICEF (United Nations Children's Fund) International Conference adopted a Declaration on Primary Health Care as the key to attaining the goal of Health for All by the Year 2000. At the thirty-fourth World Health Assembly in 1981, delegates from the member nations unanimously adopted a Global Strategy for Health for All by the Year 2000. That same year, the United Nations

General Assembly endorsed the Global Strategy and urged other international organizations concerned with community health to collaborate with the WHO. The underlying concept of Health for All by the Year 2000 was that health resources should be distributed in such a way that essential health care services are accessible to everyone.

As we now know, the lofty goal of health for all around the world by the year 2000 was not reached. That does not mean that the goal was abandoned. With the passing into a new century, the program was renamed Health for All (HFA). HFA continues to seek “to create the conditions where people have, as a fundamental human right, the opportunity to reach and maintain the highest level of health. The vision of a renewed HFA policy builds on the WHO Constitution, the experience of the past and the needs for the future.”⁵³

As one might expect with all of the unrest worldwide, the progress to HFA is slow. Yet, some progress has been made. Life expectancy has increased by between six and seven years globally in the last 30 years, due primarily to (1) social and economic development, (2) the wider provision of safe water and sanitation facilities, and (3) the expansion of national health services.⁵⁴ However, all do not share in this increased life expectancy. “There are widening health inequities between and within countries, between rich and poor, between men and women, and between different ethnic groups. More than a billion of the world’s poorest people are not benefiting from the major advances in health care and several countries, particularly in sub-Saharan Africa, have seen a decline in life expectancy due in part to the HIV/AIDS epidemic.”⁵⁴

Although much of the widening health gap is the result of the continuing impact of communicable diseases, global increases in noncommunicable diseases (especially from tobacco use, unhealthy diets, physical inactivity, and alcohol abuse) and unintentional injuries (primarily from road traffic crashes) also play a part. “Chronic noncommunicable diseases, including mental disorders, already represent 60% of the current global disease burden. One quarter of all chronic disease deaths occur in people under 60 years of age.”⁵⁴ Further, “road traffic incidents kill an estimated 1.2 million people annually, injuring as many as 5.2 million. Over 70% of road traffic fatalities are under 45 years of age. Projections indicate that the number of road traffic casualties will increase by about 65% over the next 20 years unless there is a new commitment to prevention.”⁵⁴

The 2006 World Health Report of the WHO, *Working Together for Health*, provides a good summary of current global health:

In this first decade of the 21st century, immense advances in human well-being coexist with extreme deprivation. In global health we are witnessing the benefits of new medicines and technologies. But there are unprecedented reversals. Life expectancies have collapsed in some of the poorest countries to half the level of the richest—attributable to the ravages of HIV/AIDS in parts of sub-Saharan Africa and to more than a dozen “failed states”. These setbacks have been accompanied by growing fears, in rich and poor countries alike, of new infectious threats such as SARS and avian influenza and “hidden” behavioural conditions such as mental disorders and domestic violence.⁵⁵

In other words, there is still much to do, and in some situations the challenges are daunting (see Table 1.2 for titles and summaries of recent World Health Reports). Nonetheless, WHO has outlined its work ahead (2006–2015) in the *11th General Programme of Work*. The WHO constitution requires that the executive board of WHO submit a general program of work for its governing body to consider. In the eleventh report, five areas have been identified as those from which the work priorities will come:

- a. **Providing support to countries in moving to universal coverage with effective public health interventions.** This applies particularly to areas such as communicable and noncommunicable disease prevention and control and research; sexual and reproductive health; infant,

Table 1.2
World Health Reports

The World Health Report 2006: Working Together for Health

This report contains an expert assessment of the current crisis in the global health workforce and ambitious proposals to tackle it over the next 10 years, starting immediately. The report reveals an estimated shortage of almost 4.3 million doctors, midwives, nurses, and support workers worldwide. The shortage is most severe in the poorest countries, especially in sub-Saharan Africa, where health workers are most needed. Focusing on all stages of the health workers' career lifespan from entry to health training, to job recruitment through to retirement, the report lays out a 10-year action plan in which countries can build their health workforces, with the support of global partners.

The World Health Report 2005: Make Every Mother and Child Count

This year almost 11 million children under 5 years of age will die from causes that are largely preventable. Among them are 4 million babies who will not survive the first month of life. At the same time, more than half a million women will die in pregnancy, childbirth, or soon after. The report says that reducing this toll in line with the Millennium Development Goals depends largely on every mother and every child having the right to access to health care from pregnancy through childbirth, the neonatal period, and childhood.

The World Health Report 2004: Changing History

The 2004 report calls for a comprehensive HIV/AIDS strategy that links prevention, treatment, care, and long-term support. At a crucial moment in the pandemic's history, the international community has an unprecedented opportunity to alter its course and simultaneously fortify health systems for the enduring benefit of all.

The World Health Report 2003: Shaping the Future

The 2003 report examines the global health situation and some of the major threats to health in today's world. Drawing on many examples, the report suggests that major improvements in health for everybody are within reach, and that progress depends on collaboration among governments, international institutions, the private sector, and civil society to build stronger health systems.

The World Health Report 2002: Reducing Risks, Promoting Healthy Life

The 2002 report describes the amount of disease, disability, and death in the world today that can be attributed to a selected number of the most important risks to human health. It also shows how much this burden could be lowered in the next 20 years if the same risk factors were reduced.

The World Health Report 2001: Mental Health—New Understanding, New Hope

The 2001 report focuses on the fact that mental health—neglected for far too long—is crucial to the overall well-being of individuals, societies, and countries. The report advocates policies that are urgently needed to ensure that stigma and discrimination are broken down and that effective prevention and treatment are put in place.

Source: World Health Organization (2007). *The World Health Report*. Available at <http://www.who.int/whr/2006/en/index.html> and <http://www.who.int/whr/previous/en/index.html>.

child, adolescent and maternal health and the health of older persons; environment-related health problems, and effective responses in times of crisis.

- b. Strengthening global health security.** This should further support an integrated approach to a society-wide response to emerging and acute threats to health, including disaster and conflict situations, and incorporate preparedness planning for such threats.
- c. Generating and sustaining action across sectors to modify the behavioural, social, economic and environmental determinants of health.** This will focus on minimizing lifestyle-related risk factors, advocating action on the broad social and economic determinants of ill health, and promoting healthier and safer physical environments, better nutrition, food safety, and food security.
- d. Increasing institutional capacities to deliver core public health functions under the strengthened governance of ministries of health.** This area covers support for the development of health systems, including human resources for health, that promote equitable health gains and better respond to men's and women's different needs; that improve quality, norms, efficacy and safety; that have effective leadership and governance; and that extend social protection through fair, adequate and sustainable financing.

- e. **Strengthening WHO's leadership at global and regional levels and by supporting the work of governments at country level.** The secretariat will strengthen its ability to take forward its core functions through its reform process around results-based management, through strengthening WHO's work in countries, monitoring norms and standards in countries, improving its mechanisms for knowledge management, investing in staff development, and ensuring sustainable sources of financing. Externally it will strengthen its work on partnerships and engage more deeply in the United Nations reform process, with a view to strengthening the response to the global health agenda, and to improving overall efficiency.⁵⁴

As might be inferred from these stated priority areas, much of the attention for improved world health in the twenty-first century is focused on the less developed and poorer countries of the world. The plan for tackling these global health challenges and other non-health-related global challenges of the twenty-first century is guided by the *United Nations Millennium Declaration*,⁵⁶ which was adopted at the United Nations' Millennium Summit in September 2000. More information about the declaration is presented in Chapter 2 in the section that discusses the WHO.

The United States' Planning for the Twenty-First Century

In addition to its participation in WHO's plans for the twenty-first century, the United States has created its own plans. The United States has decided to develop its planning process around 10-year blocks of time. The current plan is called *Healthy People 2010*.²⁰ As noted earlier in this chapter, *Healthy People 2010* and its two predecessor editions do in fact outline the health agenda of the nation. Some have referred to the *Healthy People* documents as the health blueprint of the nation. Each of these documents obviously is created on the best available data at the time, but all have been structured in a similar way. All three editions have included several overarching goals and many supporting objectives for the nation's health. The goals provide a general focus and direction, while the objectives are used to measure progress within a specified period of time.²⁰ For example, in 2001 when the *Healthy People 2000 Final Review* document was released, it showed that 21% of the year 2000 objectives met their targets, 41% showed movement toward their targets, 11% showed mixed results, 2% showed no movement from the baseline, 15% moved away from their targets, and 10% could not be assessed because of a lack of data.⁵⁷ Based on this measured progress and other available data, the *Healthy People 2010* document was created.

Healthy People 2010 is the most sophisticated Healthy People planning document to date, which is reflective of the planning that went into creating it. The *Healthy People 2010* document is composed of three parts. *Healthy People 2010: Understanding and Improving Health*, the first part, provides a history of *Healthy People 2010* and the overall Healthy People initiative. This section also presents the Determinants of Health model (see Figure 1.13) on which Healthy People is based, describes how to use Healthy People as a systematic approach to health improvement, and defines the Leading Health Indicators (LHIs). The LHIs are new to the *Healthy People* document and were created to provide a snapshot of the health of the nation. *Healthy People 2010* identifies 10 LHIs: physical activity, overweight and obesity, tobacco use, substance abuse, responsible sexual behavior, mental health, injury and violence, environmental quality, immunization, and access to health care. The LHIs highlight major health priorities for the nation and include the individual behaviors, physical and social environmental factors, and health system issues that affect the health of individuals and communities. Each of the 10 LHIs has one or more Healthy People measures associated with it and will be used to measure progress throughout the decade.²⁰

The second part of the document, *Healthy People 2010: Objectives for Improving Health*, contains the two overarching goals and detailed descriptions of 467 objectives to

improve health. The two overarching goals for *Healthy People 2010* are as follows:

1. Increase quality and years of healthy life.
2. Eliminate health disparities.

The first goal is a carryover from the *Healthy People 2000* goals and has the aim to help individuals of all ages increase the quality and years of healthy life, while the second strengthens a previous goal by using the words “eliminate health disparities” instead of the previous wording of “reduce health disparities.” These two goals are supported by specific objectives in 28 focus areas (see Table 1.3).

In the document, each focus area is presented as a chapter. Each chapter contains a concise goal statement that frames the overall purpose of the area, an overview of the health issue that provides the context and background for the objectives, an interim progress report on progress toward the year 2000 objectives, and the 2010 objectives. There are two types of objectives—measurable and developmental. The measurable objectives provide direction for action and include national baseline data from which the 2010 target was set. The developmental objectives provide a vision for a desired outcome or health status, but national baseline data were not available when they were written. The purpose of developmental objectives was to identify areas of emerging importance and to drive the development of data systems to measure them.

The third part of the document, *Tracking Healthy People 2010*, provides a comprehensive review of the statistical measures that will be used to evaluate progress. The purpose of this third part is to provide technical information so that others will be able to understand how the data are derived and the major statistical issues affecting the interpretation of the statistics. This is the first set of Healthy People objectives to have such a section.²⁰



Healthy People in Healthy Communities

A Systematic Approach to Health Improvement

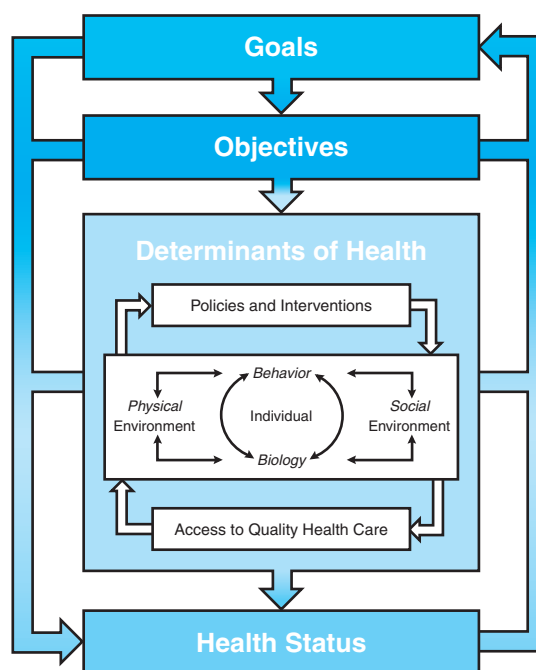


FIGURE 1.13

Healthy people in healthy communities.

Source: U.S. Department of Health and Human Services (2000). *Healthy People 2010*. Available at <http://www.healthypeople.gov>.

Table 1.3
Healthy People 2010 Focus Areas

1. Access to Quality Health Services	15. Injury and Violence Prevention
2. Arthritis, Osteoporosis, and Chronic Back Conditions	16. Maternal, Infant, and Child Health
3. Cancer	17. Medical Product Safety
4. Chronic Kidney Disease	18. Mental Health and Mental Disorders
5. Diabetes	19. Nutrition/Overweight
6. Disability and Secondary Conditions	20. Occupational Safety and Health
7. Educational and Community-Based Programs	21. Oral Health
8. Environmental Health	22. Physical Activity and Fitness
9. Family Planning	23. Public Health Infrastructure
10. Food Safety	24. Respiratory Diseases
11. Health Communication	25. Sexually Transmitted Diseases
12. Heart Disease and Stroke	26. Substance Abuse
13. HIV	27. Tobacco Use
14. Immunization and Infectious Diseases	28. Vision and Hearing

Source: U.S. Department of Health and Human Services (2000). *Healthy People 2010*. Available at <http://www.healthypeople.gov>.

Like the earlier versions of the Healthy People planning documents, *Healthy People 2010* had a midcourse review. Midway through the decade, the review assessed the status of the two overarching goals and national objectives. The purpose of the review was to assess the data trends for the first half of the decade, consider new science and available data, and make changes to ensure that *Healthy People 2010* remained current, accurate, and relevant, while concurrently assessing emerging public health priorities. The midcourse review was based on available data and public comments on suggested changes for objectives and subobjectives.⁵⁸

With regard to the two overarching goals, some progress is being made, but the inability to measure the complex interactions of health, disease, disability, and early death make it difficult to quantify some of the progress. A review of the data to assess the first goal of increasing the quality and years of healthy life revealed that years of life—measured in terms of life expectancy—continue to increase. However, significant gender and racial and ethnic differences remain. Women and whites continue to live longer than their comparison groups. Although life expectancy has continued to increase, the United States continues to have lower life expectancy than many other developed nations. Data for two measures of healthy life expectancy—expected years in good or better health and expected years free of activity limitations—showed slight improvements; however, a third measure of healthy life expectancy—expected years free of selected chronic diseases—declined slightly.⁵⁹

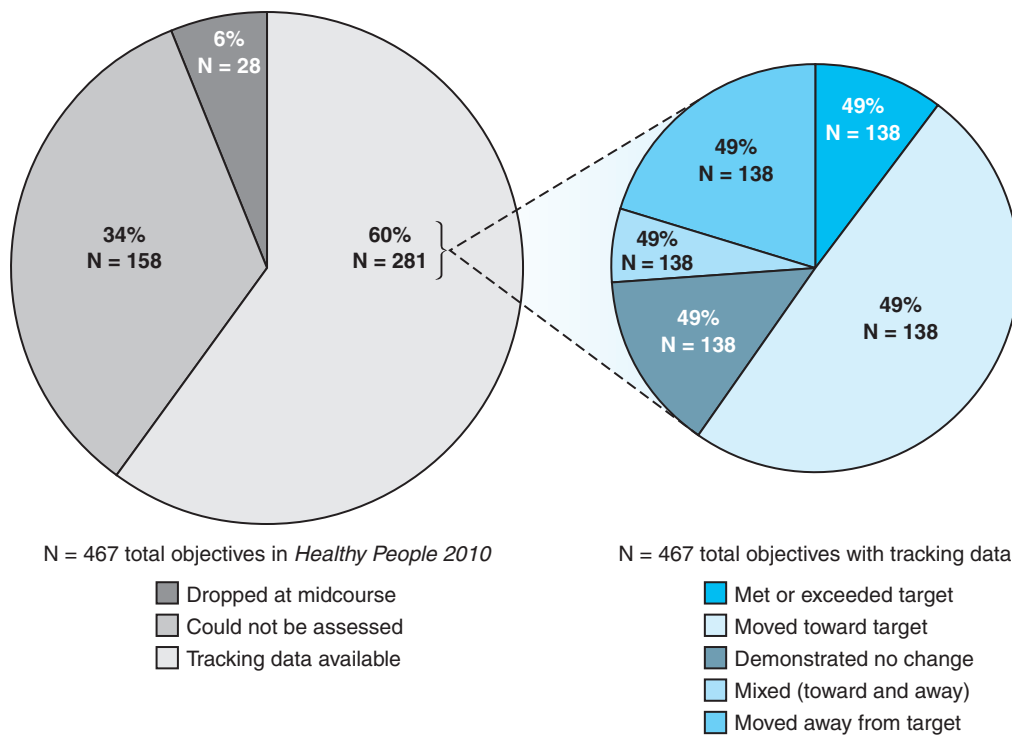
The midcourse review did show that there has been widespread improvements in rates for most of the populations associated with the social and demographic characteristics included in the second goal—eliminating disparities among segments of the population; however, there is little evidence of systematic reductions in disparity. Disparities—measured in terms of relative differences from the best group rate—are generally not declining. That is to say, the health gap between certain racial and ethnic groups is getting wider. Unless greater reductions occur for the populations with the highest rates, disparities will not be eliminated.⁵⁹

The midcourse review of the objectives provided not only an opportunity to measure the progress but also to make changes to the objectives if necessary. Thus, the midcourse review yielded several changes. They included (1) establishing baselines and targets for developmental objectives, (2) changing the wording of, deleting, or adding new objectives, and (3) revising baselines and targets.⁵⁸ Of the 467 *Healthy People 2010* objectives, 28 (6%) were dropped after the midcourse review because data were not available to track them or because of a change in science; another 158 (34%) of the objectives had no data on which to track their progress. However, of this 158, it was anticipated that data would be available by the end of the decade to assess 87 of these objectives. This left 281 objectives for which progress could be assessed at midcourse (see left side of Figure 1.14). As can be seen on the right side of Figure 1.14, a total of 59% of 281 objectives either moved toward the 2010 target or met or exceeded the target.⁵⁸ However, it is clear that much work remains to be done.

When *Healthy People 2010* was written, no one envisioned what would transpire on 9/11 and in the years to follow. Thus, the threats of terrorism and bioterrorism were not specifically reflected in the original *Healthy People 2010* document.

However, the midcourse review of *Healthy People 2010* provided an opportunity to update the document based on the events of the first half of the decade. Two focus areas of *Healthy People 2010* that were influenced by these events were areas 11 (Health Communication) and 23 (Public Health Infrastructure). With regard to health communication, greater emphasis was placed on the major challenges to health communication among first responders and with the public. As noted in the midcourse review, if we are going to be appropriately prepared, both first responders and the public must have access to trusted sources and reliable information.

Concern regarding the public health infrastructure in the United States cannot be overstated. Even though the public health infrastructure was a concern when *Healthy People 2010*

**FIGURE 1.14**

Healthy People 2010 objectives: status at the midcourse and summary of progress toward target attainment.

Source: U.S. Department of Health and Human Services (2006). *Healthy People 2010: Midcourse Review Executive Summary*. Available at <http://www.healthypeople.gov/data/midcourse/html/introduction.htm>.

was initially published, the events of 9/11 and Hurricanes Katrina and Rita showed the public how woefully inadequate the infrastructure really was. Prior to the midcourse review, as noted earlier in the chapter, much had been done to improve the infrastructure, yet much work still remains to be completed and maintained.

Not only did the midcourse review of *Healthy People 2010* reflect a reaction to the events of 9/11, but so did the Homeland Security Act of 2002, which created the Department of Homeland Security (DHS). The DHS became the nation's fifteenth and newest cabinet department in January 2003, consolidating 22 previously disparate agencies under one unified organization.⁶⁰ It was felt that a new federal agency was needed to provide the unifying core for the vast national network of organizations and institutions involved in efforts to secure the nation (see Table 1.4 for the vision and mission statements and the strategic goals of DHS).⁶¹ The DHS was guided during its first two years by Secretary Tom Ridge. In 2005, after Secretary Ridge stepped down, Michael Chertoff took over as the secretary. Shortly after taking office, secretary Chertoff had the DHS undergo the second-stage review, a careful study of the department's programs, policies, operations, and structure. The review was conducted "in order to recommend ways that DHS could better manage risk in terms of threat, vulnerability and consequence; prioritize policies and operational missions according to this risk-based approach; and establish a series of preventive and protective steps that would increase security at multiple levels."⁶² As a result of the review, a six-point agenda for the DHS was developed and

Table 1.4
Vision, Mission, and Strategic Goals of the Department of Homeland Security

Vision

Preserving our freedoms, protecting America . . . we secure our homeland.

Mission

We will lead the unified national effort to secure America. We will prevent and deter terrorist attacks and protect against and respond to threats and hazards to the nation. We will ensure safe and secure borders, welcome lawful immigrants and visitors, and promote the free flow of commerce.

Strategic Goals

Awareness: Identify and understand threats, assess vulnerabilities, determine potential impacts, and disseminate timely information to our homeland security partners and the American public.

Prevention: Detect, deter, and mitigate threats to our homeland.

Protection: Safeguard our people and their freedoms, critical infrastructure, property, and the economy of our nation from acts of terrorism, natural disasters, or other emergencies.

Response: Lead, manage, and coordinate the national response to acts of terrorism, natural disasters, or other emergencies.

Recovery: Lead national, state, local, and private sector efforts to restore services and rebuild communities after acts of terrorism, natural disasters, or other emergencies.

Service: Serve the public effectively by facilitating lawful trade, travel, and immigration.

Organizational Excellence: Value our most important resource, our people. Create a culture that promotes a common identity, innovation, mutual respect, accountability, and teamwork to achieve efficiencies, effectiveness, and operational synergies.

Source: U.S. Department of Homeland Security (DHS) (2006). "DHS Organization." Available at <http://www.dhs.gov/>.

announced in July 2006. The six-point agenda was structured to guide the department and work toward changes that would

- Increase overall preparedness, particularly for catastrophic events;
- Create better transportation security systems to move people and cargo more securely and efficiently
- Strengthen border security and interior enforcement and reform immigration processes;
- Enhance information sharing with our partners; and
- Improve DHS financial management, human resource development, procurement, and information technology.⁶²

As the DHS matures, its work and responsibilities will continue to evolve and will surely affect preparedness for all types of disasters.

As can be seen from the previous discussion, much planning and work have taken place to improve the health and safety of populations in the twenty-first century. Yet,

The systems and the entities that protect and promote the public's health, already challenged by problems like obesity, toxic environments, a large uninsured population, and health disparities, must also confront emerging threats, such as antimicrobial resistance and bioterrorism. The social, cultural, and global contexts of the nation's health are also undergoing rapid and dramatic change. Scientific and technological advances, such as genomics and informatics, extend the limits of knowledge and human potential more rapidly than their implications can be absorbed and acted upon. At the same time, people, products, and germs migrate and the nation's demographics are shifting in ways that challenge public and private resources.¹³

Even with so much change and the many uncertainties about the future, we must stay focused on what is necessary to gain and maintain health for all. There is still much work ahead!

CHAPTER SUMMARY

- A number of key terms are associated with the study of community health, including *health*, *community*, *community health*, *population health*, *public health*, and *public health system*.
- The four factors that affect the health of a community are physical (e.g., community size), social and cultural (e.g., religion), community organization, and individual behaviors (e.g., exercise and diet).
- It is important to be familiar with and understand the history of community health in order to be able to deal with the present and future community health issues.
- The earliest community health practices went unrecorded; however, archeological findings of ancient societies (before 500 B.C.) show evidence of concern for community health. There is evidence during the time of the classical cultures (500 B.C.–A.D. 500) that people were interested in physical strength, medicine, and sanitation.
- The belief of many living during the Middle Ages (A.D. 500–1500) was that health and disease were associated with spirituality. Many epidemics were seen during this period.
- During the Renaissance period (A.D. 1500–1700), there was a growing belief that disease was caused by the environment, not spiritual factors.
- The eighteenth century was characterized by industrial growth. Science was being used more in medicine and it was during this century that the first vaccine was discovered.
- The nineteenth century ushered in the modern era of public health. The germ theory was introduced during this time, and the last fourth of the century is known as the bacteriological period of public health.
- The twentieth century can be divided into several periods. The health resources development period (1900–1960) was a time when many public and private resources were used to improve health. The period of social engineering (1960–1973) saw the U.S. government's involvement in health insurance through Medicare and Medicaid. The health promotion period began in 1974 and continues today.
- Great concern still exists for health care, the environment, diseases caused by an impoverished lifestyle, the spread of communicable diseases (such as AIDS, Legionnaires' disease, toxic shock syndrome, and Lyme disease), the harm caused by alcohol and other drug abuse, and terrorism.
- Both the WHO and the U.S. government continue to plan for the health of humanity. The planning of the United States is reflected in the *Healthy People* documents, the health agenda for the nation.
- The threat of terrorism, both in the United States and worldwide, has created many new challenges for those trying to provide improved health for all.

REVIEW QUESTIONS

1. How did the WHO define health in 1946? How has that definition been modified?
2. What is the difference between community health and public health? Community health and population health?
3. What are the five major domains that determine a person's health?

SCENARIO: ANALYSIS AND RESPONSE

The Internet has many sources of information that could help Amy and Eric with the decisions that they will have to make about the continued use of the day care center for their children. Use a search engine (e.g., Google, Yahoo!) and enter (a) hepatitis, and (b) hepatitis and day care centers. Print out the information that you find and use it in answering the following questions.

1. Based upon the information you found from the Web, if you were Amy or Eric would you take your children to the day care center the next day? Why or why not?
2. Do you feel the hepatitis problem in day care centers is a personal health concern or a community health concern? Why?
3. Which of the factors noted in this chapter that affect the health of a community play a part in the hepatitis problem faced by Amy and Eric?
4. Why does the hepatitis problem remind us of the health problems faced by people in this country prior to 1900?
5. Under which of the focus areas in the *Healthy People 2010* would hepatitis fall? Why?

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4. What is the difference between personal health activities and community health activities?
5. Define the term *community*.
6. What are four major factors that affect the health of a community? Provide an example of each.
7. Identify some of the major events of community health in each of the following periods of time:
 - Early civilizations (prior to A.D. 500)
 - Middle Ages (A.D. 500–1500)
 - Renaissance and Exploration (A.D. 1500–1700)
 - The eighteenth century
 - The nineteenth century
8. Provide a brief explanation of the origins from which the following twentieth-century periods get their names:
 - Health resources development period
 - Period of social engineering
 - Period of health promotion
9. What are the major community health problems facing the United States in the twenty-first century?
10. How is the world planning for the health of people in the twenty-first century?
11. What significance do the *Healthy People* documents play in community health development in recent years?
12. What significance do you think *Healthy People 2010* will play in the years ahead?
13. How has the United States organized to deal with the threat of terrorism?

ACTIVITIES

1. Write your own definition for *health*.
2. In a two-page paper, explain how the five major determinants of health could interact to cause a disease such as cancer.
3. In a one-page paper, explain why heart disease can be both a personal health problem and a community health problem.
4. Select a community health problem that exists in your hometown; then, using the factors that affect the health of a community noted in this chapter, analyze and discuss in a two-page paper at least three factors that contribute to the problem in your hometown.
5. Select one of the following individuals (all have been identified in this chapter), go to the library and do some additional reading or find two reliable Web sites, and then write a two-page paper on the person's contribution to community health.

Edward Jenner
 John Snow
 Lemuel Shattuck
 Louis Pasteur
 Robert Koch
 Walter Reed

6. Locate a copy of *Healthy People 2010*. (It is available on the Web.) Then, set up a time to talk with an administrator in your hometown health department. Find out which of the objectives the health department has been working on as priorities. Summarize in a paper what the objectives are, what the health department is doing about them, and what it hopes to accomplish by the year 2010.

COMMUNITY HEALTH ON THE WEB



The Internet contains a wealth of information about community and public health. Increase your knowledge of some of the topics presented in this chapter by accessing the Jones and Bartlett Publishers Web site at <http://health.jbpub.com/book/communityhealth/6e> and follow the links to complete the following Web activities.

- *Healthy People 2010*
- Department of Homeland Security
- The International History of Public Health

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