



Introduction

THE IMPORTANCE OF GLOBAL HEALTH

Why should we care about the health of other people, especially that of people in other countries? Why should global health matter to those who live in Australia, France, the United States, or other developed countries? Actually, for a number of critical reasons, the health of people everywhere must be a growing concern for all of us.

First, diseases do not respect boundaries. Human immunodeficiency virus (HIV) has spread worldwide. A person with tuberculosis can infect 15 people a year, wherever they are. The West Nile Virus came from Egypt but occurs today in many countries. In addition, there is an important risk of a worldwide epidemic of influenza. Clearly, the health of each of us increasingly depends on the health of others.

Second, there is an ethical dimension to the health and well-being of other people. Many children in poor countries get sick and die needlessly from malnutrition or from diseases that are preventable and curable. Many adults in poor countries die because they lack access to medicines that are customarily available to people in rich countries. Is this just? Are we prepared to accept such deaths without taking steps to prevent them?

Third, health is closely linked with economic and social development in an increasingly interdependent world. Children who suffer from malnutrition may not reach their full mental potential and may not enroll in or stay in school. Sick children from developing countries are less likely than healthy children to become productive adults who can contribute to the economic standing of their family, community, or country. Adults who suffer from AIDS, tuberculosis, malaria, and other diseases lose income while they are sick and out of work, which is a major contributor to keeping their families in an endless cycle of poverty.

Finally, the health and well-being of people everywhere have important implications for global security and freedom. High rates of HIV have had a destabilizing impact on some countries, as more teachers and health workers died than were being trained, and as there were increasingly insufficient numbers of rural workers to grow and harvest crops. Outbreaks of other diseases, such as cholera, the plague, and SARS (Severe Acute Respiratory Syndrome), for example, threaten people's ability to engage freely in economic pursuits. The 1991 outbreak of cholera in Peru cost that country about \$1 billion, the plague in 1994 cost India about \$2 billion, and SARS in Asia in 2003 cost the economies of Asia a staggering \$18 billion in lost economic activity.

Indeed, these factors have caused an increasing interest in health within universities and a growing call for all university students to study health from a global perspective. The aim of this book is to examine the most critical global health topics in a clear and engaging manner. The book will provide the reader with an overview of the importance of global health in the context of development, an examination of the most important global health issues and their economic and social consequences, and a discussion of some of the steps that are being taken to address these concerns.

WHY STUDY GLOBAL HEALTH

Over the last fifty years, the world has made significant progress in improving human health. Since 1950, for example, the death rate of children under 5 years has fallen from 148 deaths per 1000 children to fewer than 65 deaths per 1000 children.⁸ During that same period, the average life expectancy in developing countries has increased from 40 years to 69 years.⁹ Smallpox has been eradicated, polio has been nearly eliminated, and great progress has been made in reducing the burden of vaccine-preventable diseases in children and of parasitic infections, such as Guinea worm. One reason to study global health is to gain a better understanding of the progress made so far in addressing global health problems.

Another reason to study global health, however, is to better understand the most important global health challenges that remain and what must be done to address them most effectively. Despite the important progress in improving human health:

- There were 164,000 deaths from measles globally in 2008.¹⁰
- About 1.8 million people a year die of TB.¹¹
- About 343,000 women died of maternal causes in 2008.¹²

In addition, the world is shrinking and the health of people everywhere must be of concern to all of us. This is particularly important because many diseases are not limited by national boundaries. Tuberculosis, HIV, and polio, for example, can spread from one country to the next. Dengue fever used to be concentrated in Southeast Asia but cases are now seen in many more countries, as shown in Figure 1-2.¹³ The “avian flu” first appeared in East Asia but it, too, is spreading to other regions. Ten years ago, no one in the neighborhood of Laurie, mentioned in the vignette, ever thought of getting West Nile virus.

Besides the central global health challenges noted above, there are also exceptional disparities in the health of

some groups compared to the health of others. Life expectancy in Japan, for example, is about 83 years,¹⁴ but it is only 61 years in Haiti.¹⁵ In addition, there are a number of life saving technologies that have been used in high-income countries for many years that are not yet in widespread use in low-income countries, such as the hepatitis B vaccine. In fact, the previous points raise important ethical and humanitarian questions about the extent to which people everywhere should be concerned about disparities in access to health services and in health status.

The important link between health and development is another reason to pay particular attention to global health. Poor health of mothers is linked to poor health of babies and the failure of children to reach their full mental and physical potential. In addition, ill health of children can delay their entry into school and can affect their attendance at school, their performance in school, and, therefore, their future economic prospects. Countries with major health problems, such as high rates of malaria or HIV, have difficulty attracting

the investments needed to develop their economy. Moreover, having large numbers of undernourished, unhealthy, and ill-educated people in any country is destabilizing and a health, economic, and security threat to all countries.

The nature of many global health concerns and the need for different actors to work together to address them are more reasons why we should be concerned with global health. Although locally relevant solutions are needed to address most health problems, some health issues can only be solved using a global approach. In addition, some problems, such as ensuring access to drugs to treat HIV, may require more financial resources than any individual country can provide. Still other global health issues require technical cooperation across countries because few countries themselves have the technical capacity to deal with them. Global cooperation might be needed, for example, to establish standards for drug safety, to set protocols for the treatment of certain health problems, such as malaria, or to develop an AIDS vaccine that could serve the needs of low-income countries.

The concepts and concerns of global health are also becoming increasingly prominent worldwide. The spread of HIV, the SARS scare, and the fear of the avian flu have all brought attention to global health. As you will read about later in the book, the advocacy efforts of Doctors Without Borders and the rock star Bono, the establishment of the Millennium Development Goals, and the philanthropy of the Bill & Melinda Gates Foundation have also dramatically raised attention to global health. The topic has become so important that there is a push in many universities throughout the world to ensure that all students have a basic understanding of key global health issues.

HEALTH, PUBLIC HEALTH, AND GLOBAL HEALTH

Health

Before starting our review of global health in greater detail, it will be helpful to establish a set of definitions for *health*, *public health*, and *global health* that can be used throughout this book. Most of us think of “health” from our individual perspective as “not being sick.” The World Health Organization, however, set out a broader definition of health in 1948 that is still widely used:

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.¹⁶

This is the definition of “health” used in this book.

Public Health

Although the World Health Organization (WHO) concept of “health” refers first to individuals, this book is mostly about “public health” and the health of populations. C.E.A Winslow, considered to be the founder of modern public health in the United States, formulated a definition of public health in 1923 that is still commonly used today. In his definition, public health is:

... the science and the art of preventing disease, prolonging life, and promoting physical health and mental health and efficiency through organized community efforts toward a sanitary environment; the control of community infections; the education of the individual in principles of personal hygiene; the organization of medical and nursing service for the early diagnosis and treatment of disease; and the development of the social machinery to ensure to every individual in the community a standard of living adequate for the maintenance of health.¹⁷

TABLE 1-1 Selected Examples of Public Health Activities

- The promotion of hand washing
- The promotion of bicycle and motorcycle helmets
- The promotion of knowledge about HIV/AIDS
- Large scale screening for diabetes and hypertension
- Large scale screening of the eyesight of schoolchildren
- Mass dosing of children against worms
- The operation of a supplementary feeding program for poorly nourished young children

According to Winslow’s definition, some examples of public health activities would include the development of a campaign to promote child immunization in a particular country, an effort to get people in a city to use seat belts when they drive, and actions to get people in a specific setting to eat healthier foods and to stop smoking. In addition, most levels of government also carry out certain public health functions. These include the management of public health clinics, the operation of public health laboratories, and the maintenance of disease surveillance systems. Other examples are shown in Table 1-1.

There are a number of guiding principles to the practice of public health that have been articulated, for example, by the American Public Health Association in its “Public Health Code of Ethics.”¹⁸ These principles focus on prevention of disease, respect for the rights of individuals, and a commitment to developing public health efforts in conjunction with communities. They also highlight the need to pay particular attention to disenfranchised people and communities and to working in public health on the basis of data and evidence. In addition, they note the importance of taking account of a wide range of disciplines and appreciation for the values, beliefs, and cultures of diverse groups. Finally, they put considerable emphasis on engaging in public health practice in a way that “enhances the physical and social environment” and that builds on collaborations across public health actors. These themes are at the foundation of this book and will recur throughout it.

Many people confuse “public health” and “medicine,” although they have quite different approaches. Table 1-2 outlines these differences.¹⁹ To a large extent, the biggest difference between the medical approach and the public health approach is the focus in public health on the health of populations rather than on the health of individuals. Exaggerating somewhat for effect, we could say, for example,

TABLE 1-2 Approaches of Public Health and Medicine

Differentiating Factors	Public Health	Medicine
Focus	Population	Individual
Ethical basis	Public service	Personal service
Emphasis	Disease prevention and health promotion for communities	Disease diagnosis, treatment, and care for individuals
Interventions	Broad spectrum that may target the environment, human behavior, lifestyle, and medical care	Emphasis on medical care

Source: Modified with permission from Harvard School of Public Health. About HSPH: Distinctions Between Public Health and Medicine. Available at: www.hsph.harvard.edu/about.html#publichealth. Accessed May 27, 2006.

that a physician cares for an individual patient whom he or she immunizes against a particular disease, whereas a public health specialist is likely to focus on how one ensures that the whole community gets vaccinated. A physician will counsel an individual patient on the need to exercise and avoid obesity; a public health specialist will work with a program meant to help a community stay sufficiently active to avoid obesity. In addition, there are branches of public health, such as epidemiology, that focus on studying patterns and causes of disease in specific populations and the application of this information to controlling health problems.²⁰ Finally, we should note the exceptional attention which public health approaches pay to prevention of health problems.

Global Health

What exactly is *global health*? The U.S. Institute of Medicine defined global health as “health problems, issues, and concerns that transcend national boundaries and may best be addressed by cooperative actions . . .”²¹

Another group defined what we would now call global health as “the application of the principles of public health to health problems and challenges that transcend national boundaries and to the complex array of global and local forces that affect them.”²²

The discussion of the definition of global health has continued. Two groups of distinguished public health scholars and practitioners recently offered additional commentaries on this matter. One group suggested that we should define global health as:

... an area for study, research, and practice that places a priority on improving health and

achieving equity in health for all people worldwide. Global health emphasizes transnational health issues, determinants, and solutions, involves many disciplines within and beyond the health sciences, and promotes interdisciplinary collaboration; and is a synthesis of population based prevention with individual-level clinical care.²³

In response to the above suggestion, however, another panel suggested that one should not distinguish between global health and public health more broadly. They also suggested that the key principles of both are the same: a focus on the public good, belief in a global perspective, a scientific and interdisciplinary approach, the need for multi-level approaches to interventions, and the need for comprehensive frameworks for health policies and financing.²⁴

The study and practice of global health today reflects many of the comments made above. *Global health* implies a global perspective on public health problems. It suggests issues that people face in common, such as the impact of a growing and aging worldwide population on health or the potential risks of climate change to health. The topic also relates in important ways to problems that require cooperative action. An important part of global health also covers the growing problem everywhere of noncommunicable diseases, as well as the “unfinished agenda” of the health needs of the poor in poor countries. In practical terms, as a new student to global health, it may be best not to worry much about the definition of *global health*, but rather, to see the topic as an important part of public health, which itself has many areas of critical importance.

Some examples of important global health concerns include the factors that contribute to women dying of pregnancy-related causes in so many countries; the exceptional amount of malnutrition among young children, especially in South Asia and Africa; the burden of different infectious and noncommunicable diseases worldwide and what can be done to control those diseases. The impact of the environment on health globally and the effects of natural disasters and conflicts are also important to global health. Other significant global health issues include how countries can organize and manage their health systems to enable the healthiest population they can attain with the resources available to them, the search for new technologies to improve important global health problems, and how different actors can work together to solve health problems, that are too significant for any country or actor to solve on their own. Another global health matter of importance is the relationship between globalization and the health of different communities. Some additional global health issues of importance are shown in Table 1-3.

CRITICAL GLOBAL HEALTH CONCEPTS

In order to understand and to help address key global health issues like those noted previously, there are a number of concepts concerning global health with which one must be familiar. Some of the most important include:

- The determinants of health
- The measurement of health status
- The importance of culture to health
- The global burden of disease
- The key risk factors for different health conditions
- The demographic and epidemiologic transitions
- The organization and functions of health systems

TABLE 1-3 Selected Examples of Global Health Issues

- Emerging and re-emerging infectious diseases
- Antimicrobial resistance
- Eradication of polio
- Diarrhea, measles, and pneumonia in young children
- Sexually transmitted infections in young women
- TB
- Malaria
- HIV/AIDS
- Parasitic infections, such as hookworm
- The increasing cases of diabetes and heart disease

It is also essential to understand the links among health, education, development, poverty, and equity.

Building on the previous concepts, those interested in global health also need to have an understanding of how key health issues affect different parts of the world and the world as a whole. These include:

- Environmental health
- Nutrition
- Reproductive health
- Child health
- Infectious diseases
- Noncommunicable diseases
- Injuries

Finally, it is important to understand global health issues that are generally addressed through cooperation. Some of these concern conflicts, natural disasters, and humanitarian emergencies. Others relate to the mechanisms by which different actors in global health activities work together to solve global health problems. Harnessing the power of science and technology to serve global health needs also requires cooperation.

SOME KEY TERMS

The book will sometimes speak of “developed countries” and “developing countries.” These terms are not precise. *Developed countries* are those, such as the United States, France, Australia, and the United Kingdom, that have relatively high income per capita and that are often thought of as “industrialized.” *Developing countries* are those, such as Haiti, Liberia, Laos, and Papua New Guinea, that have relatively low per capita incomes and that are not heavily industrialized.

Although the book will use the terms *developed* and *developing countries*, it will mostly use the terms *low-income*, *middle-income*, and *high-income* to refer to countries. These terms will follow the definitions used by the World Bank, which divides countries into four income groups, based on their gross national income per person (see Table 1-4):²⁵

- \$995 or less—low-income
- \$996 to \$3945—lower middle-income
- \$3946 to \$12,195—upper middle-income
- \$12,196 or above—high-income

Much of the data discussed in this book will be broken down by the geographic regions used by the World Bank.

- East Asia and the Pacific
- Europe and Central Asia
- Latin America and the Caribbean