1

Essentials of global health

Learning Objectives

By the end of this chapter, you will be able to:

- ✔ Define global health;
- ✔ List and explain at least two key global health concepts;
- ✔ Discuss at least two defining features of global health;
- ✔ Explain the difference between international health and global health;
- ✔ Explain the significance of global health in today's world.

Summary of key points

Global health is an emerging interdisciplinary field of study, research, and practice whose scope, objectives, and training requirements remain unclear to many around the world. Preceded by three other health-related fields, it is at present, the main health focus of the world. This notwithstanding, there are ongoing debates about what global health is and whether it is different from its predecessor, international health. Although a few similarities exist between global health and international health, they are different on several domains. This chapter traces the evolution of global health. It discusses the concept of global health and explains some key terms associated with it. It further highlights the difference between global health and international health, and draws attention to the significance of global health in the twenty-first century and beyond.

Evolution and concept of global health

Prior to the evolution of global health, the world experienced and focused on three health-related fields: tropical medicine (also known as colonial medicine), public health, and international health. These fields emerged at various points in time in response to environmental, political, and economic factors (see Figure 1.1).

Tropical medicine

The first health-related field the world experienced and focused on was tropical medicine.

Tropical medicine is a branch of medicine that focuses on identifying, diagnosing, preventing, and treating diseases most prominent in tropical regions of the world. Specifically, it focuses on infectious and

Global Health: Issues, Challenges, and Global Action Lecture Notes, First Edition. Elizabeth A. Armstrong-Mensah.

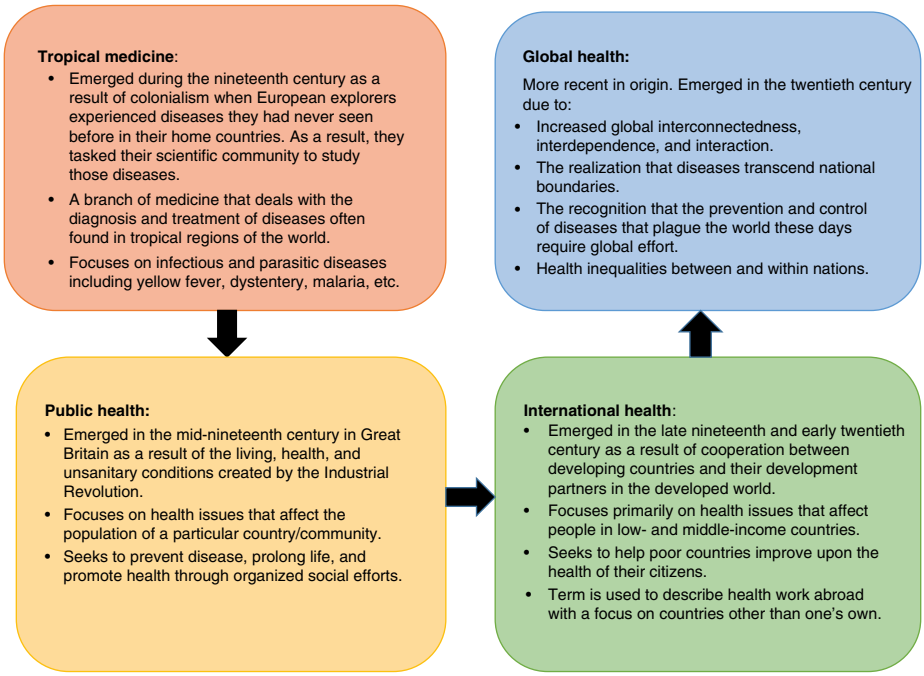

Figure 1.1 Health-related fields prior to global health.

parasitic infestations including yellow fever, dysentery, and malaria, and utilizes an individual clinical approach towards population disease prevention and management. Entomology, parasitology, clinical medicine, epidemiology, and community health are the major disciplines associated with early tropical medicine (Giles & Lucas, 1998).

In the mid-fifteenth century, during the Age of Discovery, Portuguese and Spanish explorers made successful voyages to the Americas and to the coasts of Africa, East Asia, India, and the Middle East. Their success spurred other European nations to embark on similar voyages. Thus, by the sixteenth century, European nations had begun to scramble for, partition, and colonize many regions around the world including Africa among themselves (see Figure 1.2). Many of the countries they colonized were located in the tropics. The hot climate and environmental conditions of the tropics negatively affected the health of the European colonists. They experienced many infectious diseases including malaria, yellow fever, dengue fever, and diarrheal diseases not prevalent in their home countries.

European colonists coined the term "tropical medicine" to describe the host of unfamiliar diseases they experienced in the tropics (MacFarlane *et al.*, 2008; Warwick, 1998). They challenged scientists in their home countries to research and tackle those diseases. This effort culminated in the establishment of the first two schools of tropical medicine in 1898: the Liverpool School of Tropical Medicine and later, the London School of Hygiene and Tropical Medicine. The establishment of these two institutions was groundbreaking and pivotal in that, it led to a greater acceptance of the germ theory, which postulated that diseases in the tropics were caused by germs and not by climate, or poison in the air as some scientists at the time believed.

The development of the germ theory increased European momentum towards colonialism. European colonists came to realize that they could continue to colonize countries in the tropics if they could find a way to prevent and treat the germs that caused diseases in that area. Thus, the goal of the newly established schools of tropical medicine was to train colonial medical officers to treat tropical diseases inorder to make the colonies more habitable for economic exploitation and expansion (Baronov, 2008).

Following the establishment of the first two schools of tropical medicine, other schools of tropical medicine were established around the world. Today, there are several schools, institutions, and departments

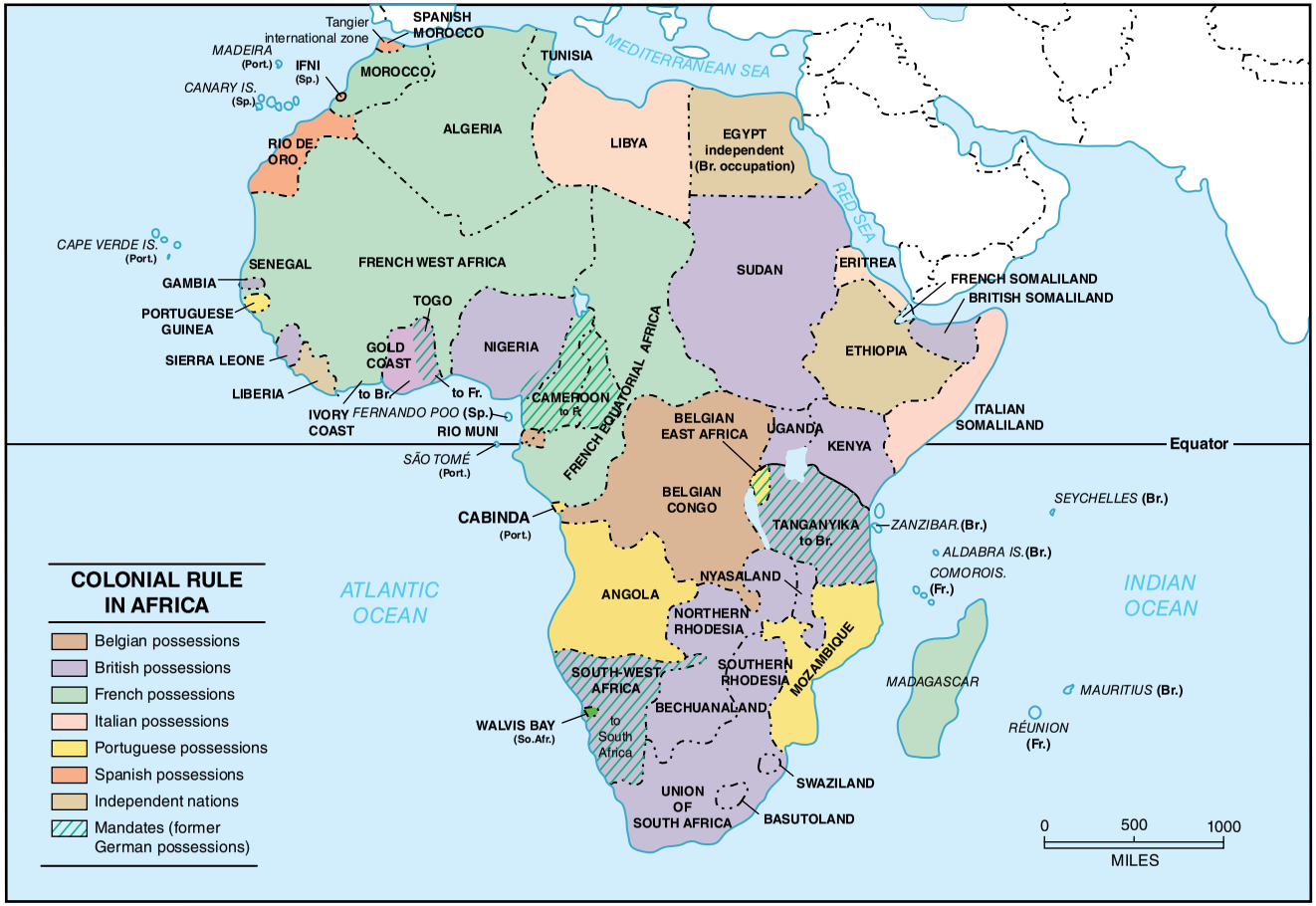

Figure 1.2 Map showing European colonization of Africa.
Source: de Blij H. J., and Muller, P. O. (n.d.).

devoted to the study of tropical medicine. Some of these include the Institute of Tropical Medicine and International Health in Berlin, the Institute of Tropical Medicine in Antwerp, the Institute of Tropical Medicine in Nagasaki, and the Department of Tropical Medicine at Tulane University in the United States of America. In the mid-twentieth century, many doctors and scientists from the tropical and subtropical regions of Africa, Asia, and Latin America went to Europe for training in tropical medicine. Upon returning to their home countries, they incorporated portions of tropical medicine into their educational curricula and founded research institutions devoted to tropical medicine.

Tropical medicine developed as a necessary part of the colonial system (Tropical Medicine, 2001). In order to sustain the territorial expansion of their empires in the tropics, it was necessary for European colonists to have the ability to diagnose and successfully treat the dozens of diseases and infections unique to the tropics that plagued them. Coining the term "tropical medicine" symbolized colonist recognition of the differences in disease and risk factors between the indigenous populations of the tropics and populations from Europe. The postulation and acceptance of the germ theory following the establishment of the first schools of tropical medicine in England and Liverpool, triggered and validated European perceptions that they were superior intellectually, technologically, and socially to the people in the tropics, especially those in Africa, whom they saw as suffering from various tropical diseases (Farley, 1991). It was this outlook that caused Europeans to believe that they could address the health problems of people in the developing world without their involvement, hence the emergence of international health in the late nineteenth and early twentieth century (Crozier, 2007).

Public health

The second health-related field the world experienced and focused on following tropical medicine is public health: a science that focuses on preventing disease, promoting health, and prolonging life among populations as a whole. Public health first emerged in Britain in response to the health and unsanitary conditions presented by the Industrial Revolution. It later spread to other parts of the world.

With the emergence of the Industrial Revolution in the late eighteenth century, many people mass migrated from rural areas to urban centers in search of well paying industrialized jobs in factories. By the early nineteenth century, the impetus created by the Industrial Revolution led to the overcrowding of cities, lodging houses, shelters, and homes, and in the process, created unforeseen sanitary and public health problems including the outbreak of cholera, tuberculosis, and diphtheria. Until John Snow, a British doctor, traced the cholera epidemic in London to a contaminated water pump on Broad Street in 1885, and until Edwin Chadwick learned that removing the pump handle would bring about a drastic reduction in the incidence and prevalence of cholera, no one knew exactly why people in the cities of London were getting sick. The discoveries of Snow and Chadwick, coupled with Chadwick's 1842 landmark *Report on the Inquiry into Sanitary Conditions of the Laboring Population of Great Britain,* contributed to revealing the public health challenges facing England and strengthened the debate on the need for government involvement in the preservation of the health of its people. Thus, in the mid-nineteenth century, the British government took steps to reform health and to improve upon the health of its citizens. This effort culminated in the passing of the first Public Health Act in 1848, and the coining of the term "public health" to distinguish government effort to preserve and protect the health of its citizens or the public from private actions.

The invention of the steam engine, the spinning jenny, and the power loom were at the heart of the Industrial Revolution. These inventions mechanized the factory system and created a shift from the manual production of goods in cottage industries, to the mass production of goods in factories powered by steam engines. Although the Industrial Revolution improved upon systems of transportation, production, communication, banking, and the standard of living for many in England, it also resulted in harsh employment and living conditions for the poor and working classes.

International health

International health is the third health-related field the world experienced and focused on following public health. Emerging in the late nineteenth and early twentieth century, international health seeks to prevent and control communicable diseases, water and sanitation-related diseases, improve upon nutrition, and reduce maternal and child mortality in the developing world through the promotion, support, and strengthening of international health programs

including immunization and family planning. The term "international health" is often used to describe health work abroad with governments and nongovernmental organizations (NGOs) in the developing world. It is also used to portray bilateral associations between two or more countries in which countries in the developed world provide much needed health assistance to countries in the developing world.

Unlike tropical medicine that was borne out of European imperial repression, international health can be said to have been borne out of European benevolence towards the developing world. The question often asked about international health is whether it is truly a foreign policy effort by the international community to improve the health of people in the developing world, or whether it is a health field driven by clandestine European capitalist interests (Fidler, 2008). Whatever its intent, international health provided and continues to provide the necessary assistance needed by many developing countries to meet the health and development needs of their citizens.

Global health

The health-related field the world is currently focusing on is global health. Global health emerged in the latter part of the twentieth century as a result of increased global interconnectedness, interaction, interdependence, and the recognition by the global community of the global reach of diseases and disease risk factors. Prior to the twentieth century, nations were primarily concerned about health issues that affected them. What happened elsewhere was unfortunate. These days, this worldview is not only obsolete, but no longer feasible as it has become apparent that the health status of people in one part of the world is directly linked to the health of people in another part of the world.

The concept of global health

While global health is very much discussed these days, it is important to note that the association of the term "global" with "health", is not entirely new. The term was first used in conjunction with health in 1955, by the newly created United Nations (UN) World Health Organization (WHO) in its attempt to eradicate malaria from the world through the Global Malaria Eradication Program. WHO Public Affairs Committee pamphlet of 1958, also used the term "The World Health Organization: Its Global Battle against Disease," and in 1971, a report for the US House of Representatives was titled *The Politics of Global Health.* After these and a few other associations, the term "global" was not used again in relation to health until around the mid-twentieth century when it evolved as a defined health-related field.

Like many disciplines, there is no agreed definition of what global health is. Macfarlane *et al.* (2008) define global health as the "Worldwide improvement of health, reduction of disparities, and protection against global threats that disregard national borders," whereas the United States Institute of Medicine defines global health as "Health problems, issues, and concerns that transcend national boundaries, may be influenced by circumstances or experiences in other countries, and are best addressed by cooperative actions and solutions."

To WHO, global health is "The health of populations in a global context which transcends the perspectives and concerns of individual nations," and to Rowson and his colleagues, it is:

> A field of practice, research, and education focused on health and the social, economic, political, and cultural forces that shape it across the world. The discipline has an historical association with the distinct needs of developing countries but it is also concerned with health-related issues that transcend national boundaries and the differential impacts of globalization. It is a cross-disciplinary field, blending perspectives from the natural and social sciences to understand the social relationship, biological processes, and technologies that contribute to the improvement of health worldwide. (Rowson *et al.*, 2007)

Despite their variations, a common thread that runs through the above definitions of global health is the fact that it is a field of health that transcends national boundaries, and which requires global collaboration to address the health issues that plague the world. For the purpose of this book, global health may be defined as a field of study, research, and practice of health issues that transcend national boundaries through the transfer of global risk factors for which global collaboration and action is needed. Its aim is to improve and reduce health inequities within and between countries.

Key global health concepts

There are several global health concepts that are germane to understanding the field. A few of the most widely used terms are described in this section.

Developing countries

Also referred to as the South or the Global South, developing countries have certain characteristics in common. They are generally agrarian societies with low levels of industrialization. Their average per capita income, literacy rates, and life expectancy are low, while their population growth rates and mortality rates are high. Poverty, undernutrition, unstable governments, poor infrastructure, and low levels of urbanization are additional characteristics of developing countries. While low- and middle-income countries are all referred to as developing countries, there are vast differences in their economies. According to the July 1, 2014, World Bank classification of world economies, low-income countries have a gross national income (GNI) per capita of $1045 or less, whereas middle-income countries have a GNI per capita of more than $1045, but less than $12 746. Afghanistan, Benin, Cambodia, Ethiopia, and Liberia are examples of low-income countries, and China, Ghana, Mauritius, Turkey, and Yemen are examples of middle-income countries.

Developed countries

Unlike developing countries, developed countries are generally highly industrialized societies with high-performing market economies. Their per capita income and literacy levels are high and population growth rate is low. Mortality rates are low, life expectancy is generally high, and majority of people live in urban areas. Developed countries have stable democratic governments and good infrastructure. They are also referred to as the North, Global North, or high-income countries. According to the July 1, 2013, World Bank classification of the world's economies, developed countries have a GNI per capita of $12 746 or more. Austria, Denmark, France, the United Kingdom, and the United States are examples of developed countries. Just like low- and middle-income countries, there are differences in GNI per capita among developed countries (World Bank, 2015).

Disease control

Disease control is the deliberate reduction of disease incidence, prevalence, morbidity, and mortality to a locally acceptable level. With disease control, continued interventions are needed to maintain reductions. Onchocerciasis or river blindness is an example of a disease that is being controlled locally in certain parts of the world. Between 1974 and 2002, river blindness was brought under control in affected communities in West Africa through the work of the Onchocerciasis Control Program. Disease control was achieved through the spraying of black fly larvae with insecticide and through the large-scale distribution of ivermectin in endemic areas (World Health Organization, 2016a).

Disease elimination

Disease elimination is the deliberate reduction to zero of the incidence of a specified disease in a defined geographical area. Like disease control, disease elimination requires continued intervention measures to maintain reductions gained (Dowdle, 1999). In 2010, Vietnam and Myanmar in East Asia, took steps to eliminate maternal and neonatal tetanus, and in 2013, WHO confirmed the elimination of onchocerciasis from Colombia, in South America (Carter Center, 2016; Centers for Disease Control and Prevention, 2016).

Disease eradication

Disease eradication is the deliberate permanent reduction to zero of the worldwide incidence of infection caused by a specific agent. With disease eradication, continued intervention measures are not needed. To date, smallpox is the only disease that has been eradicated globally. Some global disease eradication initiatives currently underway focus on guinea worm and polio. These initiatives were declared global goals in 1986 and 1988, respectively. According to the Carter Center, there were only four cases of guinea worm globally as of May 2016: three in Chad and a case in Ethiopia, and according to global polio surveillance data, 34 cases of polio were reported in 2015: 28 from Pakistan and six from Afghanistan.

Global burden of disease

Global burden of disease is the measure of the amount of disease, disability, and mortality in the world as measured in disability adjusted life years (DALYs).

Global burden of disease varies by country, region, age, sex, and income level. Communicable and non-communicable diseases and injury account for a huge part of the global burden of disease. Cancer and heart disease were among the leading causes of morbidity and mortality worldwide in 2012 (World Health Organization, 2015b).

Global health inequity

Global health inequity is the difference in health status between people in different parts of the world and among people living within the same country. This inequity is often due to social and economic inequalities, such as education, income, race, and sex. Social and economic conditions determine the extent to which people will access health facilities in the event of illness and the extent to which they will receive quality healthcare in time of need.

Global health issues

Global health issues are the health problems that affect or concern many countries such as Ebola disease, malaria, sexually transmitted diseases, obesity, and HIV/AIDS. They are also global collaborative actions to tackle and address health problems and challenges, such as the Global Malaria Eradication Program and the Global Polio Eradication Initiative.

Global health partnerships

Global health partnerships are collaborative relationships between governments, donors, NGOs, and a variety of private-sector organizations dedicated to the pursuit of a shared health goal. The Global Alliance for Vaccines and Immunization (GAVI) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFTAM) are examples of global health partnerships formed to tackle childhood vaccine preventable diseases, and HIV/AIDS, tuberculosis, and malaria.

Global health risk factors

Global health risk factors are conditions or behaviors that increase the possibility of disease, disability, or injury worldwide. They are also conditions that can exacerbate or worsen existing health conditions. Globally, high blood pressure, smoking tobacco, and obesity are risk factors for heart disease. The lack of access to safe water supply, improved sanitation, and hygiene are risk factors for schistosomiasis, guinea-worm disease (dracunculiasis), and bilharzia (Prüss-Üstün *et al.*, 2004).

Globalization

Globalization is the process of increased global interconnectedness and interdependency as a result of political, social, and cultural integration. Through its processes, globalization may positively or negatively impact the health of populations.

Millennium Development Goals (MDGs)

The Millennium Development Goals are a set of eight goals with targets and indicators identified by the UN Millennium Project in 2000 and adopted by UN Member States to eliminate poverty and to significantly improve health and environmental outcomes for disadvantaged populations around the globe by the year 2015.

World Health Organization geographic regions

Member States of the UN WHO are grouped into six epidemiological regions (African, Americas, Eastern Mediterranean, Europe, South East Asia, and West Pacific), based on the Global Burden of Disease (GBD) regional classification system (see Figure 1.3). Each WHO region has a regional office that works actively with the countries it oversees to develop and implement strategies for the control and prevention of diseases as part of WHO's global response to disease prevention and control.

The WHO African regional office is located in The Congo, and is responsible for 47 African countries including Algeria, Botswana, Cameroun, Ethiopia, Ghana, and Zimbabwe. That of the Eastern Mediterranean region is located in Egypt, and works with 21 countries including Afghanistan, Iran, Iraq, Jordan, Kuwait, Libya, Saudi Arabia, and Yemen. The European and Americas WHO regional offices are located in Denmark and Washington DC, and are in charge of 53 and 35 countries, respectively. Countries in the WHO European Region include Albania, Belgium, Cyprus, Israel, Netherlands, and the United Kingdom, and those in the Americas Region include Argentina, Canada, Cuba, Honduras, Peru, United States of America, and Venezuela. In the Southeast, the WHO regional office is headquartered in India and works with 11 countries including Bangladesh, Indonesia, Sri Lanka, and Timor-Leste. The Philippines is where the WHO Western Pacific regional office is located. It serves 27 countries including Australia, Japan, New Zealand, Singapore, and Vietnam.

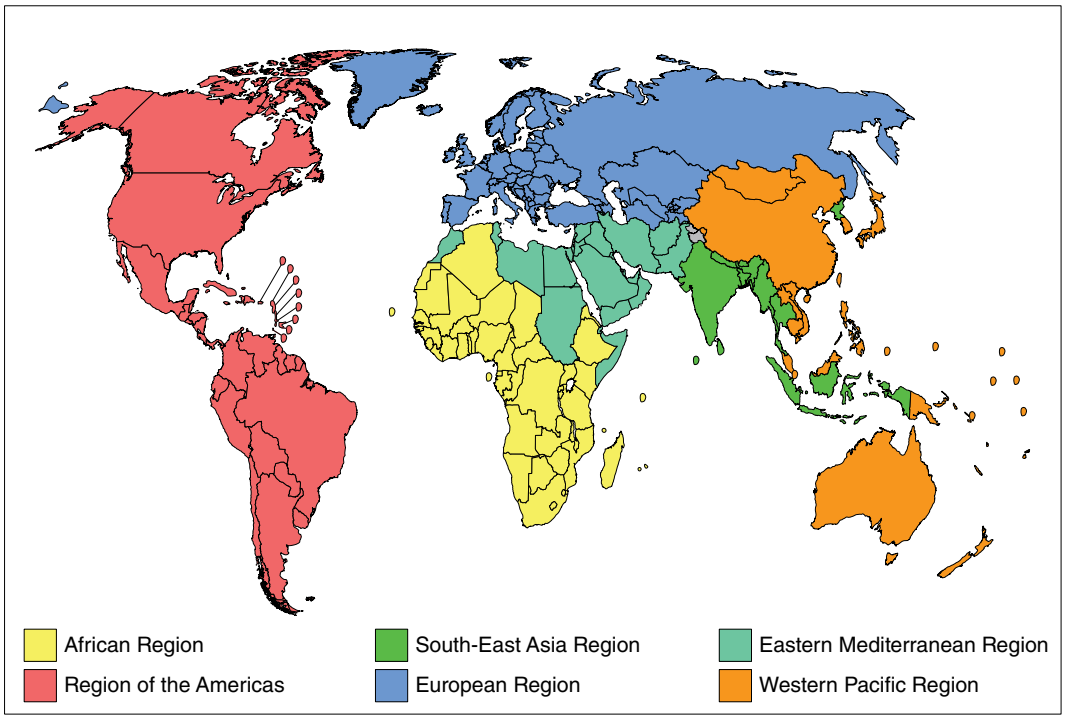

Figure 1.3 WHO regions.
Source: World Health Organization Regional Offices (2016b), with permission.

Defining features of global health

Just as developed and developing countries have features that define them, global health also has a set of features that defines and differentiates it from other disciplines. The defining features of global health lie in its mission, geographical reach, level of cooperation, health content, health conditions, health response, and range of disciplines.

Mission

The mission of global health is to achieve health equity for all within and across countries through the reduction of disparities and the removal of political, economic, social, and environmental determinants that negatively impact health and determine health outcomes.

Health inequities exist when by reason of the wealth of their economies, people living in developed countries have higher life expectancies at birth and reduced maternal mortality rates than people living in developing countries. Health inequities are also present when within the same country, the infant mortality rate of mothers with no education is higher than for those with at least secondary education. Health inequities are not naturally determined. They are socioeconomically determined and can therefore be addressed.

Geographic reach

Geographically, global health focuses on health issues and concerns that transcend national boundaries and which affect many countries around the world directly or indirectly. While the Ebola epidemic that started in 2014 was largely limited to the West African countries of Guinea, Liberia, and Sierra Leone, the global community got involved as it became apparent that if not controlled, the epidemic could spread to other parts of the world and cause a global pandemic of epic proportions.

Level of cooperation

The nature and scope of diseases affecting people around the world these days are such that no one country has the resources and ability to address them

single-handedly. The emergence of HIV/AIDS, avian influenza, Ebola disease, and severe acute respiratory syndrome underscore this fact. To tackle and address these health issues, countries and organizations around the world have had to form partnerships and pool funds, expertise, and human resources.

Health content and health conditions

Addressing both communicable and noncommunicable diseases is at the core of global health. In the early part of the twentieth century, the burden of disease in developing countries was primarily due to communicable diseases such as malaria, cholera, and tuberculosis, whereas those in developed countries were due to noncommunicable diseases including cardiovascular diseases, cancers, respiratory diseases, and diabetes. The status quo however changed by the latter part of the twentieth century; people in the developed and developing world now experience both communicable and noncommunicable diseases, thanks to globalization and global interconnectedness (World Health Organization, 2015a).

Health response

Prior to the emergence of global health, bilateral organizations and development practitioners in the developed world responded to health issues in the developing world with a top-down approach. They believed that they alone had the knowledge and skills to tackle and address the health issues in the developing world. Therefore, they required developing countries to standby while they tackled the health issue they had come to address. With the emergence of global health, the nature of health response has shifted from an entirely top-down approach towards one that is horizontal; more inclusive of local people, their communities, institutions, and organizations. The response to the 2014 Ebola disease outbreak, is an example of such a shift.

Range of disciplines

Global health utilizes a multidisciplinary approach. From a medical perspective, it describes the pathology, diagnosis, and treatment of major global diseases, and from an epidemiological perspective, it focuses on patterns, causes, and effects of health and disease in defined populations. From an economic perspective, global health emphasizes the cost and financing of health programs and interventions, and from a sociological perspective, it shows how cultural beliefs and practices influence perceptions and health outcomes of populations. From a political economy perspective, global health highlights who owns what, controls whom, and who makes decisions that impact the health of a population.

Global versus international health

There are ongoing debates on the differences between global health and international health. According to a school of thought, the two fields are one and the same; the only difference is that of semantics. According to another school of thought, the two fields are not the same. This section presents the view that both fields are for the most part different in terminology and across several domains, and should therefore not be used interchangeably (see Table 1.1).

The mission of global health is to eliminate health disparities and achieve health equity among and within nations whereas the mission of international health, on the other hand, is primarily to help individual nations deal with their health issues. As a consequence, global health programs and interventions on HIV/AIDS prevention, seek to make antiretroviral therapy available to all populations in societies at risk, both rich and poor while international health programs focus on how a developed country can help a developing country deal with health problems that are unique to it, or to a few countries.

In terms of geographical reach, global health focuses on health issues that directly or indirectly transcend national boundaries, whereas international health focuses on health issues in countries other than one's own, especially in low- and middle-income countries. Global health focuses on the commonalities of health issues and concerns across countries of the world; international health focuses on their differences.

Global health and international health vary when it comes to the issue of health conditions. Global health focuses on the transfer of health risks precipitated by globalization while international health focuses on the health needs of poor nations. By contrast, international health focuses on the control of communicable diseases, maternal and child health, poor nutrition, and water- and sanitation-related diseases, whereas global health focuses on these health issues in addition to other noncommunicable diseases that affect the whole world including HIV/AIDS, cardiovascular diseases

Table 1.1 Differences between global health and international health.

Domains	Global health	International health
Mission	Achieve health equity among nations and for all people	Seeks to help poor people of developing nations
Geographical reach	Focuses on health issues that transcend national boundaries	Focuses on health issues of countries other than one's own – especially developing ones
	Focuses on commonalities between countries rather than their differences	Focuses on differences between countries rather than their commonalities
Level of cooperation	Depends on multilateral cooperation for the development and implementation of solutions to global health issues	Depends on bilateral cooperation for the development and implementation of solutions to health issues
Health conditions	Focuses on the global transfer of health risks	Focuses on risk factors within a country
Health content	Focuses on diseases/ health issues that affect the world; both communicable and noncommunicable	Focuses on the control of communicable diseases (tropical diseases, water and sanitation and maternal, and child health)
Range of disciplines	Highly multidisciplinary	Embraces a few disciplines

(like heart attacks and stroke), cancers, chronic respiratory diseases (such as chronic obstructed pulmonary disease and asthma), and diabetes.

Global health, unlike international health, realizes that the health issues confronting the world are such that no one nation can address them alone. As a result, global health practitioners work to develop partnerships to pool together resources and technical expertise to tackle and address prevalent and or emerging health issues that threaten the world's population.

In responding to health issues in developing countries, international health practitioners assume a vertical top-down approach. They come in as the experts with the funds, knowledge, and technical know-how, to help a country address its health problem or epidemic. With global health, the approach is different. The response and strategy to health is horizontal, collaborative, and inclusive.

Significance of global health in today's world

Given the extent to which the world is currently interconnected, all countries are vulnerable to disease threats, therefore ignoring global health issues is not an option. Diseases do not respect national boundaries. Through modern trade and transportation, diseases that originate in one part of the world can spread with alarming speed across the world. Each year, over 500 million people travel across international borders by aircraft alone, expediting the import and export of diseases like essential commodities. The emergence and spread of the avian flu pandemic and HIV/AIDS attest to this fact.

Health and disease are closely associated with human, economic, and social development. The fact is, no matter the country one originates from, the wellbeing of people in the world depends to a large extent on how health issues are managed around the world. As a result, high on WHO's agenda is the issue of global health security; the desire to secure a world that is free from the threats posed by infectious diseases, so as to reduce human suffering, the loss of human life, and the negative impact of ill health on economic development. To facilitate the achievement of global health security, WHO in 2005, established the International Health Regulations, an international legal instrument that is binding on 196 countries across the globe, including all the Member States of WHO. The regulations help the international community prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide.

For foreign direct investments (FDI), international trade, and the global economy to thrive, the collective health of populations is vital. Although the primary pull factors for FDI in the developing world have been identified to include cheap raw material costs, deregulated environments, and economic and political stability, the

most significant factors are really the health of the nation and the nonexistence of disease risk factors.

Due to globalization, people are migrating to cities from rural areas in huge numbers, therefore making cities potential breeding grounds for global epidemics. In 2007 alone, over 50% of the world's population was living in towns and cities. Current trends show that the numbers may continue upwards. As urban populations grow with no concomitant provision of increased facilities and amenities such as solid waste disposal, and safe water and sanitation to meet the needs of people, the public health consequences could be great and costly.

Social and economic conditions affect people's lives, determines their risk for illness, and the actions they can take to prevent illness. Global health seeks to achieve health equity among nations and for all people by removing disparities and promoting a population-based approach to health.

Discussion points

1. What is global health?
2. How does global health differ from international health?
3. What are the defining features of global health? Briefly explain each feature.
4. In your opinion, is global health of relevance in this present time? Why?
5. Describe the health-related fields that preceded global health.
6. To what extent is global health a multidisciplinary field of study?
7. The mission of global health is to achieve health equity among nations and for all people. Is this feasible? Explain your response.
8. How did public health emerge?
9. Tropical medicine developed as a necessary part of the colonial system. Discuss.
10. List and explain four key global health concepts.

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