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Global Health Issues, Policy, and Healthcare Delivery

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Global Health: An Introduction

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“The health of the people is really the foundation upon which all their happiness and their powers as a state depend.”

Benjamin Disraeli, British politician
and author (1804–1881)

OBJECTIVES

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After completing this chapter, the reader will be able to:

1. Define global health.
2. Identify global health terminology, agencies, and significant historical events.
3. Relate the state of the world’s population growth and relevance to world health.
4. Discuss the Millennium Developmental Goals and the latest progress made toward their attainment.
5. Relate reasons for health and healthcare disparities worldwide.
6. Define indices of health.
7. Compare and contrast the universal “right to health care” and realistic global healthcare access.
8. Relate global health and healthcare priorities.

GLOBAL HEALTH

Tarantola (2005) states that global health, as applied to human development, is a political variable that relates to the health of the whole planet, which moves beyond geographical and political boundaries. These include both governmental agencies and nongovernmental organizations (NGOs). During the 1960s, the World Bank first advocated global thinking in relation to health issues with the phrase, “Think globally and act locally.”

Beaglehole and Yach (2003) report that the term “globalization” is now frequently used to describe the increasing global “interconnectedness” or global interdependence of humanity, which includes the

health of all on the earth. Economic globalization has been affected by the last two decades of international trade, financial investments, human migration, travel, and tourism. The marketing and sales strategies of international tobacco companies, pharmaceutical companies, and international travel have had a huge influence on global health issues.

Negative aspects of globalization include global warming, cross-border pollution, financial crises, the spread of human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS), and international crime. The globalization of disease began with the European explorers and conquerors who came to the Americas and spread smallpox, measles, and yellow fever among the various indigenous populations. They also brought typhus, influenza, and the plague. The poorest were most vulnerable, with the small elite, wealthier groups having better nutrition, access to better health care, and better sanitary (hygienic) conditions. More recently, the spread of HIV/AIDS, tuberculosis (TB), severe acute respiratory syndrome (SARS), West Nile virus, Ebola virus, and other infectious diseases has emerged as a global concern. Rapid movement of people and food products by travel has also resulted in new health problems such as “mad cow” disease and avian influenza. Globalization has recently changed the lifestyles of developing countries, resulting in new chronic diseases from the importation of high-sodium, high-fat fast foods, along with the more sedentary lifestyles promoted by newer technologies (e.g., TV, appliances). Moreover, in developing countries today, populations are rapidly acquiring chronic diseases (such as heart disease, cancer, stroke, and obesity leading to diabetes), which are adding a double burden given the still challenging acute infectious diseases (Beaglehole & Yach, 2003).

HISTORY OF GLOBAL HEALTH

The World Health Organization (WHO) was established just after World War II as an intergovernmental agency for the purpose of leading and coordinating worldwide health activities. Its activities are initiated when consensus regarding world health priorities is reached. Today’s world health is improved when the economic development of nations is improved with the cooperation of governmental and nongovernmental agencies. In the last decade, numerous efforts directed at global health have been initiated, such as the Global Alliance for Vaccines and Immunizations, the Global Tuberculosis Partnership, and the Global Fund on HIV/AIDS (Ruger, 2005).

The World Bank began in 1946. Although it was originally established to finance European reconstruction after World War II, today it serves as a major resource for the health, nutrition, and population (HNP) of developing countries. A few examples of the historical activities of the World Bank include the 1968 appointment of Robert McNamara as president of the organization. His term as president resulted in the initiation of a Population Control program, which provided funding for family planning. In 1971, McNamara emphasized the need to combat malnutrition. Additionally, in 1974, the Onchocerciasis Control Program was developed in cooperation with the United Nations Development Program, Food and Agriculture Organization, and the World Health Organization. This program was created to eliminate river blindness in West Africa. After 30 years, the onchocerciasis program had protected an estimated 34 million people and also cleared an estimated 25 million hectares of land for agricultural use (Ruger, 2005).

In 1985, WHO gave \$3 million in grants for the World Food Program for emergency food supplies to sub-Saharan Africa. This effort was followed by the WHO and the United Nations co-sponsoring, in 1987, a Safe Motherhood Project in the same region—the first of global initiatives for this area. In addition, in 1998, WHO lent \$300 million to India’s Women and Child Development Program (Ruger, 2005).

At present, the World Bank is the world’s largest financial contributor to health projects throughout the world, having an annual budget of \$1 billion for HNP programs. In addition, it gives \$1.3 billion for HIV/AIDS treatment and prevention, 50% of which goes to sub-Saharan Africa. When making loans, it

allows repayment periods up to 35–40 years and a 10-year grace period. Although one of the main purposes of the World Bank is to generate and disseminate knowledge, its main advantage over other global healthcare agencies is its ability to generate and mobilize healthcare resources. One of the criticisms of the World Bank focuses on its reliance on user fees, which are said to cause a disproportionate burden on the poor and sick people of the world (Ruger, 2005).

In 1978, in Alma-Ata, Kazakhstan (formerly part of the Soviet Union), leaders within the world community assembled to discuss and solve the issue of primary care for all world inhabitants. The Alma-Ata Declaration stated that governments have the responsibility for the health of their people, which can be fulfilled only by the provision of adequate health and social measures. According to this document, a main social target of governments, international organizations, and the whole world community in coming decades was to be the attainment by all peoples of the world, by the year 2000, of a level of health care that would permit them to lead a socially and economically productive life. Primary health care is the key to attaining this target as part of development of social justice (Hixon & Maskarinec, 2008).

The Alma-Ata Declaration states that citizens cannot always provide primary health care by themselves, so governments must include everyone, not just those who can afford health care, in their health-related programs. This document urges member states:

- (1) To ensure political commitment at all levels to the values and principles of the Declaration of Alma-Ata, keep the issue of strengthening health systems based on the primary health care approach high on the international political agenda, and take advantage, as appropriate, of health-related partnerships and initiatives relating to this issue, particularly to support achievement of the Millennium Development Goals.
- (2) To accelerate action towards universal access to primary health care by developing comprehensive health services and by developing national equitable and sustainable financing mechanisms, mindful of the need to ensure social protection and protect health budgets in the context of the current international financial crisis.
- (3) To put people at the center of health care by adopting, as appropriate, delivery models focused on the local and district levels that provide comprehensive primary health-care services, including health promotion, disease prevention, curative care and end-of-life services, that are integrated and coordinated according to need. (Hixon & Maskarinec, 2008)

In 2005, WHO established a Commission on Social Determinants of Health: A Renewal of the Alma-Ata Declaration. In 2008, this commission completed its report recommending a renewal of the goal of primary health care for all and new attention to the need for addressing health disparities worldwide. The Renewal of the Alma-Ata Declaration addressed the following issues:

1. The aging of the world population
2. The plight of indigenous populations
3. Food and nutrition
4. The impact of conflicts and violence
5. The environment and health
6. Global and national inequalities
7. The impact of health on the global economy, social standing, and hierarchy
8. Health disparities among and within nations
9. Best practices and country studies
10. The importance of expanding social determinants of health studies (Hixon & Maskarinec, 2008)

STATE OF THE WORLD POPULATION

Worldwide, a child born in 1955 had an average life expectancy at birth of only 48 years. By 2000, the average life expectancy at birth had increased to 66 years and, if past trends continue, the global life expectancy at birth is projected to rise to 73 years by 2025. These improvements in longevity have resulted from improved living conditions overall, advances in medical science, and a number of population-level interventions. However, major disparities persist. During the past decade, in low-income countries, average life expectancy at birth increased from 55 to 57 years (3.6%), while increasing from 78 to 80 years (2.6%) in high-income countries. The world's population as of October 31, 2011 reached 7 billion. While women are on average having fewer children than they were in the 1960s, the world population continues to rise. At present, there are more people who are younger and also more people who are older than ever before. In some of the poorest countries, high fertility rates hamper the infrastructure development and perpetuate poverty, while in some of the richest countries, there are great concerns regarding low fertility rates and too few people entering the job market. The unemployed people of many nations who wish to migrate from developing countries to developed countries are finding more national borders closed to them. Gaps between rich and poor are widening in almost every location worldwide (UNFPA, 2011).

In 2050, the world population is projected to total 9.15 billion. It is expected that in developing countries, most families will have two or fewer children per family. The largest increases in population growth rates will occur in Africa. Many countries are facing a shrinking pool of working-age individuals (ages 15–64 years), who are needed to support the older adult population. This imbalance may jeopardize pension guarantees and long-term healthcare programs for the elderly. Within the United States, the largest population growth is expected to come from immigration and from growth of the older adult population (Bremner, Frost, Haub, Mather, Ringheim, & Zuehlke, 2010).

The countries with the largest populations are China (1.338 billion), India (1.189 billion), and the United States (310 million). By 2050, India is expected to have the largest population (1.748 billion), followed by China (1.437 billion) and the United States (423 million). The countries with the youngest populations include Niger and Uganda, whereas those with the oldest populations include Japan, Germany, Italy, and Sweden (“World Population Data Sheet,” 2010).

The United Nations Family Planning Association (UNFPA, 2011) has validated, across nations, the inadequate resources, gender bias, and gaps in serving the world's poor. Many developing countries have initiated population projects to reduce poverty, develop laws and policies to protect the rights of women and girls, introduce reproductive health services as part of primary health care, increase the skills of birth attendants, and provide more prevention and treatment of HIV/AIDS. Many couples today continue to lack access to birth control. Birth complications remain the leading cause of death of women worldwide, with 5 million new fatalities per year from this cause. Every minute, a woman dies in pregnancy or childbirth and another 20–30 women suffer serious injury or disability; most of these women die in developing countries of preventable or treatable complications. A wide disparity in global survival rates among the rich and poor women within countries is evident (UNFPA, 2011).

In addition, unsustainable consumption and rapid population growth have created serious problems related to the world environment, resulting in clean water becoming scarce in many countries. Land is being deforested, and fish stocks are being harvested beyond sustainable limits. These problems are further compounded by people moving from rural to urban environments, resulting in overcrowded cities that burden the caring capacity of government agencies.

The current global birth rate is 19.15 births/1000 population which results in about 252 worldwide births per minute or 4.2 births every second (2011 est.) (Indexmundi birth rate, 2011). The birth rate is usually the dominant factor in determining the rate of population growth. It depends on both the level

of fertility and the age structure of the population. In addition the world death rate is 8.12 deaths/1000 population which results in about 107 worldwide deaths per minute or 1.8 deaths every second (July 2011 est.) (Indexmundi death rate, 2011).

The death rate, while only a rough indicator of the mortality situation in a country, accurately indicates the current mortality impact on population growth. This indicator is significantly affected by age distribution, and most countries will eventually show a rise in the overall death rate, in spite of continued decline in mortality at all ages, as declining fertility results in an aging population (Indexmundi death rate, 2011).

MILLENNIUM DEVELOPMENT GOALS

The Millennium Development Goals (MDGs) are the most broadly supported, comprehensive, and specific development goals worldwide. Collectively, they provide benchmarks for resolving extreme poverty and include goals and targets related to income, poverty, hunger, maternal and child mortality, disease, inadequate shelter, gender inequality, environmental degradation, and the Global Partnership for Development. Adopted by world leaders in 2000 and set to be achieved by 2015, the MDGs are both global and local, adapted by each country to address its specific development needs. They provide a framework for the entire international community to work together toward a common end for everyone.

The eight goals are summarized here:

1. Eradicate extreme poverty and hunger: Reduce by half the proportion of people living on less than a dollar a day; achieve full and productive employment and decent work for all, including women and young people; and reduce by half the proportion of people who suffer from hunger.

PROGRESS

The goal of cutting in half the proportion of people in the developing world living on less than \$1 per day by 2015 remains within reach. This achievement will be mainly due to extraordinary economic success in most of Asia. In contrast, previous estimates suggested that little progress was made in reducing extreme poverty in sub-Saharan Africa. In western Asia, poverty rates are relatively low but increasing.

2. Achieve universal primary education: Ensure that all children complete a full course of primary schooling.

PROGRESS

In most regions, primary school enrollment rates in 2006 exceeded 90%, and universal enrollment was achieved in many countries. The number of children of primary school age who were not in school dropped from 103 million in 1999 to 73 million in 2006 despite an overall increase in children of that age group. In sub-Saharan Africa, net enrollment only reached 71%, with 38 million children in that region still out of school. In southern Asia, enrollment reached 90%, with 18 million children still not enrolled.

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3. Promote gender equality and empower women. Eliminate gender disparity in primary and secondary education by 2005 and at all levels by 2015.

PROGRESS

For girls in some regions, education remains elusive. Poverty is a major barrier to education, especially among older girls. Women are slowly rising to political power, but mainly when boosted by quotas and other special measures.

4. Reduce child mortality: Reduce the mortality rate of children under age 5 by two-thirds.

PROGRESS

In 2006, the annual number of deaths among children younger than age 5 dropped below 10 million. A child born in a developing country is 13 times more likely to die within the first five years of life than a child born in a developed country. Sub-Saharan Africa accounts for half of all under-five deaths in the developing world. In eastern Asia, Latin America, and the Caribbean, child mortality rates are approximately four times higher than in developed regions. Mortality rates are higher for children from rural areas and poor families whose mothers lack basic education.

5. Improve maternal health: Reduce by three-fourths the maternal mortality ratio; achieve by 2015 universal access to reproductive health.

PROGRESS

Maternal mortality remains high across most of the developing world. In 2005, more than 500,000 women died during pregnancy, childbirth, or within six weeks after delivery. Ninety-nine percent of these deaths occurred in developing regions, with sub-Saharan Africa and southern Asia accounting for 86% of them. In sub-Saharan Africa, a woman's chance of dying from pregnancy or childbirth complications is 1 in 22, compared to 1 in 7300 in developed regions.

6. Combat HIV/AIDS, malaria, and other diseases: Halt and reverse the spread of HIV/AIDS; achieve by 2010 universal access to treatment; halt and reverse the incidence of malaria and other diseases.
7. Ensure environmental sustainability: Halve by 2015 the proportion of people without access to sustainable drinking water and sanitation.
8. Develop a global partnership for development: Develop further an open, rule-based predictable, nondiscriminating trading and financial system; address the special needs of the least developed countries; deal with landlocked developing countries and small island countries; deal comprehensively with the debt problems of developing countries.

Source: "United Nations Millennium Development Goals Report 2009," 2010.

PREDICTIONS OF GLOBAL HEALTH PATTERNS

WHO (2005) predicted that the following issues will dominate the world health conversation in the future:

1. Tobacco will cause chronic obstructive pulmonary diseases (e.g., emphysema and lung cancer) and will kill more people than the HIV epidemic.
2. Males living in the former USSR and socialist economies in Europe will have poor and deteriorating health status, including a 28% risk of death in the 15–60 age groups.
3. Mental health diseases (depression, alcoholism, and schizophrenia), which have long been underestimated in significance, will be responsible for 1% of deaths and 11% of the total world disease burden.
4. Communicable diseases, maternal and perinatal problems, and nutritional diseases will continue to be major problems in developing countries, while noncommunicable diseases such as depression and heart diseases will also cause premature death and disability.
5. Deaths from noncommunicable diseases will increase by 77% due to the aging of the world population and the decrease in birth rate.
6. Accidents and violence mortality (death) rates may compete with mortality rates of infectious diseases.

PREDICTIONS OF THE LEADING CAUSES OF DISEASES OR INJURY WORLDWIDE

In rank order, the following issues are expected to be major sources of morbidity and mortality:

1. Ischemic heart disease
2. Unipolar major depression
3. Road traffic accidents
4. Cerebrovascular disease (stroke)
5. Chronic obstructive pulmonary disease (COPD)
6. Lower respiratory infections
7. Tuberculosis
8. War
9. Diarrhea diseases
10. HIV
11. Perinatal conditions
12. Violence
13. Congenital anomalies
14. Self-inflicted injuries
15. Trachea, bronchus, and lung cancer (WHO, 2005)

Greater investments in scientific research and technology will be needed in developing countries to meet the increasing demand for the challenges of treatment of illness and disease prevention. The UNFPA (2011) indicates that world population challenges will include the following issues:

1. Migration from rural areas to urban cities. Half the world's population lived in urban areas by 2007—a pattern that creates a greater need for social services, including reproductive health, especially in poor urban areas.
2. Stress on the global environment. Global warming, population growth, resource consumption, deforestation, and decreases in water and cropland will further negatively impact health outcomes.
3. Increased demand for family planning. More than 350 million couples still lack family planning services; by 2025, the demand for such services will increase by 40%.
4. Pregnancy and childbirth complications. These issues continue to cause illness and death in women in developing countries, resulting in 8 million women having life-threatening complications and 529,000 deaths from this cause.

5. Lack of prenatal care. Thirty-three percent of all pregnant women in the world receive no prenatal care and 60% of all deliveries occur outside a hospital.
6. Skilled birth attendants. Only 50% of all pregnant women will be delivered by a skilled birth attendant.
7. HIV/AIDS. Thirty-eight million people have HIV/AIDS.

According to the U.S. Implementation of the Global Health Initiative Consultation Document (2009, p. 3), global health needs include the problems identified by the following global statistics:

1. Almost 3 million people are affected by HIV each year, and AIDS is the leading cause of death for women of reproductive age.
2. Malaria kills 900,000 people yearly—mostly children younger than age 5 years—with 300 million more people affected annually.
3. More than 9 million people are infected with tuberculosis on an annual basis, and 1.7 million people die each year from this disease.
4. More than 1 billion people suffer each year from neglected tropical diseases (NTD), and 400,000 die each year from these causes.
5. More than 530,000 women die each year from preventable pregnancy or childbirth complications.
6. At least 8.8 million children die yearly from easily treatable or vaccine preventable diseases or malnutrition.
7. In developing countries, more than 150 million children younger than age 5 years and 1 out of 3 women are undernourished.

The goals of the Global Health Initiative Consultation Document (2009) are to contribute to major improvements and health outcomes with a special emphasis on women, newborns, and children. The Global Health Initiative was proposed in 2009 by President Barack Obama as a six-year (2009–2014), \$63 billion initiative to develop a comprehensive U.S. government strategy for global health, which builds on the President’s Emergency Plan for AIDS Relief (PEPFAR) as well as efforts to combat malaria; TB; neglected tropical diseases; maternal, newborn, and child health; family planning and reproductive health; and nutrition and health systems strengthening. The countries targeted by the Global Health Initiative include 80 lower-income to middle-income countries with high levels of burden of diseases. These countries are mainly located in Africa, but also include nations in other world regions, such as Guatemala, Bangladesh, Malawi, and Nepal.

HEALTH DISPARITIES

A health disparity is a statistically significant difference in health indicators that persists over time. Health disparities are comparative measurements of the burden of disease, and morbidity and mortality rates, in specific populations. Healthcare disparities, by comparison, are differences in access to appropriate healthcare services by various groups because of a multitude of factors; they are mainly associated with social inequalities. Health disparities are differentiated from healthcare disparities, although both concepts are intimately linked. Disparities in access to quality and timely healthcare services contribute to the disparities in health status. Poorer health status compromises the ability of some groups to obtain timely and appropriate health services. Health and healthcare disparities exist worldwide, affecting both developed and developing countries. Population groups both in one nation and across different countries are affected by health disparities. In contrast to developed countries, developing nations have a lower level of material well-being based on per capita income, life expectancy, and rate of literacy. These nations are also referred to as less economically developed, Third World, lower-income nations, or resource-poor countries. In contrast, developed nations are also called industrialized societies, advanced economies, and higher-income nations (“United Nations Developmental Project Report”

[UNDP], 2009). These terms should be used with caution because they may imply inferiority–superiority relationships among nations.

Indices of Health Disparities

1. **Burden of disease:** the impact of a health problem in an area measured by financial cost, mortality, morbidity, or other indicators. It is often quantified in terms of quality-adjusted life-years (QALYs), which allows for comparison of disease burden due to various risk factors or diseases. It also makes it possible to predict the possible impact of health interventions. WHO provides a detailed explanation of how disease burden is measured at local and national levels for various environmental contexts. The global burden of disease is shifting from infectious diseases to noncommunicable diseases, including chronic conditions such as heart disease and stroke, which are now the chief causes of death globally.
2. **Mortality rate:** the number of deaths in some population, scaled to the size of that population, per unit of time. This rate is expressed in units of deaths per 1000 people per year; thus a mortality rate of 9.5 in a population of 100,000 would mean 950 deaths per year in that entire population.
3. **Infant mortality rate (IMR):** the number of deaths of infants (one year of age or younger) per 1000 live births. The IMR is a useful indicator of a country's level of health or development.
4. **Morbidity rate:** the number of individuals in poor health during a given time or number who currently have that disease (prevalence rate), scaled to the size of the population. This rate takes into account the state of poor health, the degree or severity of a health condition, and the total number of cases in a particular population during a particular point in time irrespective of cause.
5. **Life expectancy:** the average number of years of life remaining at a given age or average life span or average length of survival in a specified population; the expected age to be reached before death for a given population in a country, based on the year of birth or other demographic variables.
6. **Birth rate:** the number of childbirths per 100,000 people per year. As of 2011 the current global birth rate is 19.15 births/1000 population which results in about 252 worldwide births per minute or 4.2 births every second (2011 est.)
7. **Total fertility rate:** the average number of children born to each woman over the course of her life. Fertility rates tend to be higher in developing countries and lower in more economically developed countries. The government of China has developed a mandatory “one child per family” policy with some exceptions, which is still valid at present and represents an attempt to cap China's total fertility rate.
8. **Disability:** the lack of ability relative to a personal or group standard or spectrum. It may involve physical, sensory, cognitive, or intellectual impairment, or a mental disorder; it may occur during a person's lifetime or be present from birth.
9. **Nutritional status:** a factor influenced by diet, levels of nutrients in the body, and ability to maintain normal metabolic integrity. Body fat may be estimated by measuring skin fold thickness and muscle diameter; levels of vitamins and minerals are measured based on their serum levels, through urine concentration of nutrients and their metabolites, or by testing for specific metabolic responses (Centers for Disease Control and Prevention [CDC], 2003; UNFPA, 2011).

Health Disparities in the United States

Health disparities may be defined more narrowly as persistent gaps between the health status of minorities and nonminorities that continue despite advances in health care and technology. In the United States, ethnic minorities have higher rates of disease, disability and premature deaths than nonminorities. African Americans, Hispanics/Latinos, American Indians and Alaska Natives, Asian Americans, Native Hawaiians, and Pacific Islanders all have higher rates of infant mortality, cardiovascular diseases,

diabetes, HIV/AIDS, and cancer, as well as lower rates of immunizations and cancer screenings, than nonminority groups. Such disparities arise for a number of reasons:

- Inadequate access to health care—caused by economic, geographic, and linguistic factors; lack of or decrease in health insurance and education; and poorer quality of health care
- Substandard quality of care/lower quality of care—caused by patient–provider miscommunication, provider discrimination, and stereotyping or prejudice (Agency of Healthcare Research and Quality, 2006; “National Healthcare Disparities Report 2009,” 2010)

POPULATION GROWTH ISSUES

As of October 2011, the global population of 7 billion continues to grow rapidly at a rate of approximately 76 million per year. The average family size has declined from 6 children per woman in 1960 to 3 children per woman today, mainly due to family planning. Countries that have significant decreases in fertility will have increases in the aging population. Ninety-six percent of the world population growth will be attributable to growth in developing countries. Europe and Japan will have declining populations, whereas the North American population will increase by 1% due to immigration. Actual population sizes and growth patterns today are somewhat lower than those predicted 10 years ago, mainly due to the impact of the HIV/AIDS epidemic. The 38 African countries most affected by HIV/AIDS are projected to have 823 million people by 2015—a population that includes 91 million fewer people than if no AIDS deaths had occurred (UNFPA, 2011).

EQUALITY IN HEALTH CARE

The world collectively lacks an equal rights-based approach in the distribution of health care. Disparities in health care are now a major challenge for healthcare agencies around the world. As former South African President Nelson Mandela (1998) stated, “The greatest single challenge facing our globalized world is to combat and eradicate its disparities.” The burden of disease is growing disproportionately within certain regions of the world, especially in areas commonly affected by “brain drain.” Some doctors and nurses from Africa, Asia, and Latin America are leaving the rural areas for cities, while many others are leaving their countries altogether and relocating in developed nations. The irony is that more healthcare providers in developed countries are now working, at least for part of their working lives, in developing countries, even as the “brain drain” pulls some of the most competent healthcare providers out of their home countries, where they are most needed. Regardless of the causes, many developing countries with the least amount of human and economic resources are confronted with the largest burden in public health. In the developed world, the most affluent 15% of the world’s population consumes more than 60% of the world’s total energy—much more than the developing world (Farmer, Furin, & Katz, 2004).

There is still major evidence that socioeconomic as well as health inequalities exist within and among nations. Although the health of the world population has improved considerably, some countries of the world still have inadequate and inequitable health care within their borders and among their citizens. For example, in 2010, there was an estimated 22.9 million people living with HIV in Sub-Saharan Africa. This has increased since 2009, when an estimated 22.5 million people were living with HIV, including 2.3 million children. The increase in people living with HIV could be partly due to a decrease in AIDS-related deaths in the region. There were 1.2 million deaths due to AIDS in 2010 compared to 1.3 million in 2009. Almost 90% of the 16.6 million children orphaned by AIDS live in sub-Saharan Africa (Avert.org, 2011).

The disappearance of an entire generation of productive men and women (ages 18–45) is evidence that healthcare services have been inadequate in this region, resulting in children and grandparents left behind (Ruger, 2005).

Adequate health care promotes social stability and economic growth. Countries that do not have adequate health care often have inadequate funding, poor government organization, and inadequate access for healthcare services for all of their populations (Go & Given, 2005). Go and Given (2005) report that although developing countries such as India, Mexico, and China would like to expand their healthcare systems and have more high technology, they first must restructure their systems to devote more expenditures to, and place greater emphasis on, education and preventive medicine, rather than trying to first invest in high-technology health care. The three main criteria for an adequate healthcare system include (1) equitable access to quality care in the form of both prevention and treatment services for rural and urban populations; (2) affordability, which means that even if people have no income or health insurance they may receive services; and (3) sustainability, which means that the system has long-term political and financial support.

For example, Mexico, China, and India are emerging economies that are rapidly industrializing and embracing global markets; each has its own unique culture, geography, and history as well. All three countries are working to improve access to their healthcare systems for all of their citizens, and are emphasizing preventive health care as a major priority. Ninety percent of Mexicans now have access to preventive care and basic public health services, although some indigenous Indians in isolated rural areas still have no coverage. Sixty-seven percent of India's population is now immunized, although many rural areas have less basic health care than urban areas. In the past, the Indian government paid the entire cost of health care for individuals, but now a shift in healthcare costs has placed greater burden on individuals to cover their own healthcare needs. The Indian government is now spending less and expects that individuals will pay for part of the services that were once completely funded by the government. At present, new medical treatments and medications are becoming more expensive and many people must also pay out-of-pocket for health care because they lack health insurance. For example, the percentages of people in Mexico, China, and India with healthcare insurance are 53%, 60–70%, and 82–85%, respectively (Go & Given, 2005). The World Health Report (WHO, 2003) states that a key responsibility of any government's healthcare system is to decrease the health disparities. Lack of political power and basic education represent barriers to accessing the healthcare system for all. The majority of the populations in Mexico, China, and India has equal access, yet only a small elite group has access to state-of-the-art health care.

UNIVERSAL RIGHT TO HEALTH CARE

The right to health care under international law is found in 1948 under the 1948 Universal Declaration of Human Rights (“the Declaration”), which was unanimously accepted by the UN General Assembly as a common standard for the entire world's population. This declaration sets forth each person's right to “a standard of living adequate for the health and well-being of himself and his family . . . including medical care and . . . the right to security in the event of . . . sickness, disability . . . or other lack of livelihood in circumstances beyond his control.” The Declaration does not define the components of a right to health, but they are included in the statement regarding medical care. Health is considered to extend beyond health care to include basic preconditions for health, such as potable water and adequate sanitation and nutrition. In addition, the right to health includes freedoms from nonconsensual medical treatment and experimentation.

Historically, the United States has not wanted to accept international human rights standards or pass the laws necessary to meet them. The United States is currently the only developed country in the world that does not have a plan for universal healthcare coverage and some type of legal right to health care for all its residents (Yamin, 2005).

EMERGING HEALTH THREATS

The WHO Report of 2010 indicates that public health issues evolve over time. As a result of planned and unplanned activities or changing environments, humans may come in contact with many different organisms that have the capacity to cause disease. Thanks to the development of antibiotics, people are now able to survive many bacterial infections, which previously would have been the cause of certain death. Even so, infectious diseases continue to cause both new epidemics, such as those linked to HIV/AIDS or the Ebola virus, or reoccurring epidemics, such as those involving tuberculosis or cholera. Many of the emerging health threats around the world today are caused by resistance to antibiotics, new strains of drug-resistant bacteria, or poor adherence to medical regimens (WHO, 2011).

Preventable diseases and injuries are seen more often as humans migrate from rural to urban areas. Also seen more often are unintentional injuries such as traffic accidents, poisonings, and intentional injuries, such as war and street violence. More than 40% of the total disease burden due to urban air pollution occurs in developing countries, and children are most vulnerable to these environmental hazards, because they do not have the ability to detoxify pollutants related to their bodies' immaturity. More than 90% of all deaths due to injuries occurred in low- and middle-income countries. Although tobacco use is declining in developed countries, it is increasing in developing countries (WHO, 2011).

Mental health, neurological disorders, and substance abuse are causing a great amount of disability and human suffering. Many people do not receive any health care for these problems because of inadequate infrastructures, and widely prevalent stigma and discrimination may prevent them from seeking care even when it is available. Many countries lack mental healthcare policies, facilities, or budgets within their healthcare systems. Cost-effective services are available, and research clearly demonstrates that depression, schizophrenia, and alcohol- and drug-related problems can be treated at primary care centers with inexpensive medications and basic training of healthcare personnel. Intentional (suicide, violence, and war) and unintentional (traffic accidents) injuries, which primarily affect young adults, accounted for more than 14% of the adult disease burden of the world, yet in parts of Europe and the Eastern Middle East region, these causes were responsible for more than 30% of the disease burden. In males, violence, traffic injuries, and self-inflicted injuries are within the top 10 disease burdens in the 15- to 44-year-old groups (WHO, 2011).

MEASURES OF POPULATION HEALTH

In order to evaluate the health of a population, one needs to examine four aspects of that population:

1. Life expectancy: a measure of mortality rates across the developmental life span, which is expressed in years of life.
2. Healthy life expectancy (HLE): years of active life, reflecting a person's ability to perform tasks that reflect self-care, called the activities of daily living. HLE is a way of measuring not just years of life, but expected years of life divided into healthy and unhealthy life. It is a way to more accurately measure the current health of a population, measuring the extent of morbidity and mortality of a population.
3. Mortality: the number of deaths within a specific population, which has often been used as a basic indicator of health.
4. Disability: a situation in which a person's abilities or limitations are determined by physical, mental, or cognitive status within society, which is itself determined by how well the personal environment accommodates the loss of functioning.

GLOBAL HEALTH INDICATORS

Global monitoring of health changes across world populations requires global health indicators. The indicators provide estimates of a country's state of health and may reflect either direct measurements of health phenomena, such as diseases and deaths, or indirect measurements, such as education and

poverty. With population statistics available regarding education, access to safe water and sanitation, and rates of diseases, it is possible to fairly accurately measure a population's burden of disease and designate it as low, medium, or high. Unfortunately, few developing countries are able to measure their health statistics accurately; therefore, numbers of births, deaths, persons with specific diseases, and so on may be only estimates—and may not be truly representative of the population. Criteria for good health indicators include the following:

1. **Definition.** The indicator must be well defined and be able to be used internationally.
2. **Validity.** The indicator must accurately measure what it is supposed to measure and must be reliable so that it can be replicable and consistent in different settings, and be easy to interpret.
3. **Feasibility.** Obtaining the information must be easily affordable and not overburden the system.
4. **Utility.** The indicator must provide useful information for various levels of health decision makers (Larson & Mercer, 2004).

GLOBAL HEALTH AND MORAL VALUES

The creation of global initiatives requires a review of ethical and moral values. In 2003, Lee Jong-Wook, the Director General of the WHO, stated that global health must be guided by an ethical vision. According to Lee, technical excellence and political commitment have no value unless they have an ethically sound purpose. The following are different schools of thought used to justify global initiatives:

1. **Humanitarianism:** acting virtuously toward those in need. It is often the response to social problems. Humanitarianism is incorporated within all religions, based on compassion, empathy, or altruism. It is the ethical basis of philanthropy by NGOs; it is also the basic philosophy behind U.S. governmental foreign aid policy.
2. **Utilitarianism:** maximizing happiness for many people. Improving the health of individuals living within a society will be in the best interest for all the people of a society.
3. **Equity by achieving a fair distribution of health capabilities:** ensuring that all people in a society have a fair and equal chance to achieve good health.
4. **Rights:** fulfilling obligations so others are dignified; ensures that health care respects human rights and dignity for all people living in a society.
5. **Knowledge and institutions:** supports the basis for research and development of new health technologies and medications. For example, the development of HIV/AIDS antiretroviral drugs created a new moral dilemma by emphasizing the differences in the drugs' affordability among nations. Corporations have realized what are perceived as "huge" profits by producing and selling the drugs; however, the cost of development and use of resources must be recouped.
6. **Consensus and advocacy groups:** people who are usually in powerful political positions who wish to have health policies established for others in the society.

THEORETICAL SOLUTION PLANS

At the United Nations Millennium Summit in 2000, representatives of 189 countries met to develop a road map with goals for improvement in the areas of peace, security and disarmament, poverty eradication, environmental protection, human rights, democracy and good governance protecting the vulnerable populations, assisting with the special needs of Africa, and strengthening the United Nations. These goals were established to be achieved by 2015. While governments made commitments to work toward these millennium goals, practical solutions have yet to be fully identified or implemented (WHO, 2003).

CONCLUSION

This introduction, which serves as a gateway to the rest of this textbook, has sought to provide an overall perspective on various global health issues. Definitions of key terms and a brief discussion of global health history, the state of the world population, predictions of global health patterns, population growth issues, equity in accessing health care, emerging health threats, global health indicators, and global health and its relationship to moral values were briefly addressed. Within the following chapters, these and many more issues pertaining to global health are addressed.

DEFINITION OF KEY TERMS

1. Population: total number of people
2. Education level: percentage of the population 20 years and older with no education
3. Unemployment rate: percentage of the population age 15–64 who do not have jobs
4. Energy source for cooking: percentage of households using electricity, wood, paraffin, and other sources for cooking
5. Water and sanitation: percentage of households with refuse removal, access to piped water, no toilet

Burden of Disease

1. Infant mortality rate: the number of children younger than one year old who die in one year, per 1000 live births
2. Under-five mortality rate: the probability of a child dying before age 5 years per 1000 live births per year (percentage of children who die before the age of 5 years)
3. Adult mortality: the probability of dying between the ages of 15 and 60 (percentage of 15-year-olds who die before their 60th birthday)
4. Life expectancy: the average number of years a person could expect to live if current mortality trends were to continue for the rest of that person's life
5. Cause of death profile: percentage of deaths in the population caused by a specific disease from the Nation Burden of Disease List
6. Years of life lost: the number of years lost based on the standard life expectancy for the age of death, with future years discounted at 3% and age weighting
7. Prevalence of a disability: percentage of people with moderate to severe disability, which is a physical or mental handicap that has lasted for at least six months, or is expected to last at least six months, which prevents the person from carrying out the activities of daily living independently, or participating fully in educational, economic, or social activities

Source: CDC, 2003.

STUDY QUESTIONS



1. What are some of the major health issues regarding the world population growth?
2. What are some causes of the numerous global health disparities?
3. Why it is necessary for wealthier developed countries to share needed funds and technology to assist with developing countries' major health and healthcare problems?
4. What are the Millennium Health Goals and why is important to note their progress worldwide?

CASE STUDY: UNFORESEEN COSTS OF CUTTING MOSQUITO SURVEILLANCE BUDGETS



A recent budget proposal to stop the funding for the U.S. Centers for Disease Control and Prevention (CDC) surveillance and research for a mosquito-borne diseases program was found to have the potential to leave a country poorly-prepared to handle mosquito transmitted diseases. Their study showed that decreasing this type of program can significantly increase the management costs of epidemics and total costs of preparedness. The authors' findings demonstrated a justification for the reassessment of a current proposal to slash the budget of the CDC vector-borne diseases program, and emphasized the need for improved and sustainable systems for vector-borne disease surveillance.

Case Study Questions

1. What do you think about the U.S. Centers for Disease Control and Prevention (CDC) making budget cuts for surveillance and research for countries with mosquito-borne diseases?
2. Is money really saved for the long-term for prevention and control of diseases, such as dengue and West Nile virus, by cutting the surveillance budget? What else could be done to save money?

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