to modern medicine; and summarizes population-based data on the most common health problems faced by people living in poverty. Examining specific problems—notably HIV/AIDS (Chap. 226) but also tuberculosis (TB, Chap. 202), malaria (Chap. 248), and key "noncommunicable" chronic diseases (NCDs)—helps sharpen the discussion of barriers to prevention, diagnosis, and care as well as the means of overcoming them. This chapter closes by discussing global health equity, drawing on notions of social justice that once were central to international public health but had fallen out of favor during the last decades of the twentieth century.

A BRIEF HISTORY OF GLOBAL HEALTH INSTITUTIONS

Concern about health across national boundaries dates back many centuries, predating the Black Plague and other pandemics. One of the first organizations founded explicitly to tackle cross-border health issues was the Pan American Sanitary Bureau, which was formed in 1902 by 11 countries in the Americas. The primary goal of what later became the Pan American Health Organization was the control of infectious diseases across the Americas. Of special concern was yellow fever, which had been running a deadly course through much of South and Central America and halted the construction of the Panama Canal. In 1948, the United Nations formed the first truly global health institution: the World Health Organization (WHO). In 1958, under the aegis of the WHO and in line with a long-standing focus on communicable diseases that cross borders, leaders in global health initiated the effort that led to what some see as the greatest success in international health: the eradication of smallpox. Naysayers were surprised when the smallpox eradication campaign, which engaged public health officials throughout the world, proved successful in 1979 despite the ongoing Cold War.

At the International Conference on Primary Health Care in Alma-Ata (in what is now Kazakhstan) in 1978, public health officials from around the world agreed on a commitment to "Health for All by the Year 2000," a goal to be achieved by providing universal access to primary health care worldwide. Critics argued that the attainment of this goal by the proposed date was impossible. In the ensuing years, a strategy for the provision of selective primary health care emerged that included four inexpensive interventions collectively known as GOBI: *g*rowth monitoring, *o*ral rehydration, *b*reast-feeding, and *i*mmunizations for diphtheria, whooping cough, tetanus, polio, TB, and measles. GOBI later was expanded to GOBI-FFF, which also included *f*emale education, *f*ood, and *f*amily planning. Some public health figures saw GOBI-FFF as an interim strategy to achieve "health for all," but others criticized it as a retreat from the bolder commitments of Alma-Ata.

The influence of the WHO waned during the 1980s. In the early 1990s, many observers argued that, with its vastly superior financial resources and its close—if unequal—relationships with the governments of poor countries, the World Bank had eclipsed the WHO as the most important multilateral institution working in the area of health. One of the stated goals of the World Bank was to help poor countries identify "cost-effective" interventions worthy of public funding and international support. At the same time, the World Bank encouraged many of those nations to reduce public expenditures in health and education in order to stimulate economic growth as part of (later discredited) structural adjustment programs whose restrictions were imposed as a condition for access to credit and assistance through international financial institutions such as the World Bank and the International Monetary Fund. There was a resurgence of many diseases, including malaria, trypanosomiasis, and schistosomiasis, in Africa. TB, an eminently curable disease, remained the world's leading infectious killer of adults. Half a million women per year died in childbirth during the last decade of the twentieth century, and few of the world's largest philanthropic or funding institutions focused on global health equity.

HIV/AIDS, first described in 1981, precipitated a change. In the United States, the advent of this newly described infectious killer marked the culmination of a series of events that discredited talk of "closing the book" on infectious diseases. In Africa, which would emerge as the global epicenter of the pandemic, HIV disease strained TB control programs, and malaria continued to take as many lives as ever. At the dawn of the twenty-first century, these three diseases alone killed nearly 6 million people each year. New research, new policies, and new funding mechanisms were called for. The past decade has seen the rise of important multilateral global health financing institutions such as the Global Fund to Fight AIDS, Tuberculosis, and Malaria; bilateral efforts such as the U.S. President's Emergency Plan for AIDS Relief (PEPFAR); and private philanthropic organizations such as the Bill & Melinda Gates Foundation. With its 193 member states and 147 country offices, the WHO remains important in matters relating to the cross-border spread of infectious diseases and other health threats. In the aftermath of the epidemic of severe acute respiratory syndrome in 2003, the WHO's International Health Regulations—which provide a legal foundation for that organization's direct investigation into a wide range of global health problems, including pandemic influenza, in any member state—were strengthened and brought into force in May 2007.

Even as attention to and resources for health problems in poor countries grow, the lack of coherence in and among global health institutions may undermine efforts to forge a more comprehensive and effective response. The WHO remains underfunded despite the ever-growing need to engage a wider and more complex range of health issues. In another instance of the paradoxical impact of success, the rapid growth of the Gates Foundation, which is one of the most important developments in the history of global health, has led some foundations to question the wisdom of continuing to invest their more modest resources in this field. This indeed may be what some have called "the golden age of global health," but leaders of major organizations such as the WHO, the Global Fund, the United Nations Children's Fund (UNICEF), the Joint United Nations Programme on HIV/AIDS (UNAIDS), PEPFAR, and the Gates Foundation must work together to design an effective architecture that will make the most of opportunities to link new resources for and commitments to global health equity with the emerging understanding of disease burden and unmet need. To this end, new and old players in global health must invest heavily in *discovery* (relevant basic science), *development* of new tools (preventive, diagnostic, and therapeutic), and modes of *delivery* that will ensure the equitable provision of health products and services to all who need them.

THE ECONOMICS OF GLOBAL HEALTH

Political and economic concerns have often guided global health interventions. As mentioned, early efforts to control yellow fever were tied to the completion of the Panama Canal. However, the precise nature of the link between economics and health remains a matter for debate. Some economists and demographers argue that improving the health status of populations must begin with economic development; others maintain that addressing ill health is the starting point for development in poor countries. In either case, investment in health care, especially the control of communicable diseases, should lead to increased productivity. The question is where to find the necessary resources to start the predicted "virtuous cycle."

During the past two decades, spending on health in poor countries has increased dramatically. According to a study from the Institute for Health Metrics and Evaluation (IHME) at the University of Washington, total development assistance for health worldwide grew to $28.2 billion in 2010—up from $5.6 billion in 1990. In 2010, the leading contributors included U.S. bilateral agencies such as PEPFAR, the Global Fund, nongovernmental organizations (NGOs), the WHO, the World Bank, and the Gates Foundation. It appears, however, that total development assistance for health plateaued in 2010, and it is unclear whether growth will continue in the upcoming decade.

To reach the United Nations Millennium Development Goals, which include targets for poverty reduction, universal primary education, and gender equality, spending in the health sector must be increased above the 2010 levels. To determine by how much and for how long, it is imperative to improve the ability to assess the global burden of disease and to plan interventions that more precisely match need.