

## Redefining the Possible

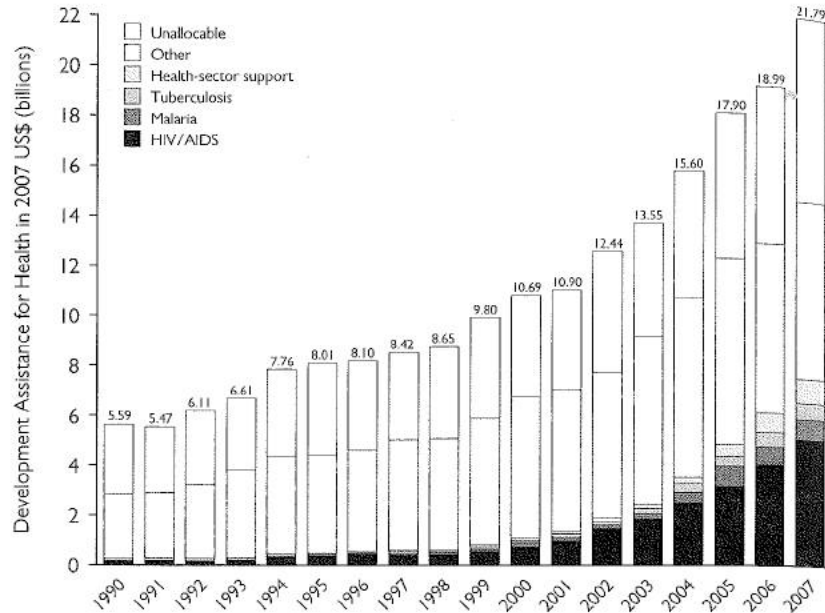
### The Global AIDS Response

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#### THE GOLDEN AGE OF GLOBAL HEALTH

No past effort to combat disease captures the promise of medicine and global health like the worldwide response to AIDS. Medicine has been termed the “youngest science”: the great tools of medicine—diagnostics, preventatives, therapeutics—were late twentieth-century innovations. Then came AIDS, and in the space of thirty years scientists identified the pathogen and developed the necessary tools to turn what had been a death sentence into a manageable chronic disease. This is modern medicine at its best. What’s more, there was an equity plan: led by the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR), the Global Fund to Fight AIDS, Tuberculosis and Malaria, and the Bill and Melinda Gates Foundation, great strides have been made to ensure that the world’s poor have access to these fruits of modern medicine. In November 2011, U.S. Secretary of State Hillary Clinton even spoke of an “AIDS-free generation.”<sup>1</sup> Will this audacious vision come to pass in the next decade? How might global health practitioners and policy-makers sustain and strengthen the progress made in the first decade of the twenty-first century? In addressing these and other similar questions, this chapter explores some of the major forces underpinning the golden age of global health.

The first years of this century saw an unprecedented rise in both public attention and funding directed to global health. Health researcher



**FIGURE 5.1.** Development assistance for health, from public and private institutions, 1990–2007, by disease. Source: Nirmala Ravishankar, Paul Gubbins, Rebecca J. Cooley, Katherine Leach-Kemon, Catherine M. Michaud, Dean T. Jamison, and Christopher J. L. Murray, “Financing of Global Health: Tracking Development Assistance for Health from 1990 to 2007,” *Lancet* 373, no. 9681 (2009): 2113–2124.

Nirmala Ravishankar and colleagues estimate that development assistance for health from public and private institutions rose from \$8.65 billion in 1998 to \$21.79 billion in 2007 (see figure 5.1).<sup>2</sup> Between fiscal years 2000 and 2006, the U.S. government increased funding for international AIDS prevention and treatment more than tenfold.<sup>3</sup> Private philanthropists also devoted greater sums to research and service programs. Burgeoning public activism around global health was evidence of the growing recognition that epidemic scourges such as HIV and malaria are treatable diseases. International institutions began new initiatives to galvanize and coordinate state and nonstate actors. The new funding, transnational activism, and refashioned institutional architecture of health care delivery around the world triggered some of the greatest advances toward global health equity in history.

At the turn of the twenty-first century, the U.S. government seemed an unlikely champion of people living with AIDS in developing countries. A number of congressional leaders and the newly inaugurated

president, George W. Bush, had a record of coolness toward foreign aid.<sup>4</sup> In the years following the 1994 “Republican revolution,” when Republicans gained majorities in both houses of Congress, some conservatives decried foreign aid as wasteful. Senator Jesse Helms (R-N.C.), chair of the Senate Committee on Foreign Relations from 1995 until 2001, boasted that he had “never voted for a foreign aid giveaway.”<sup>5</sup> The prospects of global AIDS funding in particular appeared especially dim, as influential Christian conservative leaders had a history of opposing federal funding for AIDS treatment and research even in the United States during the 1980s and 1990s: “AIDS is God’s punishment” for homosexuality and promiscuity, proclaimed Reverend Jerry Falwell in 1983.<sup>6</sup> Given the skepticism about foreign aid in the Republican Party, and the stigma and rhetoric of blame associated with AIDS, few would have predicted that the U.S. government would launch one of the largest and most successful global health programs in history—the U.S. President’s Emergency Plan for AIDS Relief—dedicating billions of dollars to combating AIDS around the world.

Nonetheless, it was during an era of Republican control over the U.S. executive and legislative branches that federal appropriations for international AIDS prevention, care, and treatment programs increased from approximately \$300 million in fiscal year 2000 to more than \$3.4 billion by fiscal year 2006.<sup>7</sup> This influx of funds dramatically increased access to services in many developing countries affected by the pandemic. In 2000, the United States funded lifesaving antiretroviral therapy (ART) for no more than a few hundred patients around the world; by late September 2009, the U.S. State Department claimed that PEPFAR supported (in whole or in part) treatment for some 2.5 million people in twenty-four foreign nations<sup>8</sup> and interventions for 509,800 HIV-positive pregnant women that allowed them to avert mother-to-child HIV transmission.<sup>9</sup> It is no exaggeration to credit PEPFAR with preventing millions of deaths.<sup>10</sup>

Private foundations also helped to transform common conceptions of the possible. Established in 1994, the Bill and Melinda Gates Foundation has become the largest private funder of global health research and implementation. By 2009, the Gates Foundation—its assets nearly doubled by investor Warren Buffett—had disbursed over \$10 billion for global health.<sup>11</sup> Funding priorities of the foundation’s Global Health Program focus on discovery, delivery, and policy advocacy to fight and prevent major global health problems, including enteric and diarrheal diseases; HIV/AIDS; malaria; pneumonia; tuberculosis; neglected dis-

eases; family planning; nutrition; maternal, neonatal, and child health; tobacco control; and vaccine-preventable diseases.

In addition, international institutions have played a critical role. The Global Fund to Fight AIDS, Tuberculosis and Malaria—an independent, multilateral organization established in 2002—receives public and private donations, which it allocates to countries with coordinated strategies for combating the three leading infectious killers on the planet. As of December 2011, the Global Fund had approved US\$22.6 billion for more than a thousand grants in 150 countries.<sup>12</sup> Beginning in 1996, the World Bank and the International Monetary Fund began offering debt relief to heavily indebted poor countries, writing off more than \$76 billion in debt by 2011 and thereby increasing the resources available for public health in the government budgets of poor countries.<sup>13</sup>

New international health policy initiatives have also served as catalysts for this unprecedented increase in funding for HIV/AIDS treatment in developing countries. One such effort, the “3 by 5” initiative launched by the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) in 2003, set a goal of extending antiretroviral treatment to 3 million people living with AIDS in low- and middle-income countries by the end of 2005. By setting an ambitious treatment target, the WHO leveraged its unique position as the principal standard-setting body in global health to reimagine worldwide access to antiretroviral treatment. This initiative was not without its detractors. Many remained unconvinced that ART could be delivered effectively and at large scale in developing countries; at the end of 2003, only one hundred thousand people—2 percent of those in need—were receiving treatment in sub-Saharan Africa.<sup>14</sup> Nonetheless, this clear target helped to coalesce a diverse set of actors—multilateral and bilateral donors, health practitioners, international policymakers, governments of AIDS-afflicted countries, AIDS patients and their advocates throughout the world—around further ART scale-up initiatives. By measuring success according to the number of people being treated rather than the amount of money donated, the 3 by 5 campaign also encouraged accountability among donors. By the end of 2005, the number of people receiving antiretroviral therapy in sub-Saharan Africa had increased eightfold, covering 17 percent of those in need.<sup>15</sup> Although the treatment target was reached in 2007, not 2005, the 3 by 5 initiative helped galvanize the global AIDS effort.

The WHO's early leadership set an example that would give direction to many subsequent initiatives. By the end of 2011, UNAIDS estimated that nearly 6.6 million people were receiving antiretroviral therapy.<sup>16</sup>

As Ravishankar and colleagues noted in *The Lancet* in June 2009, the increase in development assistance for health during the 1990s—from \$5.6 billion in 1990 to \$9.8 billion in 1999—pales in comparison to the rise during the 2000s: \$21.8 billion was disbursed for global health programs in 2007.<sup>17</sup> What factors led to this surge in available resources? Why did AIDS—a chronic disease that demands a more expensive and complex treatment regimen than that for many leading causes of death and disability around the world—spark this surge, at least in part? Accounting for the golden age of global health demands biosocial analysis that is geographically deep and historically broad.

How did this bold vision of global health equity enter the public imagination? How did the conception of the possible shift so dramatically in the space of a decade? One way to answer this question draws on the concept of institutionalization, as explained by sociologists Peter Berger and Thomas Luckmann (see chapter 2). Before the 2000s, low expectations (and paltry resources) for international health were the norm. Over time, policymakers, donors, and health professionals had all become socialized for scarcity: they focused on optimizing use of a tiny resource pie instead of also reimagining and seeking to expand the size of that pie. Health providers in poor countries became accustomed to targeting the “low-hanging fruit” of public health—vaccines, handwashing, bed nets, condoms, the GOBI interventions (discussed in chapter 4), to name a few examples—just as donors became accustomed to disbursing modest sums for global health programs. The high prices of lifesaving interventions, including antiretroviral therapy and second-line TB treatment, were accepted as fixed. In other words, constraint was *institutionalized* as the status quo in global health.

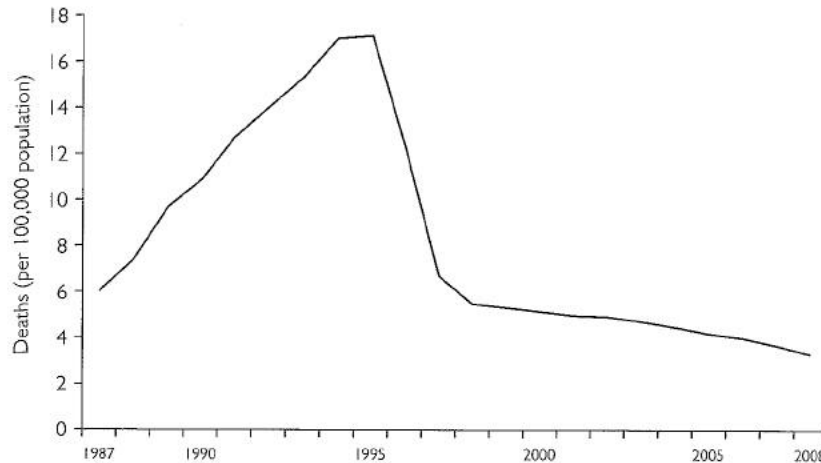
This had far-reaching effects on what the “stakeholders” in global health, including poor people in need of basic medical care, considered possible. “Habitualization carries with it the important psychological gain that choices are narrowed,” write Berger and Luckmann.<sup>18</sup> For many years, the only approach deemed possible in global health was harvesting the low-hanging fruit. But high drug costs, paltry funding, and low expectations were constructs—institutionalized habits—vulnerable to large-scale social change. In the next decade, the bar would be raised.

**FROM DEATH SENTENCE TO CHRONIC CONDITION:  
AIDS IN THE TIME OF ANTIRETROVIRAL THERAPY**

During the 1980s and into the early 1990s, an HIV diagnosis was a guarantee of early death. In the first years of the pandemic, physicians in both rich and poor settings lacked therapeutic tools capable of suppressing the virus and preventing the onset of clinical symptoms. The best they could do was treat opportunistic infections associated with HIV, such as pneumonia and herpes. Azidothymidine (AZT), the first drug found to safely and effectively slow replication of HIV in the body, won approval from the U.S. Food and Drug Administration (FDA) for use against AIDS in 1987.<sup>19</sup> Until the introduction of didanosine in 1991, AZT monotherapy was the only treatment option—and it was accessible only to patients who could afford its \$8,000 annual cost.<sup>20</sup> Although AZT suppressed the virus for a time, HIV replication remained high enough that AZT-resistant strains soon emerged.<sup>21</sup> Without therapy capable of stopping the progression from HIV infection to full-blown AIDS, mortality rates from the disease increased steadily in the United States between 1987 and 1995.<sup>22</sup>

Meanwhile, AIDS was taking an even greater toll in the developing world. But addressing AIDS on a global scale did not figure high on the agenda of most policymakers and activists in rich countries. In *The Invisible People*, a chronicle of the history of the AIDS pandemic from the 1980s to the early 2000s, Greg Behrman notes that few AIDS activists in the United States understood the magnitude of the international pandemic; even fewer were willing to expand their campaigns beyond U.S. borders.<sup>23</sup> While thousands formed human blockades in New York City and protested outside federal buildings in Washington, D.C., calling for increased access to AZT monotherapy, greater appropriations for research, more rapid FDA approval of new therapies, nondiscrimination in the workplace, subsidized housing, condom distribution, and other measures in care, prevention, and treatment, only a few concurrently demanded similar interventions for at-risk populations and people living with AIDS in developing countries.<sup>24</sup> According to Eric Sawyer, co-founder of the activist group AIDS Coalition to Unleash Power (ACT UP), as late as the mid-1990s only 10 percent of the domestic activist community paid attention to the global pandemic.<sup>25</sup>

The year 1996 marked a turning point in the search for effective therapeutics against AIDS. In 1995, the FDA had approved saquina-



**FIGURE 5.2.** Deaths from HIV/AIDS in the United States, 1987–2008. [Estimates based on the age distribution of the U.S. population in 2000.] Source: Centers for Disease Control and Prevention, *HIV Mortality: Trends (1987–2008)*, “Slide 5: Trends in Annual Age-Adjusted Rate of Death Due to HIV Disease: United States, 1987–2008,” [www.cdc.gov/hiv/pdf/statistics\\_surveillance\\_statistics\\_slides\\_HIV\\_mortality.pdf](http://www.cdc.gov/hiv/pdf/statistics_surveillance_statistics_slides_HIV_mortality.pdf). Courtesy Centers for Disease Control and Prevention.

vir, the first in a new class of antiretrovirals called protease inhibitors. In 1996, nevirapine, the first in another class of antiretrovirals known as non-nucleoside reverse transcriptase inhibitors (NNRTIs), received FDA approval. Later that year, the Eleventh International Conference on AIDS affirmed the promise of these new therapeutics. At that meeting, held in Vancouver, David Ho, scientific director and CEO of the Aaron Diamond AIDS Research Center in New York, announced study results demonstrating that regimens containing three antiretroviral drugs from at least two different classes of antiretrovirals—regimens that came to be known as Highly Active Antiretroviral Therapy, or HAART—suppressed the virus and restored patients’ immune systems for sustained periods.<sup>26</sup>

Evidence of the effectiveness of HAART continued to mount in scientific studies published in the subsequent months.<sup>27</sup> For those who could access the drugs, it began to seem possible that AIDS would become a manageable chronic disease rather than a certain killer. According to the U.S. Centers for Disease Control and Prevention (CDC), age-adjusted mortality from AIDS-related causes in the United States declined 28 percent between 1995 and 1996, 46 percent between 1996 and 1997, and 18 percent between 1997 and 1998.<sup>28</sup> By 1998, fewer

people in the United States were dying of AIDS-related causes than had been the case in 1991 (see figure 5.2).

#### **ONE WORLD, ONE HOPE? DIFFERENT INCOMES, DIFFERENT OUTCOMES**

The theme of the Vancouver Conference was “One World, One Hope.” Yet even with the reported promise of HAART, not all attendees were flush with optimism. Initially, pharmaceutical companies set prices for antiretroviral treatment with a three-drug cocktail at \$10,000 to \$15,000 per patient per year—far out of reach for most people living with AIDS in developing countries. Speaking at the Vancouver Conference, Eric Sawyer argued that “drug companies should consider developing a two-tier pricing system. . . . AIDS treatments must also be made available to the poor everywhere, at cost or at very minimal levels of profit.”<sup>29</sup>

The discovery of effective drug therapy inspired some American AIDS activists to join with advocacy groups in the developing world.<sup>30</sup> But as therapeutic advances and improved public services for affected individuals made HIV infection less of a mortal crisis for many erstwhile advocates, the activist movement in the developed world dwindled in numbers and militancy. At its peak in 1992, ACT UP had thousands of active members spread across seventy chapters in the United States and Europe. But by the late 1990s, many of these chapters had folded, and even the largest surviving chapters—New York City, Philadelphia, San Francisco, and Washington, D.C.—counted far fewer members at weekly meetings.<sup>31</sup>

Meanwhile, prominent voices in international public health and development circles were arguing against treating AIDS in poor countries. In 2002, two articles in *The Lancet*, a highly regarded medical journal, posited that HAART was not cost-effective in poor countries. Elliot Marseille and colleagues concluded that “data on the cost-effectiveness of HIV prevention in sub-Saharan Africa and on highly active antiretroviral therapy indicate that prevention is at least 28 times more cost effective than HAART.”<sup>32</sup> Andrew Creese and colleagues reached a similar conclusion: “The most cost-effective interventions are for prevention of HIV/AIDS and treatment of tuberculosis, while HAART for adults, and home based care organized from health facilities, are the least cost-effective.”<sup>33</sup> In both articles, prevention and treatment were deemed mutually exclusive activities; assum-



ing scarce resources for health care delivery in poor countries, investing in AIDS treatment instead of prevention would, by these accounts, cost lives. Such claims were echoed among foreign aid officials. “If we used antiviral drugs in treatment regimens similar to those used in the U.S.,” argued the chief of the HIV/AIDS division in the U.S. Agency for International Development (USAID) in 1998, “it would cost approximately \$35 billion per year to treat those infected in the developing world. We are talking about medical regimens that cost \$5,000 to \$10,000 a year and require sophisticated health provider and laboratory infrastructure. . . . How can we get involved in care in the face of such staggering statistics?”<sup>34</sup>

Others argued that HAART was too complex to deliver in resource-poor settings. In testimony before the House of Representatives Committee on International Relations in June 2001, Andrew Natsios, head of USAID, said, in reference to UN Secretary-General Kofi Annan’s proposed budget for a possible global fund:

The biggest problem, if you look at Kofi Annan’s budget, half the budget is for antiretrovirals. If we had them today, we could not distribute them. We could not administer the program because we do not have the doctors, we do not have the roads, we do not have the cold chain. This sounds small and some people, if you have traveled to rural Africa you know this, this is not a criticism, just a different world. People do not know what watches and clocks are. They do not use Western means for telling time.<sup>35</sup>

Natsios’s claim about watches and “Western means for telling time” cast aspersions on Africans’ ability to adhere to treatment regimens. Antiretroviral therapy demands strict, lifelong adherence; missing even a few doses per month increases the risk that resistant strains will develop, rendering first-line treatment ineffective. Second- and third-line regimens for resistant strains are expensive. Confident that such treatments could not be effectively delivered, Natsios argued against the comprehensive and recalibrated response to the pandemic advocated by Kofi Annan and others. Natsios and many public health “experts” instead promoted prevention and palliation, even as the fatality rates of these diseases dropped in affluent parts of the world. Lack of access to treatment in the face of explosive epidemics remained the norm across the developing world.<sup>36</sup>

As such immodest claims—reflecting a restrictive conception of the possible—were aired in policy circles and the media, evidence was mounting about the feasibility (and effectiveness) of treating AIDS in resource-poor settings. In 2001, the *Bulletin of the World Health*

*Organization* published the results of a Partners In Health study that followed 150 patients receiving HAART in Haiti's rural Central Plateau. While Natsios had argued that patients in such settings would not adhere to therapy, this study found adherence rates *above* those documented in many parts of the United States.<sup>37</sup> Another study that followed 288 adults receiving HAART beginning in 2001 in a community-based program operated by Médecins Sans Frontières (Doctors Without Borders) in Khayelitsha township—a poor urban neighborhood outside Cape Town, South Africa—found immune restoration, viral load suppression, and high adherence rates in the vast majority of the patient cohort.<sup>38</sup> Furthermore, these studies challenged the presumed dichotomy between prevention and treatment. When HAART became available, more people began seeking voluntary counseling and testing—a pillar of HIV prevention. In other words, the possibility of receiving treatment functioned as an incentive for people to learn their status. The findings of these studies contradicted immodest claims about adherence and about the supposed conflict between treatment and prevention.

Armed with examples of successful HAART delivery in impoverished settings, a small coalition of health providers, policymakers, activists, and academics in rich and poor countries decried the lack of access to HAART globally. In 2001, 133 Harvard University faculty members signed a “Consensus Statement on Antiretroviral Treatment for AIDS in Poor Countries,” declaring that “the objections to HIV treatment in low-income countries are not persuasive and . . . there are compelling arguments in favor of a widespread treatment effort.”<sup>39</sup> This statement helped policymakers reimagine the possible in global health: if delivering HAART—chronic care for a chronic disease—was feasible in Haiti and South Africa, why not scale it up around the world? Why not use HAART to usher in a more ambitious agenda of health system strengthening globally?

The Harvard consensus statement noted two principal barriers to expanding access to HAART: the high price of antiretrovirals and insufficient funding for implementation. These hurdles were well known to AIDS activists. U.S. AIDS advocacy organizations such as ACT UP Philadelphia were, by the early 2000s, made up mostly of low-income, HIV-positive African American individuals who had personal experience with a health system that divided patients according to their ability to pay for lifesaving medications—what they termed “medical apartheid.”<sup>40</sup> These groups had led struggles to expand access to anti-



**FIGURE 5.3.** A demonstration organized by the Treatment Action Campaign at the 2000 International AIDS Conference in Durban, South Africa. Courtesy Gideon Mendel/CORBIS.

retroviral drugs, including a successful campaign to get Pennsylvania Medicaid—government insurance for the poor—to cover antiretroviral drug costs. Realizing the links between their own campaigns for access and the growing treatment gap between the rich and poor worlds, these groups established transnational alliances with AIDS activists in developing countries.<sup>41</sup> For example, the Health Global Action Project (Health GAP) and ACT UP joined forces with a South African civil society group, made up largely of poor people living with HIV/AIDS, called the Treatment Action Campaign (see figure 5.3). Together, these organizations led a worldwide campaign to lower the costs of antiretroviral drugs in poor countries.

#### **UNPACKING THE “COST” OF AIDS TREATMENT: INTELLECTUAL PROPERTY AND CIVIL SOCIETY**

Intellectual property rights lay at the heart of the first transnational battle for expanded access to antiretrovirals. In the mid-1990s, public laboratories and privately owned companies in Brazil began producing generic versions of patented ARV (antiretroviral) medications; Brazil also imported generic antiretrovirals from suppliers in India.