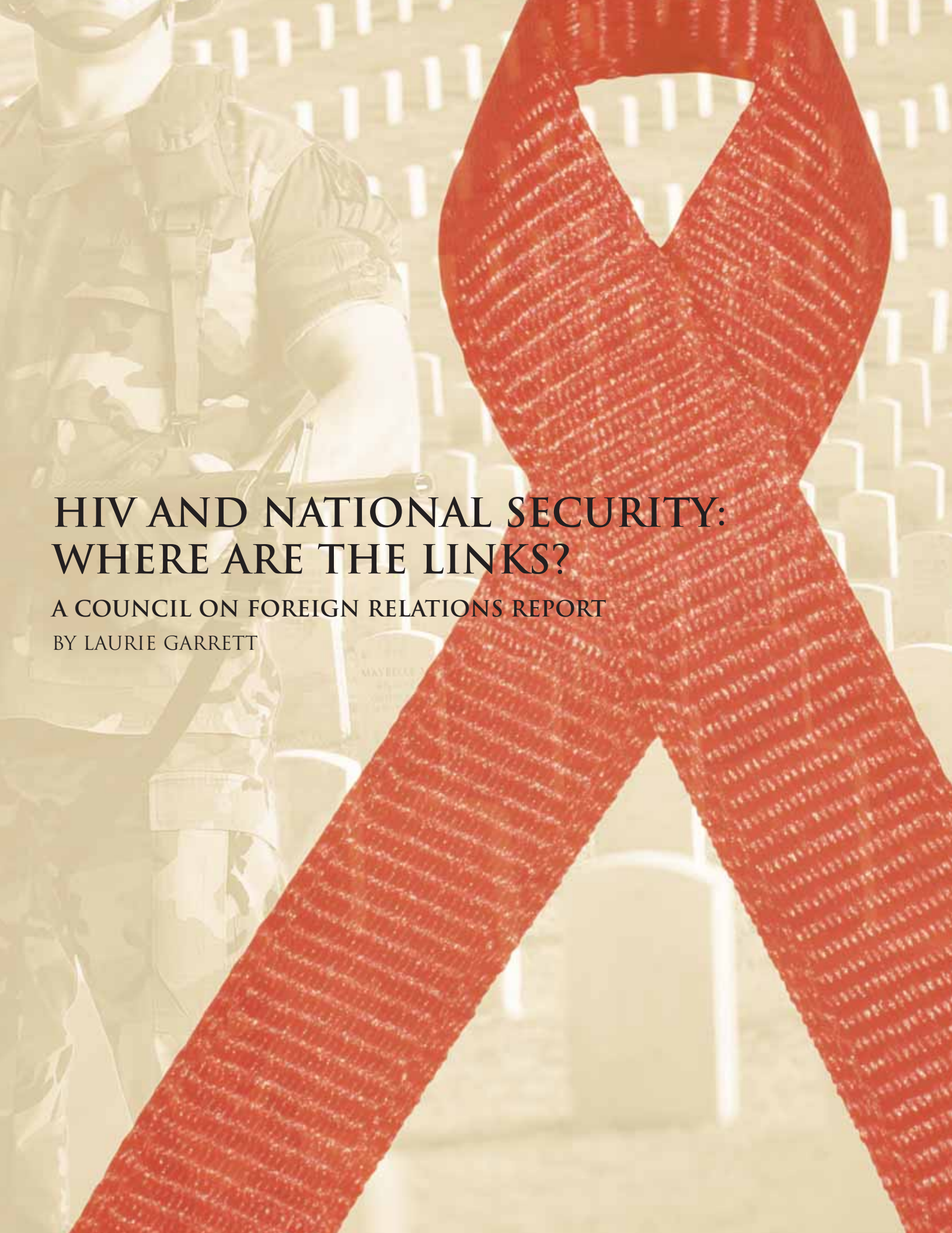

HIV AND NATIONAL SECURITY: WHERE ARE THE LINKS?

A COUNCIL ON FOREIGN RELATIONS REPORT

BY LAURIE GARRETT

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HIV and National Security: Where are the Links?

A Council on Foreign Relations Report

By Laurie Garrett
Senior Fellow for Global Health
Council on Foreign Relations

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Stephen Shames/Polaris

Foreword

For all their wealth and power, the United States, European Union (EU), Canada, and Japan cannot guarantee that their citizens will live free from the threat of infection with the human immunodeficiency virus (HIV). Nor in the age of globalization can any country—be it needy or wealthy—be completely untouched by the economic repercussions of the acquired immune deficiency syndrome (AIDS) pandemic. Though science tells us that the HIV pandemic is still in its early stages, young adults studying in universities today have never known lives without the presence of the deadly virus. Over the last two decades, the epidemic has spread from handfuls of people living in pockets of Europe, North America, and sub-Saharan Africa, to tens of millions of individuals residing in virtually every corner of the planet.

Since July 2000, when the UN Security Council passed Resolution 1308 stipulating that HIV poses a security threat to the nations of the world, there has been considerable debate regarding the linkage between the pandemic and national security. While few seriously argue against defining HIV as a threat to the security of highly affected states such as those in sub-Saharan Africa, where upwards of 10 percent of the populations are infected, there continues to be considerable reluctance toward viewing the pandemic in terms of the security priorities of less-affected nations, particularly the EU, Japan, and the United States.

In early 2004, the Global Health Program at the Council on Foreign Relations embarked on an effort to rigorously explore the linkages between the HIV pandemic and national security. Headed by Laurie Garrett, senior fellow for global health at the Council, the effort engaged thirty-eight experts in study sessions that focused on various elements of this debate. The result, *HIV and National Security: Where Are the Links?*, offers welcome clarity and guidance.

Richard N. Haass
President
Council on Foreign Relations

Acknowledgments

The process of researching and producing *HIV and National Security: Where Are the Links?* spanned eighteen months, engaged a large list of participants and contributors, and involved field research in several countries. From the outset in March 2004, the Global Health Program at the Council on Foreign Relations worked closely with the Joint United Nations Programme on HIV/AIDS (UNAIDS), cosponsoring three critical meetings of experts that contributed to this report. Meeting participants and representatives of UNAIDS offered valuable insights, but were not responsible for the ultimate report. Funding for these gatherings was generously provided by UNAIDS and an unrestricted grant from Merck Co., Inc.

In particular, we wish to acknowledge Peter Piot, UNAIDS executive director, and Ulf Kristoffersson, director of the UNAIDS Office on AIDS, Security and Humanitarian Response, and his team. A number of UNAIDS employees based all over the world provided data contained in this report, for which we are grateful. We would also like to thank Jeffrey Sturchio, vice president for external affairs, Europe, Middle East, and Africa at Merck.

The final preparation of the report involved work and critical input from a host of individuals, both inside the Council on Foreign Relations and from a range of outside institutions and organizations. We are deeply grateful for their diligence and insights. Special thanks to Richard N. Haass, president of the Council on Foreign Relations; James Lindsay, director of studies; Scott A. Rosenstein, research associate for global health; Smita Aiyar, research associate; Katherine Schlosser, intern; Seth Berkley, chief executive officer of the International AIDS Vaccine Initiative; and Trevor Neilson, executive director, Global Business Coalition on HIV/AIDS.

Laurie Garrett
Senior Fellow for Global Health

Executive Summary

It is important to clarify the security dimensions of the HIV/AIDS pandemic because actions taken to confront the disease as matters of domestic policy or foreign aid may differ markedly from those taken to address threats to national security. Understanding the impact HIV is now having, much less forecasting its toll and effects twenty years hence, is difficult. Little scrupulous analysis of the political, military, economic, and general security effects of the pandemic has been performed, both because the area is poorly funded and the problem is extremely complex.

The epidemic is unfolding in waves that span human generations, and societies are making incremental adjustments along the way as they try to cope with the horrible impact AIDS is taking, not only in terms of human lives lost, but in the devastation of families, clans, civil society, social organizations, business structures, armed forces, and political leadership. Further, the HIV/AIDS epidemic is occurring primarily in regions that are hard-hit by a range of other devastating diseases, acute and even rising poverty, political instability, and other conditions that may mask or exacerbate the various impacts of AIDS.

The scale and geographic scope of the HIV/AIDS pandemic has only two parallels in recorded history: the 1918 flu pandemic and the Black Death in the fourteenth century.

The scale and geographic scope of the HIV/AIDS pandemic has only two parallels in recorded history: the 1918 flu pandemic and the Black Death in the fourteenth century. Though the so-called Spanish Flu claimed upwards of 50 million lives worldwide in 1918–19, few places experienced the concentrated devastation that is now afflicting key countries in sub-Saharan Africa. The Black Death, therefore, better informs the discussion of HIV/AIDS, though it claimed its death toll, featuring the elimination of more than a third of the European population, in roughly eighteen months' time. Because the timeline of the Black Death was so short, it is easier to discern the impact the Yersinia pestis bacterium had on European societies. Striking similarities between HIV/AIDS and the Black Death can be seen, including the reshaping of the demographic distribution of societies, massive orphaning, labor shortages in agricultural and other select trades, strong challenges to military forces, an abiding shift in spiritual and religious views, fundamental economic transformations, and changes in the concepts of civil society and the roles of the state.

The armed forces worldwide, both military and police, are generally challenged by HIV to at least an equal extent as the threat to general societies in which they reside. For countries that have general population HIV infection rates exceeding 5 percent, it is reasonable to assume the military and police are similarly afflicted. HIV may already be weakening troop strength in some countries, depleting police and armed forces, and challenging the ability of key militaries to recruit healthy personnel. There is, however, little evidence to support claims that armed forces have significantly higher rates of HIV infection than are seen in the general populations of their respective countries. Forces deployed away from home for extended periods of time do tend to have higher rates of infection than those able to live with, or near, their families. There is little evidence that HIV transmission is heightened by warfare or conflict, except in situations in which rape is used as an instrument of battle or ethnocide.

The key relationship between war and the spread of HIV is the moment when conflict ceases and populations feel free to move about, cross borders, and lead normal lives. Efforts to limit the spread of HIV among or by soldiers should, therefore, focus on both limiting the length of time troops are deployed away from home and aggressively promoting safe sexual activities in the period immediately following cessation of conflict.

For armed forces that are heavily afflicted by HIV, it may be possible to retain troop strength and preserve command through distribution of antiretroviral drugs.

For armed forces that are heavily afflicted by HIV, it may be possible to retain troop strength and preserve command through distribution of antiretroviral drugs. Countries that have executed treatment programs among their armed forces report excellent results, though there is disturbing evidence of increasing emergence of drug-resistant strains of the virus. Leaders of highly resource-scarce countries need to weigh heavily their possibly competing needs to preserve command structure through elite access to the life-sparing drugs, against the probability that lack of access to the same drugs among the rank and file could undermine discipline and morale in the troops.

Efforts to limit the spread of HIV by and to peacekeepers working under the UN flag have been largely successful, though there remain grave concerns. The unacceptable sexual behaviors of a few soldiers engaged in peacekeeping operations have signaled the need to bring greater discipline to troops, coupled with a stronger sense of the moral code of military treatment of civilian populations. The UNAIDS Office on AIDS, Security and Humanitarian Response appears to have had a striking and positive impact on troop education.

Allegations of deliberate use of the HIV virus as a weapon have been leveled, demonstrating that in the absence of scientific proof, accusation can serve as a weapon. The most obvious example is Libya's claim that Bulgaria, working in collusion with the U.S. Central Intelligence Agency (CIA), deliberately infected Libyan children with the virus.

Molecular epidemiology should be viewed as a verification tool, both to refute false accusations made by one state against another and to identify bona fide threats posed by a given state against its neighbors.

Refined, accurate technology exists and should be put to wider and more concerted use to verify the origins of specific HIV strains. Use of molecular epidemiology has already demonstrated how HIV may flow from one nation to another along heroin trading routes, for example. Molecular epidemiology should be viewed as a verification tool, both to refute false accusations made by one state against another and to identify bona fide threats posed by a given state against its neighbors.

Many governments view domestic instability as a primary national security threat. Individuals infected with HIV and their advocates have been labeled threats to the state. This is clearly a repressive approach to the epidemic that is rooted in two falsehoods: First, that HIV patients and their advocates seek to overthrow the state; and second, that outbreaks of the virus can be limited through repression of those individuals it infects. There is no evidence that people infected with the virus that causes AIDS have, in any country, posed a direct threat to state security.

The stability of states with high rates of HIV infection may well be threatened, but more likely through a process of erosion of its elite populations, its political leadership, its college-trained professionals, and its skilled labor forces. There is evidence that HIV is claiming the lives of parliamentarians and political leaders in countries that already experienced acute shortages of highly skilled personnel, such as lawyers, doctors, nurses, teachers, financial planners, managers, engineers, and technicians.

HIV is taking its toll far faster than the professional ranks can be replenished with fresh trainees. Even as the epidemic increases the imperative for expansion of healthcare worker populations, their ranks are being thinned

by the disease, coupled with a steady brain-drain to the wealthier world. In countries especially hard-hit by the pandemic, there is little possibility of replenishing the ranks of the skilled elite, because teachers appear to suffer particularly high rates of HIV and AIDS, leaving children with fewer opportunities for education. Given that the epidemic is still in its infancy, and at least 39 million people now infected with HIV are expected to perish over the next five to ten years, this depletion of elite workers, professionals, political leaders, and managers is expected to reach crisis proportions in many countries by 2010, challenging the ability of the state to perform even rudimentary aspects of governance.

The stability of states with high rates of HIV infection may well be threatened... through a process of erosion of its elite populations, its political leadership, its college-trained professionals, and its skilled labor forces.

Just as was the case during the Black Death of the fourteenth century, the HIV/AIDS pandemic is having severe demographic effects on hard-hit societies, producing a so-called youth bulge, and reversing gains previously made in life expectancies and infant and child mortality rates. Few data points demark the loss of state capacity as clearly as do governments' failures to stem radical reversals in average life expectancy at birth or to prevent rapid increases in child mortality. There is strong evidence that societies with such dramatic youth-bulge demographics are at greater risk of civil disturbance, conflict, and disorder. While the predicted tens of millions of children who will be orphaned by HIV/AIDS do not individually constitute threats to the state, failure to provide these children with services and education that can foster productive contribution to the labor force and social order may well exacerbate the youth-bulge effect.

In Africa, HIV has already taken a serious toll among agricultural laborers, possibly exacerbating the famine impacts of recent droughts. But in some of the poor countries hard-hit by HIV, the net economic impact may, to date, be negligible. This is a reflection of the background levels of acute poverty and high unemployment, giving low-skilled workers little value in the overall economies. In coming years, however, the spread of HIV among unskilled, undervalued labor will become a significant drain on economies as governments are forced to shift ever greater percentages of precious resources to covering direct epidemic costs. Without significant external assistance, coupled with tough changes in domestic and regional policy priorities and spending, few hard-hit countries will be able to achieve the dual tasks of controlling their AIDS epidemics and growing—or even maintaining—their economies.

For the wealthy nations and countries with HIV infection rates below 1 percent of the population, the pandemic's links to national security may begin with resources and petroleum. There is mounting evidence that the pandemic is driving up the cost of mining for precious metals. As many wealthy countries shift toward greater dependence upon African and Russian oil supplies, mounting HIV rates in those regions pose concerns.

Since World War II, the wealthy nations have made significant investments in the development of the poorer regions of the world through bilateral, regional, or multilateral mechanisms, such as the International Monetary Fund (IMF) and the World Bank. Though the terms of the 1946 Bretton Woods Agreement focused on reconstruction of post–World War II Europe, the framework shifted during the Cold War toward alleviation of poverty and disease in Latin America, Asia, and Africa.

Key regions of the world that are hard-hit by HIV/AIDS are threatened with the complete reversal of the Bretton Woods–inspired achievements.

The overall strategy of Bretton Woods must be judged a success, as recent economic indicators show the ranks of middle-income countries swelling at a brisk pace. But key regions of the world that are hard-hit by HIV/AIDS are threatened with the complete reversal of the Bretton Woods–inspired achievements.[1]

This remarkable turn of events is coupled with a widening gap in life expectancies in the world, with the longest-living societies now surviving into their eighties, while some AIDS-plagued countries have seen their life expectancies plummet into the high twenties. This is the widest life-expectancy gap in human history, and it will only grow larger as the tens of millions of people now infected progress to full-blown AIDS, and death. The widening life-expectancy gap, along with the tremendous disparity in access to life-extending anti-HIV drugs, are fueling anti-Western, anti-American sentiments. Attempts to protect pharmaceutical patents at the expense of treating larger pools of people at lower cost are sowing discontent in many parts of the world.

There is increasing concern that the nexus of poverty, HIV/AIDS, and alienation from the West could provide fertile ground for anti-Western violence, possibly terrorism. There is no support to date for assertions that people infected with HIV, or the families and orphans of those who succumbed to AIDS, are likely to be engaged in acts of terrorism. Nor is there any but abstract support for potential links between anti-Western terrorism and the HIV/AIDS pandemic. As for the future, however, it is not inconceivable that AIDS-ravaged societies might spawn movements of strong anti-Western discontent, possibly leading to acts of violence. This would particularly be the case if the wealthy nations are perceived to have abandoned poor, HIV-afflicted states.

Most wealthy and middle-income nations have created mechanisms for transferring funds and supporting development of anti-HIV and AIDS treatment programs in poorer countries. In some cases, these programs are nested in classic foreign aid institutions that define their missions in essentially charitable terms. More recently, such countries have shifted some, even most, of their giving to the Global Fund to Fight AIDS, Malaria and Tuberculosis, a multilateral grants agency that is independent of, but operates in tandem with, the World Bank and other UN agencies. In the Global Fund's case, as well, the donors are essentially charitable givers.

Since 2002, the government of the United States has sought a three-track approach to confronting the global pandemic. Track one maintains its traditional foreign aid programs, most of which disperse funds through the U.S. Agency for International Development (USAID) in a bilateral fashion. Track two donates funds to the Global Fund, to be dispersed through its grants mechanism. The largest, track three, known as the President's Emergency Plan for AIDS Relief, or PEPFAR, is located inside the State Department, where its mission is defined in both foreign aid and national security terms.

No aspect of HIV-prevention has received adequate attention on the global stage.

Clearly, the entire question of national security and HIV/AIDS would be moot were there an effective, affordable vaccine available. Investment in basic vaccine-related research and development ought to be a critical priority. Similarly, were prevention campaigns aggressively funded and executed the world over, the security dimensions of the pandemic would obviously be softened. No aspect of HIV-prevention has received adequate attention on the global stage.

Introduction of antiretroviral treatments to needy nations is essential. But it is not risk-free. Nations in the grip of the pandemic may need to make dangerous choices regarding prioritization of access to the drugs, and risk alienating populations not granted access to the vital drugs. Misuse of the drugs may promote emergence of resistant strains. And any implementation of HIV treatment efforts will require costly investment in health infrastructure, possibly at the expense of other social programs.

If global efforts to reverse the epidemic and its many security implications are to succeed, HIV/AIDS programs must emphasize prevention and treatment, and care must be integrated into overall health systems. Those systems, in turn, must be supported and intertwined with overall poverty alleviation and development projects.

Why a HIV/Security Linkage Matters

In a June 2, 2005, address to the UN General Assembly, Secretary-General Kofi Annan asserted that the pace of the AIDS epidemic was "accelerating...on every continent," despite expenditures of about $8 billion annually on treatment, care, and prevention of the disease. In 2004, Annan said, 4.9 million people were newly infected with HIV, and 3.1 million people died of AIDS, adding, "It is clear that the epidemic continues to outrun our efforts to contain it."[2]

That HIV might pose a threat to the security of nations has not been a widely shared view over the course of the pandemic. Few leaders of the hardest-hit countries in sub-Saharan Africa embraced the link between HIV and their nations' security until the disease had spread and killed their people for more than two decades. The same denial has dominated perceptions of the threat posed by HIV/AIDS the world over.

Some academics and political theorists have been similarly inclined to dismiss both the importance and validity of discerning links between the pandemic and the security of states. It has been argued that there are no "smoking guns" to point to—irrefutable data demonstrating that the presence of the virus in any given society was directly responsible for an event that imperiled the stability, capacity, or viability of the state.

By the time such evidence is apparent, however, it may be too late to protect the state. In an extreme example of that recognition, Botswana's President Festus Mogae recently declared that his nation, after more than a decade of quietly watching HIV spread, now faces obliteration due to AIDS. In a December 2000 address to the Economic Commission on Africa, Mogae said, "The impact of HIV/AIDS on the population, the economy, and the very fabric of our society undermines not only development, but poses a serious threat to our security and life as we know it."

"We really are in a national crisis," Mogae told Reuters in an interview that year. "We are threatened with extinction. People are dying in chillingly high numbers. We are losing the best of young people. It's a crisis of the first magnitude."[3]

Any discussion of security has to clarify whose security is at issue. This report examines security on several levels, but in two broad categories: The security of highly afflicted states with HIV infection rates exceeding 5 percent of the adult populations; and the security of less-afflicted states. Dynamically, the pandemic poses not only a greater level of severity in its threat to the highly afflicted states, but also substantively variant types of impacts compared to those experienced by the less-afflicted states.[4] On a global scale, then, the pandemic presents a range of challenges to state integrity, and may best be tackled by various states through different institutions, diplomatic instruments, economic schemes, and public health strategies.

Broadening the notion of security beyond the boundaries of highly afflicted nations, UN Secretary-General Annan said in a December 16, 2004, speech at the Council on Foreign Relations that there was, with globalization, an increasing need to consider what he labeled "collective security" and "biological security," adding, "Whether the threat is terror or AIDS, a threat to one is a threat to all. Our defenses are only as strong as their weakest link."[5]

Increasingly, policy analysts representing a range of political perspectives are reaching the conclusion that, as Richard Haass states, "We need to absorb the idea that the failure of other countries to provide political and economic opportunity to their citizens is not just a humanitarian or moral problem, but a strategic one as well, as such societies all too often spawn radicals and terrorists."[6]

In a June 12, 2003, speech, then-U.S. Secretary of State Colin Powell placed the pandemic in a national security context by likening the virus to a terrorist: "The HIV virus, like terrorism, kills indiscriminately and without mercy," Powell asserted. "As cruel as any tyrant, the virus will crush the human spirit. It is an insidious and relentless foe, more destructive than any army, any conflict, and any weapon of mass destruction. It shatters families, tears the fabric of societies, and undermines government, undermines the very basis of democracy. It can destroy countries and, as we have seen, it can destabilize entire regions."[7]

Then-Vice President Al Gore, in an address to the UN Security Council on January 10, 2000, claimed that HIV was a security issue because "it threatens not just individual citizens, but the very institutions that define and defend the character of a society. This disease weakens workforces and saps economic strength. AIDS strikes at teachers, and denies education to their students. It strikes at the military, and subverts the forces of order and peacekeeping."[8]

Subsequently, the UN Security Council passed Resolution 1308, in July 2000, which states that, "the HIV/AIDS pandemic, if unchecked, may pose a risk to stability and security."[9]

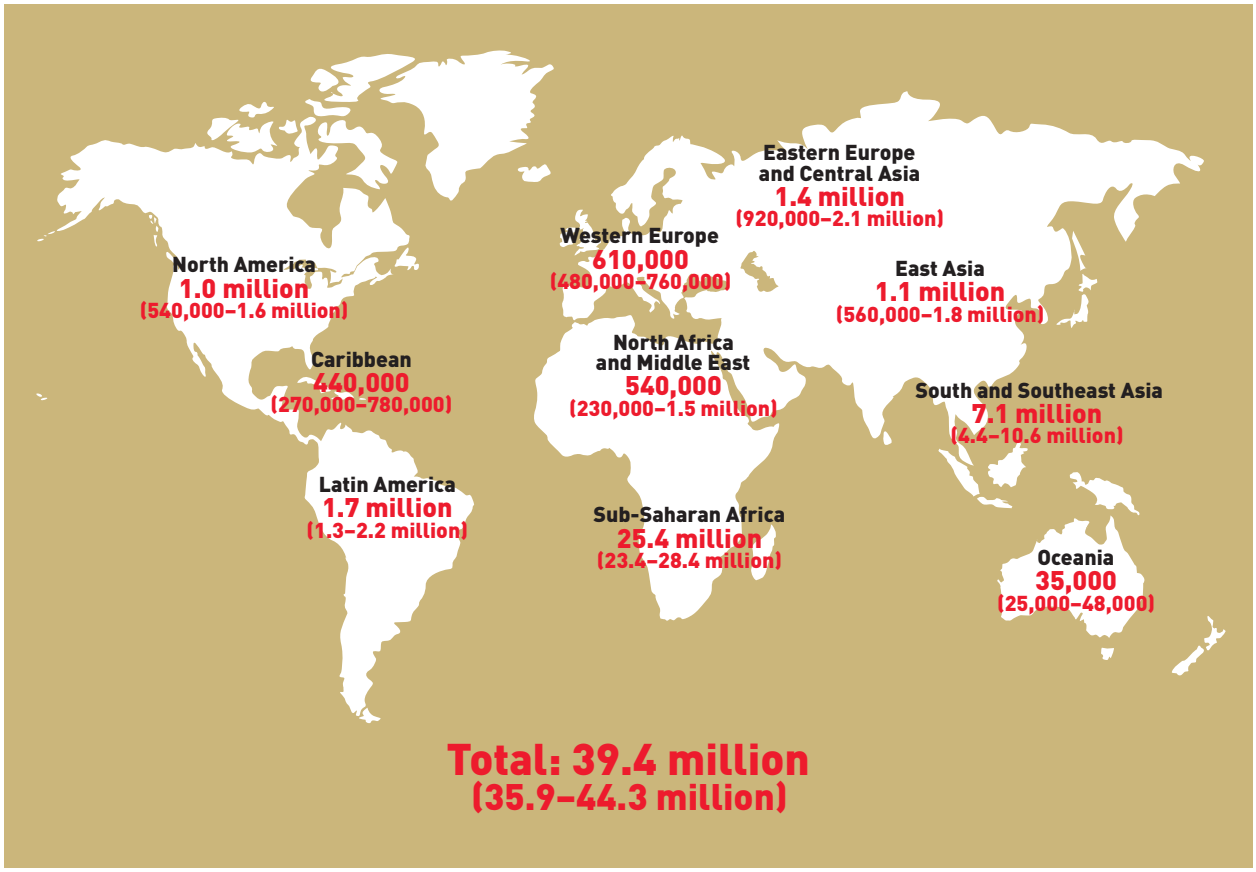
Frameworks matter: A moral or humanitarian concern might best be handled through traditional mechanisms of foreign aid, assistance to ministries of health, and nongovernmental charity. In contrast, a threat to security, by definition, engages a broader range of government institutions, carries a higher gravitas, may require more urgent action, and necessitates policymaking in the diplomatic, intelligence, and military areas.[10] Clearly, some advocates hope that naming HIV/AIDS a security threat to wealthy states will result in a greater willingness on the part of those governments to donate generously to pandemic control and treatment efforts in poor countries. Such motivations fog the security issue. Similarly, the database is complicated by human rights advocates who fear that drawing links between security and populations of HIV-infected individuals will result in further stigmatization and repression of those who are infected with the virus.

In this report, there will be considerable discussion of the difficulties in disentangling the impact HIV may be having on any given social institution from a complex set of factors occurring in the most highly afflicted states, including rising impoverishment, political instability, other epidemic diseases, aging, and even collapsing infrastructures and social alienation. HIV has emerged in a historic period that is marked by the fall of the Soviet Union and the end of the Cold War; widening gaps in wealth distribution, both globally and within states; a decline in traditional or conventional warfare; and a rise in threats to states posed by asymmetric, terrorist, and ethnically or religiously rationalized violence. In other words, the globalization of HIV has come against a backdrop of radically shifting transnational threats to states, rich and poor alike.

As a result, in the post-9/11, post–Cold War world, most governments are trying to redefine their security priorities, appropriately allocate resources, and anticipate future threat trends. The process is ongoing, and entails reappraising the roles and reliability of a diverse array of government agencies, from intelligence to public health. Few states have achieved internal consensus on a new definition of their national security. Certainly, none have managed to define their security interests in as sharp relief as did the United States and its allies in the post–World War II period with the policy of "containment" of the Soviet Union.

For the sake of this discussion, a nation's national security interests will be defined as: the protection of its people and the preservation of territorial integrity, national sovereignty, political, social, economic, and defense institutions against direct or indirect threats.

How HIV/AIDS fits into that evolving paradigm does matter. Whether countries and international agencies have the imagination to correctly assess the future HIV threat and comprehend what societies with nearly a quarter of all citizens infected will look like in 2015 is not clear. Such forecasting and depth of understanding is essential, however, if nations and international agencies are to correctly set priorities today for deployment of resources, essential policy initiatives, and intelligence. Viewing HIV/AIDS through a security prism might well reveal policy options and diplomatic initiatives that would significantly color national and international priorities for the coming two decades. Already emerging, for example, are striking military alliances, in which one armed force seeks to mitigate rising HIV rates in another state's armed forces for clear strategic reasons.[11] The U.S. Department of Defense has provided expertise to assist the Angolan armed forces in condom distribution and AIDS education of their military personnel.[12] The U.S. government is also providing antiretroviral drugs to the South African Defense Forces in order to maintain that military's combat readiness.[13]



Source: UNAIDS Programme, see http://www.unaids.org/wad2004/report_pdf.html.

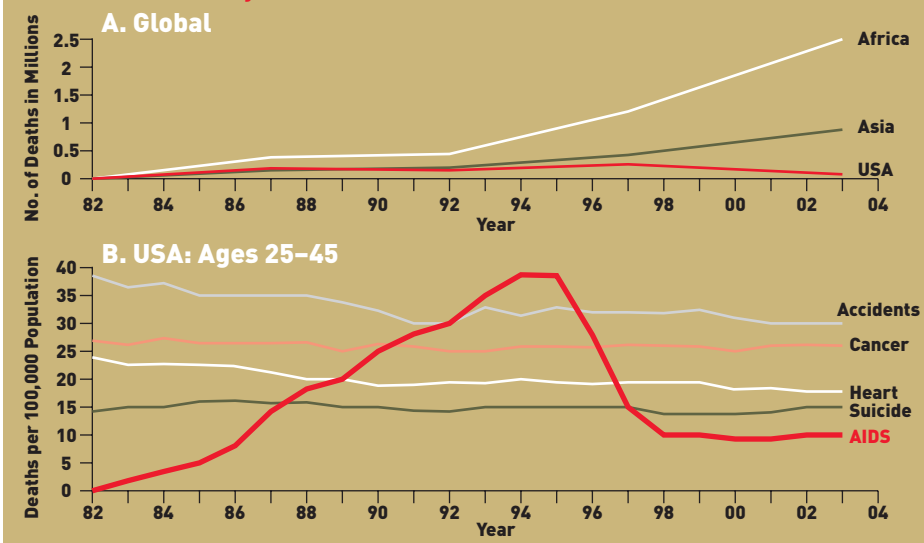
The pandemic now directly afflicts approximately 40 million people, has orphaned more than 12 million children, and killed more than 20 million people. In the Great Lakes region of Africa, the epidemic has raged since the mid-1970s, and it was first officially noted in the United States in 1981. Despite the passage of well over two decades, a striking paucity of data, computer modeling, or empirically based analytical material exists to guide policymakers in their understanding of the relationship between the pandemic and such clear aspects of

security as: troop strength and behavior, direct economic impacts outside of health sector spending, changes in agricultural practices, the political credibility of leaders that ignore the epidemic or deny treatment to their citizenry, or the behaviors of generations that reach adulthood without parental guidance. Remarkably little is even known about how such widespread HIV illness and AIDS death has affected businesses that now routinely lose upwards of 3 percent of their labor force to the virus annually. The exigencies of state secrecy have left to speculation the exact prevalences and annual incidences of HIV rates in most armed forces, both police and military; some of the reckoned rates have been wildly inflated. There is an alarming need for far better basic research in these areas, and a greater volume of long-term scenario analysis.[14]

Nevertheless, four crucial points are clear. First, the HIV/AIDS pandemic is the most complex disease phenomenon humanity has ever faced, presenting researchers and political analysts with unprecedented challenges. Second, the lack of demonstrable proof of a security threat currently in place against any given state, regional, or transnational system does not mean the danger is nonexistent, or that it will not emerge as the pandemic continues its sorry escalation. Most of the leaders of the Soviet Union and Warsaw Pact nations were caught by surprise when millions of their citizens marched through Poland's streets shouting "Solidarity!," and when Germans clawed down the Berlin Wall with their bare hands—even years later, when Ukrainians and Georgians rebelled in the streets of Kiev and Tbilisi. Similarly, HIV's impact may currently be obscured by larger issues of poverty, global wealth imbalance, government weakness or corruption, and macroeconomic trends.

Third, whether or not HIV/AIDS directly threatens the security of less-afflicted states, such as those of North America and Europe, it clearly is contributing to an atmosphere of enhanced threat. The pandemic gives these states more to worry about, complicates foreign policy and diplomatic initiatives, perturbs economic waters, and offers a far more complex tomorrow for the policymakers of today.

Fourth, the entire debate over HIV links to security would be rendered moot were the world engaged in an effective campaign to stop further spread of the virus. Sadly, it is not.



Unlike past pandemics, HIV/AIDS shows no sign of a natural bell-shaped curve of mortality, resulting from the emergence or survival of naturally immune human populations. Indeed, this global mortality curve is unprecedented. Deaths due to AIDS have declined sharply in the U.S. since the introduction of effective drugs, which are not available to the majority of the world's HIV population.

AIDS mortality is shown for both sexes combined. The steep fall in U.S. mortality from 1996 is not due to a reduction in HIV infection, but is due to the introduction of a combination of antiretroviral drugs.

Source: Robin Weiss, via email message to author.

The Black Death

Comprehending the movements of invisible microbes and the reactions of vast swathes of humanity to those germs has proven infinitely more difficult than reading the tea leaves of classic social unrest. Indeed, until the late twentieth century, historians widely believed that plagues had little or no net impact on state security, macroeconomics, social discord, or other major features of order and stability. In 1798, England's Thomas Malthus concluded in his *Essay on the Principle of Population* that epidemics and plagues were sorry, but cyclic events occurring naturally whenever humanity had reached an imbalance with its environs, causing the population and its wealth to stagnate. Malthus offered no biological explanation, of course; the germ theory of disease would not be understood for another century. Nevertheless, Malthusian nonchalance over the impact of pandemics on history and state stability dominated in academe for nearly two centuries.

When the Yersinia pestis bacterium hit Europe in the fall of 1347, no one at the time could imagine that the mysterious pestilence would challenge the integrity of city-states, turn the continent's economy on its head, and set the surviving populace on a course that would lead to the collapse of feudalism and the rise of the Protestant Reformation. The Black Death, or pneumonic plague, would rage across the continent between 1347 and 1352, peaking in most regions in 1348. Though the plague would return several times during the later fourteenth and fifteenth centuries, it would not claim a catastrophic toll again until the plague of London in the 1660s.

So astronomical was the impact of the fourteenth century Black Death that historians for six subsequent centuries were left to puzzle over what was termed the Great Mortality. By 1420, Europe's population was merely one-third of what it had been in 1320. It would not begin to grow appreciably until 1460, and many parts of the continent still had not reached their previous demographic heights by the end of the sixteenth century.[15] No event in documented world history, before or since, has had as dramatic an impact on the human population—*until the arrival of HIV.* Nobody knows exactly how many people perished in the Black Death, but experts believe that HIV has already surpassed the numbers of people sickened by the plague, and when the currently HIV-infected cohort of 40 million have succumbed to the disease, AIDS will rank as the worst plague of all human history.

The Black Death 1348–1351 ITALY

- Demographic impact was elimination of adults aged 20–60 years.
- After the pestilence, 15% of population was over 60 years old.
- 44% of surviving population was under 19 years old.
- Enormous orphans crisis.

Source: David Herlihy, *The Black Death and the Transformation of the West* (Cambridge: HUP, 1997).

The demographic distribution of most of Europe by 1360 was radically altered. The numbers of adults over sixty years old remained stable, but societies were nearly depleted of productive-aged adults between fourteen and sixty years. Nearly half of the survivors were under fourteen years of age. The net outcome, called a chimney effect, was the creation of an enormous dependency problem, with societies overwhelmed by child orphans and senior citizens.[16] The imbalance of child survivors would shift with subsequent waves of the plague in the

fifteenth century as Yersinia pestis adapted to human beings, becoming a pediatric disease, according to medieval historian Samuel Cohn.

Prior to 1347, much of Europe was divided into tiny fiefdoms and city-states, agricultural labor was performed by serfs and subjects who lived in slave-like conditions, forced to yield crop profits to their overlords. Labor had almost no real value: Workers were utterly interchangeable and dispensable. Wars raged across the continent continuously, as feudal lords and city-state rulers raised private armies to attack one another, most commonly in trade and property disputes. Culturally and politically, Europe was dominated by the Catholic Church, with a succession of pontiffs mustering their own military forces, manipulating the affairs of fiefs and states, and amassing considerable wealth.[17]

Much of this was turned upside down by the plague's carnage. Because the Church could neither explain the plague, nor stop it, its power eroded in the eyes of average Europeans, many of whom turned to mysticism, superstition, or blends of ancient paganism and Catholicism to fill their spiritual needs. Worse, the Church lost nearly half of its priests and bishops, weakening its infrastructure. In hopes of rapidly restoring the Church's power base, Pope Clement VI sold priesthoods, offering the new clerics opportunity to recoup their investments through the sale of indulgences. The exploitative behavior of many of these new priests sowed seeds of profound discontent, spawning several dissident Christian sects and probably contributing to the Reformation.

The power base of many fiefdoms and city-states were also eroded, as the ranks of all forms of labor—particularly agricultural and military—were devastated. Workers were able to dictate some of their terms of employment, rejecting servitude, letting fields go fallow, and foregoing military service. Massive crop and livestock deficiencies resulted, and persisted for many decades thereafter. Skilled laborers, such as artisans and craftsmen, were in such demand that many became itinerant, growing rich by selling their services to the highest bidders in Europe.

Consequences of the Black Death in Europe

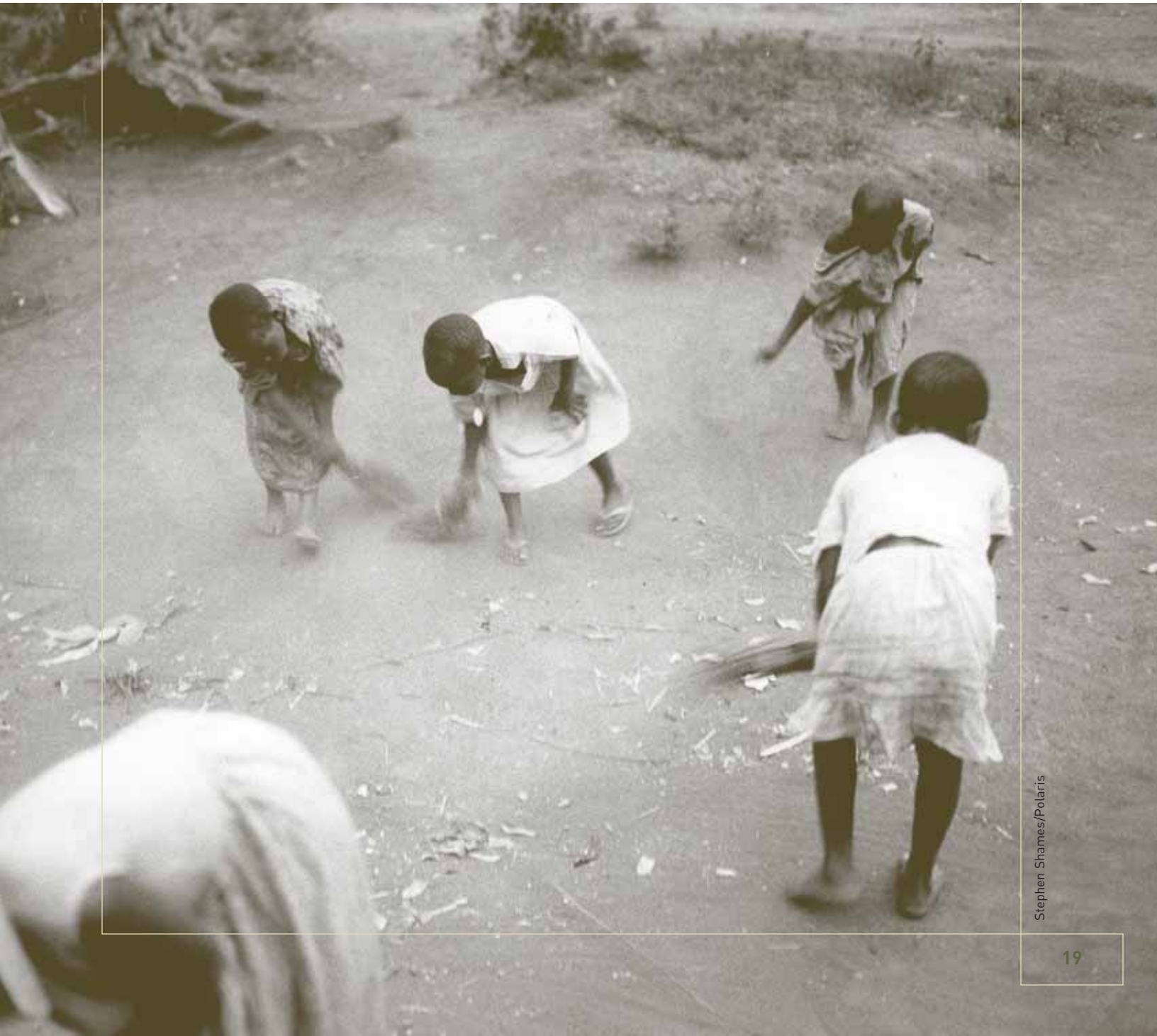
- Depletion of agricultural labor force, resulting in decades of crop and livestock deficiencies continent-wide.
- Loss of faith in the powerful Church due to the priests' failure to perform last rites, and to Pope Clement VI's decision to sell priesthoods and dispense indulgences for cash and valuables.
- Erosion of feudalistic control and rising labor unrest.
- Disruption of lineages of power. Widespread property disputes.
- Overall, an increase in tensions between the rich and poor in Europe, paving the way for profound political change.

Source: David Herlihy, *The Black Death and the Transformation of the West.*

The Grim Reaper's harvest radically disrupted lines of aristocratic lineage and inheritance, throwing Europe into decades of property disputes. Orphaned children, lacking protection from adults, often lost their inheritances and were left to forage across Europe in search of sustenance and employment. These factors contributed to fundamental shifts in the relationship between the wealthy and poor; relations between parents and their children; the breakdown of boundaries and lineages of fiefdoms and feudal states; the changing nature of warfare (which now required less labor and more technology in the form of guns and cannons); and expectations of the state. In the immediate wake of the Black Death, city-states like Florence, and nations, such as England, recognized that social services are components of state survival, creating orphanages, sanatoria, public hospitals, health systems, subsidizing education, and training professional militaries.

According to noted historian David Herlihy, in the fourteenth and fifteenth century, "plagues undermined the stability of European culture. Continuing high mortalities thinned the ranks of the skilled and the learned and debased the quality of cultural expressions of every sort. Europe faced the formidable task of maintaining and repairing its cultural heritage."[18]

If HIV/AIDS is claiming equivalent numbers of lives today, likely eclipsing the Black Death in both absolute numbers and in percentages of populations slain over time, why should we imagine its historical and political impact will be any less significant?

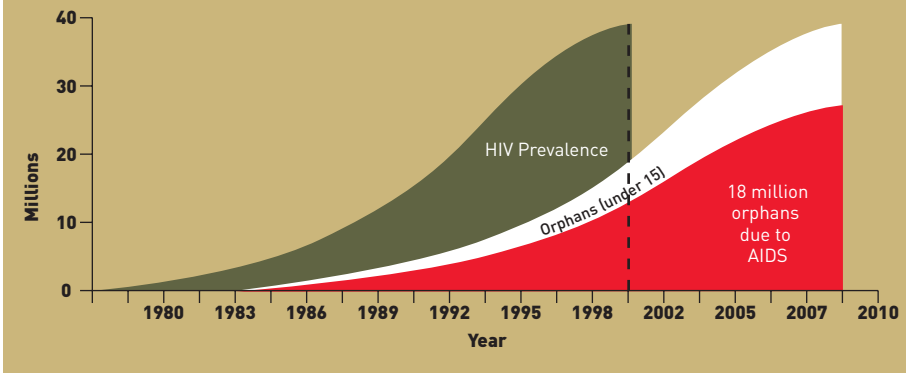


Stephen Shames/Polaris

The Long Wavelength Problem

For about thirty years, we have been facing a protracted Black Death, creating waves of infection, followed years later by waves of acute disease, and finally, years after that, by waves of death and family disruption. Unlike the other two massive pandemics of history—the Black Death and the 1918 Influenza—the HIV pandemic is occurring in slow motion. HIV is an agonizingly drawn-out killer, generally taking ten years to produce the AIDS illness after infection, and another year or more to deal its mortal blow. The wave distance between infection, illness, death, and family disruption in the prior two mega-plagues were days to weeks. Entire societies experienced the shock simultaneously, grieved in unison, and witnessed the impact on the state and so on, as one.

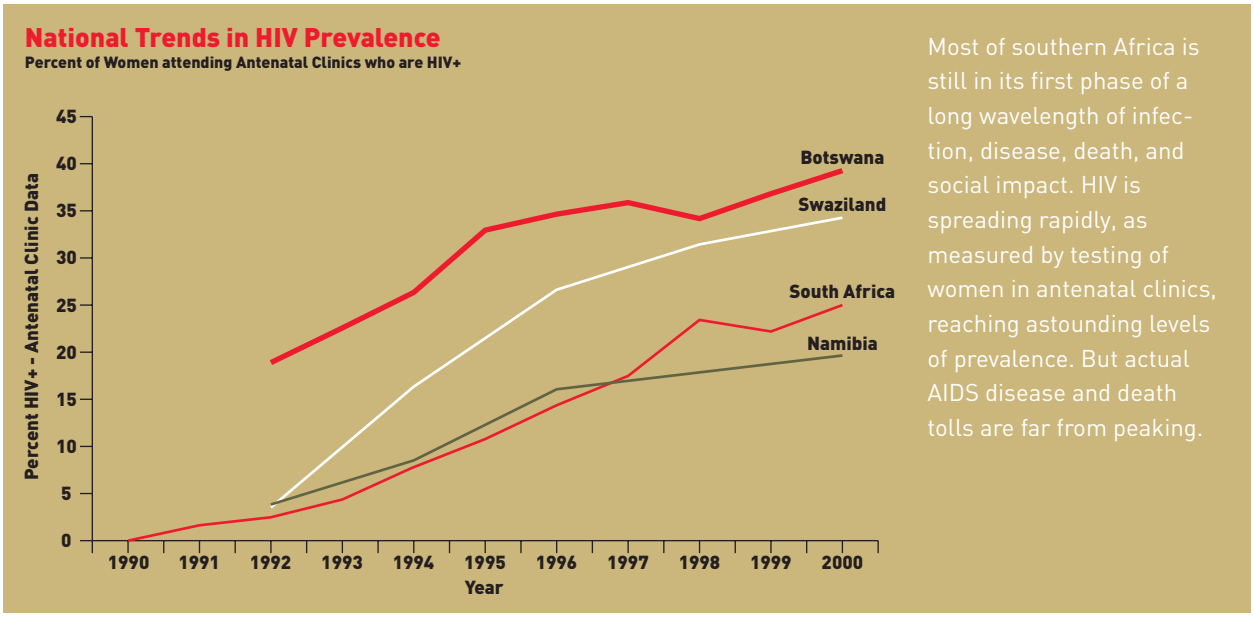
The Wavelength Problem



The Wavelength Problem shows that each HIV infection spans three phases. The first is the spread of HIV infection. The second is the AIDS disease and death phase. And finally, the third phase is the surviving family impact and orphaning.

Source: UNAIDS/UNICEF, 2003, adapted from A. Whiteside and C. Sunter, *AIDS: The Challenge for South Africa* (Cape Town: Human and Rousseau Tafelberg, 2000).

But the wave intervals for HIV are on the order of fourteen years, according to South African researcher Alan Whiteside, and are staggered, not only from person to person, but in time.[19] One part of the world—sub-Saharan Africa—has been experiencing profound and successively higher amplitude waves for up to four human generations, while other parts of the world, such as Russia, Ukraine, Indonesia, Southeast Asia, and India, have had almost unnoticed, low amplitude waves for ten years or more, and are only now entering large amplitude infection waves, with their illness, death, and orphaning waves yet to come. Even within Africa, the waves have washed shores differently: the Great Lakes region so overwhelmed for the last thirty-five years that every facet of society has been reshaped; Botswana, Malawi, and Swaziland now in the midst of a tsunami wave of death; most of western Africa riding a third generation of very low amplitude waves; and South Africa, Namibia, and Angola yet to experience the death tolls from their first, rapidly rising crests of infection.



Source: HEARD database. Health, Economics and HIV/AIDS Research Division, University of Natal, South Africa.

Further complicating matters, societies are not standing still while these waves roll over them. They are incrementally adapting, with extended families absorbing orphans, communities altering how they farm, and governments increasing their health spending. A snapshot of Thailand in 1989 would have led security analysts to conclude it was the first of a series of dominoes about to fall across Southeast Asia, bringing the economies and social orders to crumbling terminations. But Thailand did not crumble: It boomed. A succession of Thai governments recognized the need for massive condom distribution and public education campaigns, effectively bringing the HIV epidemic under a remarkable degree of control.

It is, therefore, extremely difficult to comprehend how HIV is affecting societies, economies, cultures, and political realities. The event horizon is distant, spanning a full human generation, and highly variable across the planet. Indeed, Oxford University's Roy Anderson has developed a computer model that shows that the true dimensions of a profound HIV/AIDS pandemic will resonate across a society for 130 years.[20]

These long wavelengths are washing over social shores that, in most cases, are simultaneously being swamped by other diseases: malaria, tuberculosis, newly emerging infections like SARS and the Marburg virus, general childhood dysentery, gonorrhea, and antibiotic-resistant bacterial infections. Further, the HIV waves are coming in alongside other factors that affect economic development, military conflict, social unrest, life expectancies, and most of the key markers of social stability.

Even the relatively straightforward life expectancy data may represent a downward spiral brought about by HIV, but in conjunction with other diseases and poverty. Few futurists and modelers are trying to make sufficiently complex projections, and it may well be the case that humanity lacks adequate imagination to conceive of how this virus, in the absence of an effective vaccine, will have reshaped the world by 2020, much less by 2040.

From a policy point of view, this has proven disastrous. Humanity's response to HIV has been characterized by short-sighted, often emotionally driven actions, frequently propelled by various forms of social activism. Political leaderships have reacted in similarly short-term manners, leaving few identifiable policies in place,

promulgated by government or UN agencies that reflect more than one HIV wavelength-worth of vision. Consider, for example, the current push to provide anti-HIV drug treatment to those afflicted with the disease in poor countries, a laudable goal backed by a clear moral imperative. Few political leaders recognize, however, that anti-HIV drugs are not curative and must be taken daily for the recipient's hopefully lengthened lifetime. Placing even an overly modest three million people in poor countries on the drugs, largely at the expense of wealthy nation donors—as the World Health Organization (WHO) intends to accomplish with wealthy nation support before the close of this year—is not a single-cost annual expenditure. It might be better described as an entitlement program, as few poor countries will likely be able to absorb treatment costs on their own. But stopping the donor flow for any reason would constitute a mass homicide event, akin to turning off the life support system of all three million people. Few politicians in donor nations appear to recognize this conundrum or to have considered the foreign policy and perhaps, security implications of having any given wealthy nation blamed for terminating that anti-HIV life support flow of dollars.

Despite these obvious shortcomings in understanding and analysis, the HIV pandemic has, in the post-9/11 security climate, been linked to a laundry list of security threats. For example, on July 3, 2003, President George Bush created a sort of intellectual bridge between the Iraqi regime of Saddam Hussein and HIV, saying, "And so it has been a great honor to lead our nation in not only the cause of humanitarian relief through an AIDS initiative, but also to lead our nation to free people from the clutches of what history will show was an incredibly barbaric regime."[21]

Since 9/11, many political analysts have asserted that the projected 42 million children, cumulatively, who will have been orphaned by HIV by 2010, constitute a fertile ground for terrorist recruitment.[22]

In 2003, the Pretoria-based Institute for Security Studies predicted that the "severe social and economic impact of HIV/AIDS, and the infiltration of the epidemic into the ruling political and military elites and middle classes of developing countries may intensify the struggle for political power to control scarce state resources. Such dynamics, even singularly, have the potential to lead to political instability."[23]

This echoes sentiments in a 1987 unpublished CIA study, which concluded that HIV would have a serious destabilizing effect on sub-Saharan Africa and warned that, without intervention, much of the region might devolve into civil wars, unrest, and downward economic spirals.

In its *Global Trends 2015* report, the U.S. National Intelligence Council (NIC) predicted that, "AIDS and malaria alone will reduce gross domestic product (GDP) in several sub-Saharan African countries by 20 percent or more by 2010," and at the micro-level, would have such a devastating impact on villages and families that HIV "will strain the ability of the extended family system to cope and will contribute to higher levels of dissatisfaction, crime, and political volatility."

The report continued, reckoning that Africa will experience enormous population impacts that could directly affect security, such as, "in South Africa…the population is projected to drop from 43.4 million in 2000 to 38.7 million in 2015." As a result of these economic and demographic shifts, the NIC said, HIV will "hurt prospects for transition to democratic regimes as they undermine civil society, hamper the evolution of sound political and economic institutions, and intensify the struggle for power and resources."[24]

That assessment prompted then-CIA Director George Tenet to state in February 2003: "The national security dimensions of the virus are plain: It can undermine economic growth, exacerbate social tensions, diminish military preparedness, create huge social welfare costs, and further weaken already beleaguered states. And the virus respects no border."[25]

Citing the NIC report during his U.S. presidential bid, Senator John Kerry (D-MA) asserted that countries hard-hit by HIV, "could well become the home base for terrorists or criminal elements looking for a safe haven, or even for those trading in weapons of mass destruction." Kerry added that what is needed is, "a bold progressive internationalism that focuses not just on the immediate and imminent, but insidious dangers that can

mount over the next years and decade, dangers that span the spectrum from the denial of democracy, to destructive weapons, endemic poverty, and epidemic disease. These are not just issues of international order, but vital issues of our own national security."[26]

But a year later, the NIC had completely changed its tune, barely mentioning HIV/AIDS in its NIC 2020 *Mapping the Global Future* report. In the only paragraph of the report devoted to the pandemic, the NIC says HIV will hurt Africa because the epidemic has the "potential to derail the economic prospects of many up-and-coming economic powers."[27]

The picture is confusing.

What does the Evidence Show: Armed Forces

For reasons of their own national security, few governments have disclosed the HIV infection rates in their armed forces and police. During the 1990s, many agencies, including the CIA and U.S. Defense Intelligence Agency (DIA), used indirect data to conclude that infection rates in some African militaries were as high as 75 percent.[28] Such speculations appear to be off target. Some critics, pointing to the wildly inflated estimates made a decade ago, now charge that in the absence of solid seroprevalence data on the world's armed forces, it is impossible to make assertions about the impact of HIV on military and police performance and capacity. That is clearly an unrealistic overreaction to prior exaggerations. It is not in the interests of most countries hard-hit by HIV to publicly release such data, thereby tipping potential hostile forces off to weaknesses in national defense. Further, by the time data is available, documenting significant infection rates within uniformed ranks, it is too late to take steps to protect the forces. Waiting for data means giving the virus the advantage.

There are about fifty million people serving in the world's armed forces and police forces today, the majority of whom are men under twenty-five years of age. By virtue of their youth, long periods of deployment away from family and mates, access to cash and tendency to "buy" sex partners, likelihood to drink heavily or use drugs when off duty, capacity to impose coercive methods to obtain sex, dangerous and stressful work, and general participation in a "macho" culture, the military and police are thought to be at special risk for all sexually transmitted diseases.[29] In most societies today, armed forces and police tend to be drawn from the ranks of the poor and disadvantaged youth. Until recently, national security studies assumed that these factors guaranteed that uniformed services personnel would have higher rates of HIV infection than the civilian society, presenting an obvious threat to local and regional stability.[30]

In some cases, this has proven true: Armed forces and police have had higher rates of HIV infection than the general society they serve. But this has not always been the case, and it would be unwise, in the absence of firm, transparent testing data to assume any given military force has an HIV infection rate at some significant increment greater than the general population. It may be reasonable, however, to assume military and civilian rates are at least equal, which would mean, for example, that upwards of 40 percent of Swaziland's army is HIV-positive.[31]

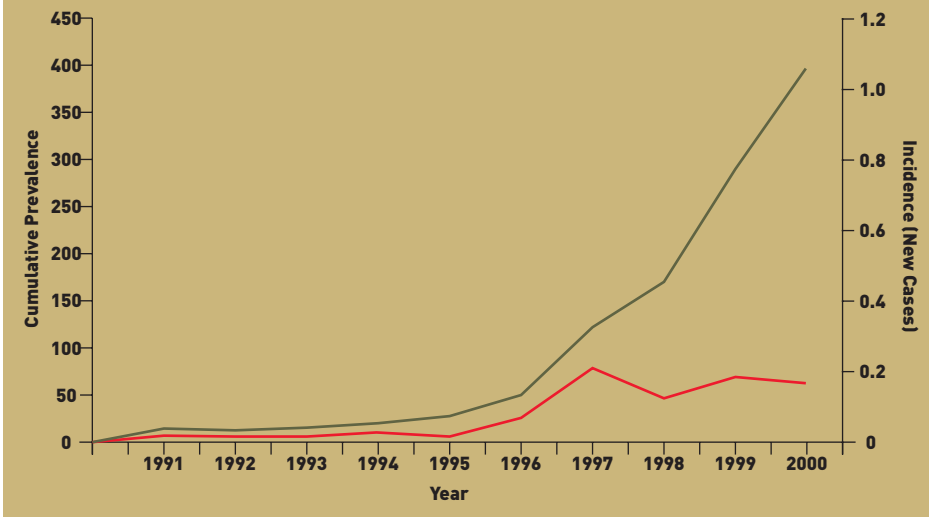
Here is what we know: In Russia, Major General Valery Kulikov of the Military Medical Services informed the nation's leadership on November 28, 2003, that since 1999, there had been a more than twenty-five–fold increase in HIV in potential eighteen-year-old draftees. The annual new infection, or incidence, rate for HIV in Russia's basic military forces has risen sharply, climbing from about 0.1 cases per 100,000 soldiers in 1995, to nearly forty per 100,000 in 2003. In both 2002 and 2003, about 5,000 conscriptees, or about a third of drafted young men, were rejected for military service for health reasons, chiefly HIV, tuberculosis, drug addiction, and "psychological problems." Deputy Prime Minister Alexander Zhukov said on March 30, 2005, that, "The spread of AIDS has gone beyond the framework of a purely medical problem, turning into a threat to the country's national security."[32]

In his report to the Duma in 2004, Kulikov characterized the situation as "simply horrendous." Noted demographer Murray Feshbach, of the Woodrow Wilson International Center for Scholars, fears Russia will find it increasingly difficult to man an army as illness claims more youth and the overall population shrinks.[33] In 1987, Feshbach says, 1.23 million male babies were born in Russia; that number plummeted to 630,000 in 2000.[34]

Overall, Feshbach insists, Russian HIV data on both the military and general society is wildly conservative: "The conclusion seems inevitable that the official numbers are understated by a factor of at least three, and possibly five times."[35]

Feshbach sees similar trends in the armed forces of Ukraine, the Baltic states, and possibly Belarus and Moldova. Of Ukraine's situation, Feshbach wrote in a 2005 report to USAID, there has been an "accelerated decline in cohorts available for service in armed forces and security services, leading to inadequate national security."[36] Regionally, then, it can be convincingly argued that the non-Asian former Soviet states face severe weaknesses in their armed forces due to HIV and its companion epidemic, tuberculosis, and that the epidemics in these countries are spiraling out of control at this time, probably growing at a faster rate than anywhere else in the world.[37]

HIV/AIDS in Russian Military: 1991–2000
(Conscripted Enlisted Personnel Only)



Both the prevalence (in green) and annual incidence (in red) of HIV in Russian military conscriptees have increased steadily.

Source: Murray Feshbach, "HIV/AIDS and the Military: Russian Worries–Real or Not But Worries," Center for Strategic and International Studies and the Massachusetts Institute of Technology, 2002.

A sharp contrast can be seen in Thailand, where the military grew alarmed in 1993 when surveys of 17-year-old recruits showed an overall HIV rate of 3.7 percent, and a disturbing 12 percent HIV-positive rate among recruits from the northern provinces of the country. By 2001, the military had successfully pushed that rate down to 0.7 percent, and it has stayed low, according to Major General Suebpong Sangkaromya. The 1992 forecasts were for Thailand to suffer 9 million HIV cases by 2005, with a 15 percent GDP loss. This was prevented, according to Thailand's Senator Mechai Viravaidya, through an "In Rubber We Trust" national condom use campaign.[38] Sangkaromya also credits the perspective taken by the military high command: "The view of AIDS as a national security threat was key to Thailand's prompt response."[39]

Uganda claims a similar trend, having pushed its HIV prevalence in armed forces from a 1990 level of 10 percent, to 7 percent in 2004, according to official army data. But recent studies point to higher figures, including a 2004 infection rate of 13.3 percent in Kampala police. [40]

In most of the world's armed forces, the HIV story is a sadder, graver one. For example, in March 2003, Army Commander General J. G. Chimbayo, head of the Malawi Defense Forces, said publicly that troop strength was down by more than 40 percent due to HIV deaths, with losses most acutely felt in the command-leadership structure.[41] By 2004, according to international observers, troop strength had fallen to 50 percent of minimum capacity necessary to guarantee state security.

The first public acknowledgement of HIV's devastating toll on the Zimbabwe National Army (ZNA) came in 2004, with China's expulsion of a third of the ZNA officers sent to the People's Republic of China (PRC) for advanced training, due to their HIV infection status. Last year the Zimbabwe Ministry of Defence admitted that the ZNA infection rates are about 3 percent above the general society prevalence, which was then just above 26 percent. With HIV taking a severe toll on the military's command structure, the Ministry of Defence began offering anti-HIV drugs to infected soldiers in August 2004—medicines that are not generally available to the civilian sector.[42]

According to the general commander of the Mozambican police, Miguel dos Santos, the country is no longer able to recruit and train police officers fast enough to replace those dying of AIDS; by the end of 2002, depletion rates exceeded training needs, and recruitment was threefold below essential needs. In a country with an adult HIV prevalence of 13.6 percent, the Ministry of the Interior acknowledged in 2003 that more than half of new recruits tested positive for infection. That is similar to published HIV rates in new military recruits: In 2002, some 1,059 of 2,500 Mozambican recruits tested HIV-positive.[43]

The government of South Africa is in the process of transforming its previously all-Caucasian command structure into one that more closely mirrors the racial complexion of the society at large. This transformation has been difficult, in part because of Apartheid-era discrepancies in access to advanced education and technical training.[44] It is made all the more difficult by an increasing toll from HIV[45] and tuberculosis in most tiers of the hierarchy.[46] In July 2004, it was revealed that a survey of 1,089 South African National Defence Force (SANDF) members found 947 infected with HIV, for a rate of 87 percent.[47] Defence Minister Mosiuoa Lekota angrily denounced the leaked study, saying it was a voluntary survey, biased by the fact that soldiers who underwent the testing probably already suspected that they were infected.[48] At that time, Lekota revealed that 17,500 members of the SANDF's 70,000 soldiers, clerks, and civilian support staff were infected, or 25 percent.[49] In June 2005, Brigadier General Pieter Oelofse, director of medicine for the South African military, revealed that some 81 percent of South Africa's 70,000 military personnel have undergone testing: HIV/AIDS prevalence was 23 percent, slightly higher than the rate of 21.5 percent in South Africans at large in 2004.[50]

Martin Schönteich, of the Pretoria-based Open Society Justice Initiative, offers estimates that infection rates in South Africa's police forces are slightly higher than those in the communities in which they reside,[51] which would mean that more than 40 percent of police officers in KwaZulu Natal province are HIV-positive, with forces elsewhere in the country having lower prevalences.[52] Though his work appears conjectural, it has not been refuted by any other studies.

In 2000, a survey of Ethiopian police officers found just 7 percent were infected, but four years later, a test of the police officers' wives found nearly a third carried HIV. Last year, all of the beds in the national police hospital were filled with AIDS patients. HIV rates are lower in nearby Eritrea, where 4.6 percent of the armed forces are infected. That is, however, nearly twice the prevalence seen in the general population.[53]

In Africa, infection rates within military forces are generally slightly above the prevalences in general societies, according to governmental and UN reports:

- Cameroon, 2003: 9.8 percent of the armed forces tested positive for HIV, while the general prevalence was 6.9 percent.
- Ivory Coast, 2000: Some 14 percent of the armed forces tested positive for HIV, compared to a rate of 5.2 percent in the general population.
- Kenya, 2005: Testing shows that about 9.4 percent of the military's 90,000 members are infected, which is a rate significantly greater than the general population's 6.4 percent prevalence.
- Sudan, 2003: A U.S. Centers for Disease Control (CDC) survey found HIV rates in various armies based in the central and southern regions ranged from 1.6 percent to 7.2 percent. A 2002 national study estimated 2.6 percent of Sudanese adults were infected. The country is now demobilizing military forces after 21 years of civil war. No data is available regarding the war-torn Darfur region.
- Guinea, 2001: The military rate of HIV was 6.6 percent versus a rate of 2.8 percent in the general population.
- Central African Republic, 2004: 15.5 percent of armed forces tested positive for HIV while general prevalence was 13.5 percent.
- Niger, 2002: The military rate of HIV was 3.8 percent while the general rate was 1.4 percent.
- Botswana, 2005: With more than 40 percent of its armed forces and police infected with HIV, Botswana now offers anti-HIV drugs to all uniformed services personnel. In 2003, national prevalence was 32.9 percent.

The U.S. Defense Intelligence Agency estimated in 2000 that HIV prevalence in the armed forces fighting in the Democratic Republic of Congo (DRC) ranged between 40 percent to 60 percent; in Tanzania, up to 30 percent; and in war-torn parts of West Africa (Ivory Coast and Liberia), between 10 percent and 20 percent.[54]

Nothing is publicly known regarding the HIV rates within the ranks of the world's two largest military forces: the 2.5 million-strong People's Liberation Army (PLA) of China;[55] or the 1.33 million members of India's defense forces.[56] In April 2005, India's Minister of Defense Pranab Mukherjee stated that HIV/AIDS is the fifth leading cause of death among members of his armed forces.[57] There is little information on most of Asia's military and police. One of the fastest growing HIV epidemics in Asia is that of Papua New Guinea, where HIV rates are generally higher than those found elsewhere in the immediate region. This is, according to published studies, due in part to the armed force's involvement in a complicated business involving sandalwood trade, prostitution, and money-changing. The highest HIV rates can reportedly be found in towns abutting military bases, where this trade flourishes.[58]

In the classic calculus of armies the world over, it is easy to replace dead recruits and infantry; a general or top technical officer, however, may represent decades of training and acquired experience. Military forces are quietly putting infected commanders on antiretroviral medicines, in hopes of buying time to train their replacements.[59] American military experience reveals the wisdom of this move, as HIV-related death rates among infected U.S. Armed Forces personnel plummeted from 40 percent during 1985–2001, to just 1.4 percent

since 2001, thanks largely to treatment.[60] However, Brazilian military experience with use of these drugs to treat the estimated 1 percent of personnel in its ranks who are HIV-positive offers a stark warning: There has been a steady increase in drug resistance among recipients of the treatments with some 86 percent of soldiers reporting resistance to at least one of the powerful protease inhibitor drugs used to hold the virus at bay.[61]

There is no way to predict possible rates of drug resistance likely to emerge in the ranks of antiretroviral-treated African, Russian, or Asian military personnel, should the drugs become more widely available to them. There are warning signs, however. In Chicago, after just eight years of widespread use of these drugs among HIV-positive men, a third of newly infected individuals in 2004 had clinically resistant viruses, meaning they were infected with HIV strains that were originally capable of fighting off some of the drugs. In the United States, primary infections increasingly involve drug-resistant viruses: In 2001 nearly 15 percent of infections did, and that has climbed since. A study of ninety-six adults put on antiretroviral drugs in Durban, South Africa, found that within fifteen months of commencing therapy, forty-seven of the patients had to switch drugs due to viral resistance.[62]

There are four vital conclusions that can be drawn from the available military and police information. First, in hard-hit parts of the world, the protectors of stability and security are increasingly likely to be infected or dying of AIDS, minimally at the same rate as the general adult population in the country in which they reside. As death claims ever more citizens, it will also claim more of the ranks of uniformed services, posing serious questions about law and order a decade from now in key regions.[63]

Second, in some HIV-endemic areas—especially in the Commonwealth of Independent States (CIS)—militaries and police are finding it harder to identify healthy recruits to replace the ranks of their aging and AIDS-afflicted forces.[64]

Third, in hopes of prolonging the lives of top members of their command structures, many uniformed services are supplying antiretroviral drugs to the upper echelons; in some cases, to all personnel. Provision of these drugs solely to upper echelons may eventually undermine rank and file morale, and could even lead to rebellion. Where these drugs are not available to the general population, this may undermine police and military authority down the road, as citizens begin to recognize the disparity in access to life-extending treatment.[65]

And finally, even the life-prolonging wonders of antiretroviral drugs may be short-lived, due to the emergence of drug-resistant strains of HIV. Use of these drugs among uniformed services personnel and their families must strive to minimize treatment interruptions or switches, promoting resistant strains. Deployment must not be allowed to interrupt treatment.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UN

UN Peacekeepers and HIV

Pursuant to UN regulations from 2001, "HIV Testing Policy for Uniformed Peacekeepers," all military personnel stationed with UN operations must be encouraged to undergo voluntary HIV screening. In addition, the roughly 65,000 peacekeepers must receive education about HIV, sexually transmitted diseases, and appropriate behaviors with civilian personnel; are given a plastic I.D. HIV/AIDS Awareness Card for Peacekeeping Operations; and are given five or six condoms weekly during foreign deployment.[66] In its new report, *On the Frontline: Making a Difference*, UNAIDS details an outreach program to both peacekeepers and regular uniformed services personnel that has directly trained 6.3 million men and women, and indirectly trained fifteen times that number.

UNAIDS Security and Humanitarian Response Project's Beneficiaries

Region	Number of Direct Beneficiaries
Africa	1,000,000
Eastern Europe and Central Asia	2,100,000
Latin America and the Caribbean	550,000
Middle East and North Africa	500,000
South Asia	2,700,000
Southeast Asia and the Pacific	150,000
Peacekeepers	500,000
Total	**7,500,000**

Source: "On the Frontline," UNAIDS Programme, July 2005.

Stephen Shames/Polaris

Immediate indirect beneficiaries are defined as close family members. If we consider an average of four close family members linked to each direct beneficiary, the projected number of immediate indirect beneficiaries per region is as follows:

Region	No. of Immediate Indirect Beneficiaries
Africa	4,000,000
Eastern Europe and Central Asia	8,400,000
Latin America and the Caribbean	2,200,000
Middle East and North Africa	2,000,000
South Asia	10,800,000
Southeast Asia and the Pacific	600,000
Peacekeepers	2,000,000
Total	**30,000,000**

Source: UNAIDS Programme, July 2005.

Extended indirect beneficiaries are defined as people in close contact with each immediate indirect beneficiary (e.g., peers, partners, friends, etc.). If the minimal number of persons linked to each indirect beneficiary is considered to be three, the projected number of extended indirect beneficiaries per region is as follows:

Region	No. of Extended Indirect Beneficiaries
Africa	12,000,000
Eastern Europe and Central Asia	25,200,000
Latin America and the Caribbean	6,600,000
Middle East and North Africa	6,000,000
South Asia	32,400,000
Southeast Asia and the Pacific	1,800,000
Peacekeepers	6,000,000
Total	**90,000,000**

Source: UNAIDS Programme, July 2005.

The UN and Group of Eight (G8) states have become increasingly reliant on the use of UN peacekeepers since the end of the Cold War, and in 2005, some 75,000 of them were deployed worldwide, with 80 percent of them in Africa.[67] Most of these men and women are stationed in extremely difficult situations, often in considerable danger, and perform heroically. Nevertheless, the UN has recently been rocked by sex-related peacekeeper scandals, and several studies show that troops stationed away from their home countries are at significant risk of acquiring HIV. A Nigerian military survey, for example, finds that infection rates among soldiers who are based near their wives and homes mirror those of the society at large, meaning they are at about 5 percent. But rates among those deployed for peacekeeping operations in Sierra Leone, Liberia, and the Ivory Coast are up to three

times higher.[68] Nigeria has witnessed a stark increase in "other causes" of non-combat mortality rates in its ranks over the last five years, with 43 percent of that surge ascribed to HIV. The HIV increase is largely seen among soldiers deployed for years to nearby countries as peacekeepers.[69]

In May 2004, the credibility of UN peacekeepers came under fire when it was revealed that Moroccan and Uruguayan soldiers deployed under the UN in war-torn DRC were using their cash and food to coerce Congolese girls as young as thirteen into prostitution.[70] That revelation opened a dreadful window onto the behavior of some of the more than 10,000 peacekeepers based in the DRC, leading to 150 investigations by the end of 2004. Charges include pedophilia, rape, coercive sex, and prostitution.

The Congolese travesty mirrors sexual scandals associated with UN peacekeepers during the 1990s in Cambodia, the Balkans, and Eritrea/Ethiopia, though the scale of such activities in the DRC eclipses prior misconduct.

Clearly, the behavior of UN peacekeepers, particularly those deployed to areas rife with HIV, threatens to spread the pandemic, undermine the credibility of the UN system, and ultimately lessen the capacity of the UN to intervene in conflict-ridden areas of the world. It is, therefore, a threat to global security.

Relationship Between Conflict and HIV

Much of the security literature is saturated with claims that war spreads HIV, and perhaps all diseases. In the case of HIV, however, this does not seem to hold true as a general rule. As the legacies of many countries sadly show (Angola, Namibia, Cambodia, Ethiopia, Nigeria, and South Africa[71]), it is the peace following a long period of war that poses the greatest risk for the spread of HIV. During wartime, civilians either hunker down in their homes, or they flee the war-torn region, joining the ranks of the world's burgeoning refugee populations. Trade comes to a halt, borders lock tight, and social mobility is minimized. An Ethiopian study found no correlation between the deployment of a quarter million troops to fight Eritrea between 2001–2002 and HIV rates in their ranks.[72]

For twenty-seven years, Angola was torn by civil war, which left the now-peaceful nation in shambles. War, however, kept HIV from Angola as most forms of trade and travel, both within the country and across borders, were nearly impossible for three decades. But since the end of the war in 2002, the borders have opened, trade is quickening, and HIV rates in the military are rising. A 2003 survey conducted by the Angolan armed forces in collaboration with the U.S. Department of Defense found that less than 1 percent of soldiers based in the interior of the country were HIV-positive, while soldiers positioned on the borders had prevalences of 6 percent to 11 percent. The overall army prevalence in 2003 was 4.5 percent.[73] It is in the euphoria of peace, with the demobilization of thousands of combatants, return of refugees, opening of borders, and sudden influx of trade, that HIV is spread.[74]

A key exception to this relationship between conflict and HIV is warfare that promotes rape as a weapon, or a "release" for male soldiers.[75] For example, a recent study of women who were raped during the 1994 Rwanda genocide shows that nearly 80 percent of them are today HIV-positive.[76] Similarly, a survey of pregnant women in parts of northern Uganda where, for two decades, the Lord's Resistance Army (LRA) committed atrocities, including rapes, finds female infection rates are double those in the rest of Uganda. The overall infection rate for the DRC seems to have remained at about 5 percent throughout the bloody war and involves combatants from all over Africa.[77] However, infection rates among female child soldiers and rape victims are far higher.[78] Anecdotal evidence compiled by the United Nations Children's Fund (UNICEF) indicates more girls pressed into "service" for the various combatants were raped, and significant numbers of the rape victims are now HIV-positive. In his seminal new book, *Children at War*, P.W. Singer says some 80 percent of recently repatriated female child soldiers in northern Uganda are infected with a sexually transmitted diseases, including HIV, and about half of the rape victims who survived the Sierra Leone civil war are HIV-infected.

The modern HIV pandemic was born from such mass rape, carried out in the early 1970s by Uganda's Idi Amin regime, first against targeted ethnic groups in southern Uganda, and then against women in Tanzania's Bukoba District.[79]

Finally, the uncertainty and fear that pervades regions besieged by conflict promotes a social focus on "today": The future becomes almost unimaginable in a world where land mines and crossfire can snuff out innocent life in an instant. In such an atmosphere, it is almost impossible to give personal priority to a threat that, like HIV, will not manifest itself for a decade. Researchers working in areas of the world that are newly experiencing peace argue this "today" focus persists in societies long after the threat of conflict has dissipated.[80]

Accusation as Weapon

State conflict has ensued from claims of the deliberate spread of HIV. For example, in April 2004, the Indian government charged that "promiscuous Pakistanis" were deliberately spreading HIV in Kashmir as a form of Islamic "jihad terrorism."[81] Also last year, Israeli Defense Forces arrested Rami Hafez Abdullah, charging he was a member of the Palestinian militant group Fatah Tanzim and was planning to mount a suicide attack using a bomb to scatter HIV-infected blood in a crowded area.[82]

Tensions have been very high between Libya and Bulgaria since 1999, when the Libyan government accused five Bulgarian nurses and a Palestinian doctor of deliberately infecting 426 children with HIV. The nurses have been imprisoned for nearly six years, and the Libyan courts sentenced them to death by firing squad in May 2004. The sentencing follows confessions, which Bulgaria, the EU, and the United States insist were extracted under torture. In April 2005, Libya was reported to be considering a trade embargo against Bulgaria, blocking all petroleum exports to that country. Libyan leader Moammar Qaddafi insists that the nurses, acting under orders from the U.S. CIA and Israeli intelligence, injected HIV into the children, who were all in a particular hospital for other health reasons. Bulgaria counters that Libya failed to screen its blood transfusion supply for HIV contamination, and lacks sufficient supplies of sterilized instruments and syringes in its hospitals. Earlier this year, a group of anonymous Libyan physicians posted on the Internet what they claimed was evidence that their government was responsible for the children's infections. Qaddafi has offered Bulgaria a way out of this diplomatic standoff: The nurses will be freed if the Bulgarian government pays to the families of the 426 children as much money ($2.7 billion) as Libya paid the victims of the 1988 plane bombing over Lockerbie, Scotland, which was allegedly committed by Libyan secret service agents.[83]

As these cases illustrate, HIV can be used as an instrument of terror or diplomatic stand-off, even without evidence. The extraordinary stigma attached to HIV, a sexually transmitted virus, guarantees it will continue to carry special weight in battles of words, minds, and political power.

Verification

The use of so-called DNA fingerprinting has revolutionized forensic investigations in the wealthy world, offering investigators a reliable way to trace criminals and exonerate false suspects. In a security context, verification is a vital tool that can both dissuade false accusations and identify genuine culprits. Refinements in the analysis of HIV strains, samples of which are banked at the Los Alamos National Laboratory, now allow scientists to identify changes in the evolution of the virus, dating back to the earliest sample found in blood stored in the Congo in 1959.

Scientists divide all known HIV strains into three groups, with all the pandemic strains lumped into one group, dubbed M for Main, and subdivided further into 10 sub-groups, or clades, designated A thru H, and J and K. HIV is a rapidly mutating and adaptable virus, so there is nothing stagnant about these clades: They are in states of constant evolution. It is, therefore, possible to follow the viruses' evolutionary trajectories, identifying which viral subtype spawned which other forms of HIV. In recent years, so-called recombinant strains have emerged, representing mixes of two or more clades. These might be designated recombinant A/E, indicating the HIV strain probably resulted from a person being infected with two different kinds of HIV, which then mixed genetically to spawn a new—recombined—viral strain.

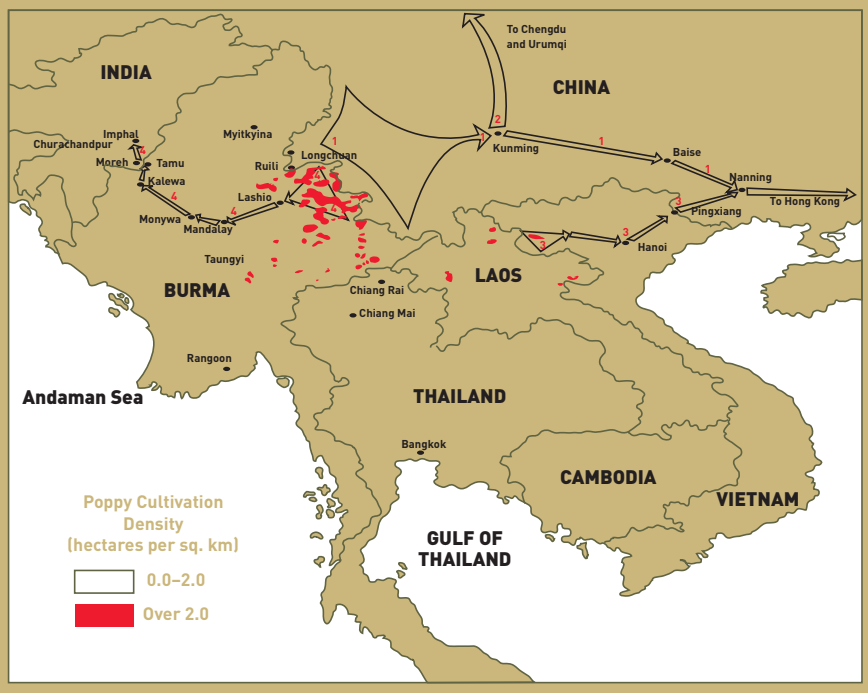
Scientists have so refined this technology that they can now, in many cases, pinpoint not only the evolutionary trajectories of various HIV strains and clades, but also show how these strains are moving around the world.[84]

Were the Libyan government willing to comply, a study of the HIV strains found in the 426 infected children might offer proof of their origin. If the strains differ markedly from variants found in Bulgaria, Libyan officials would need to explain from whence the nurses allegedly obtained the viruses they are purported to have injected into the children. If the strains match those found in 1997–98 blood supplies in Libya, this would constitute significant evidence that lack of sterile practices and blood screening inside Libya's healthcare system were responsible.

Using these genetic techniques, researchers have proven that the rapidly growing HIV epidemic in the former Soviet Union—particularly Russia, Ukraine, and the Baltic states—is very new and is being spread by a direct-injection method that minimizes mutation of the virus. Nearly all of the HIV viruses circulating in that region are of the A clade, closely match one another genetically, were introduced into the area in 1996–97, and are being spread through injection by drug users. There is no molecular evidence indicating that new forms of HIV are getting into the region from outside. Nor is there significant evidence of accelerated genetic divergence of HIV caused by widespread sexual transmission of the virus (sexually transmitted viruses must mutate and adapt in order to get through the protective mucosa of the genitals).

From a verification point of view, the HIV epidemic in the former Soviet states is a domestic crisis that may well pose security threats to the region, but cannot be ascribed to outside forces.

In contrast, the molecular evidence paints a very different picture for Asia, where several different clades, and unique recombinations of those clades, are now in circulation in an area spanning from eastern India to southern Vietnam. Several research teams have proven that these various HIV strains can be tracked along four major routes, all originating in Burma. One B/C recombined HIV type can be found along a route from the forest regions of eastern Burma, spreading up into Yunnan, China. A second unique B/C recombinant strain follows the same route, and continues up to Xinjiang, China. A third E-type of HIV follows a path from Burma, through Laos, to northern Vietnam, and Guanxi, China. And a fourth group of three clades and a B/C recombinant travel from western Burma to Manipur, India.[85]



Opium flows in southern Asia, according to the UN Office on Drugs and Crime.

Source: UN Office on Drugs and Crime.

Surveys conducted at significant risk inside Burma show that these various types of HIV are concentrated in key population groups in the country, with the highest infection rates seen in prostitutes (about half of whom are infected) and heroin users (with infection rates as high as 77 percent in northern Burma). The HIV cases and the specific HIV subtypes cluster in opium poppy-growing regions and then travel along heroin-smuggling routes across Asia.[86] Burma (also known as Myanmar) is a failed state, rife with civil war, and rival gangs of drug, gem, and sex-slave smugglers. It ranked as the world's top opium producer until 2003, when Afghanistan eclipsed Burmese production levels. And, along the heroin routes, it may be the greatest contributor of new types of HIV in the world.[87] Only one outbreak of HIV in a region spanning from Kazakhstan to southern Vietnam has a genetic fingerprint pointing to an origin outside of Burma, namely the Henan, China, outbreak that is linked to illegal blood sales and transfusion practices.

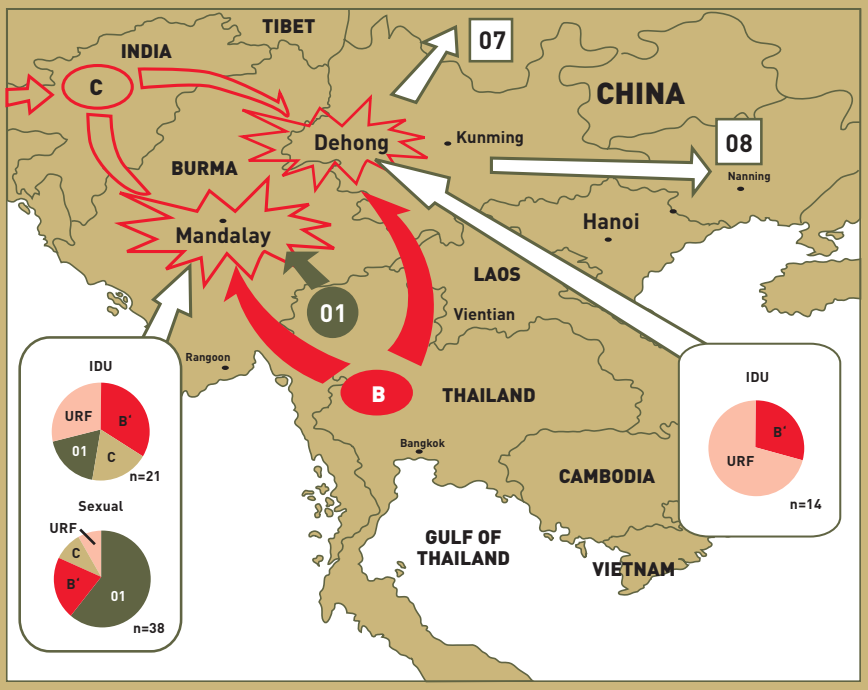
Movement of HIV in Asia[88]

- Route 1: Eastern Burma to Yunnan Province, with initial spread of subtype B, C, later CRF07_BC, CRF08_B/C
- Route 2: Eastern Burma to Yunnan, north and west to Xinjiang, CRF07_BC
- Route 3: Burma and Laos, through north Vietnam to Guangxi, subtype E
- Route 4: Western Burma, India-Burma border to Manipur, subtypes C, B, E, B/C recombinants

Source: C. Beyrer, "Overland heroin trafficking routes and HIV spread in South and Southeast Asia."

The genetic HIV evidence is a smoking gun, fingering Burma. The Burmese HIV contribution to much of Asia poses a clear security threat to the region.[89]

Geographical hotspots of extensive HIV-1 inter-subtype recombination in Asia



HIV strains and genetically recombined forms of the virus move in and out of Burma along heroin- and opium-trafficking routes. The various clade types of HIV and unknown recombined forms (URF) are concentrated among the country's IV-drug users and prostitutes.

Source: Yutaka Takebe et al., "High prevalence of diverse forms of HIV-1 intersubtype recombinants in Central Myanmar: Geographical hot spots of extensive recombination," *AIDS*, 17, 2003, pp. 2077–87.

Ten years ago, an American research team used genetic fingerprinting to prove that Uruguayan members of the UN peacekeeping force stationed in Cambodia acquired a unique A/E recombinant form of the virus, and then passed it along upon return to Uruguay. This verified that the Uruguayan peacekeepers were engaged in misconduct in Cambodia, and presented concern for the security of their home nation upon their return. Similarly, about 5 percent of infected U.S. military personnel have forms of the virus not typically found in America. These soldiers and sailors were deployed overseas, particularly in peacekeeping operations.[90]

Africa's epidemic is more difficult to track genetically because it is much older, and an enormous diversity of clades and recombinants are in circulation. The most perplexing situation is that of the DRC, where war has

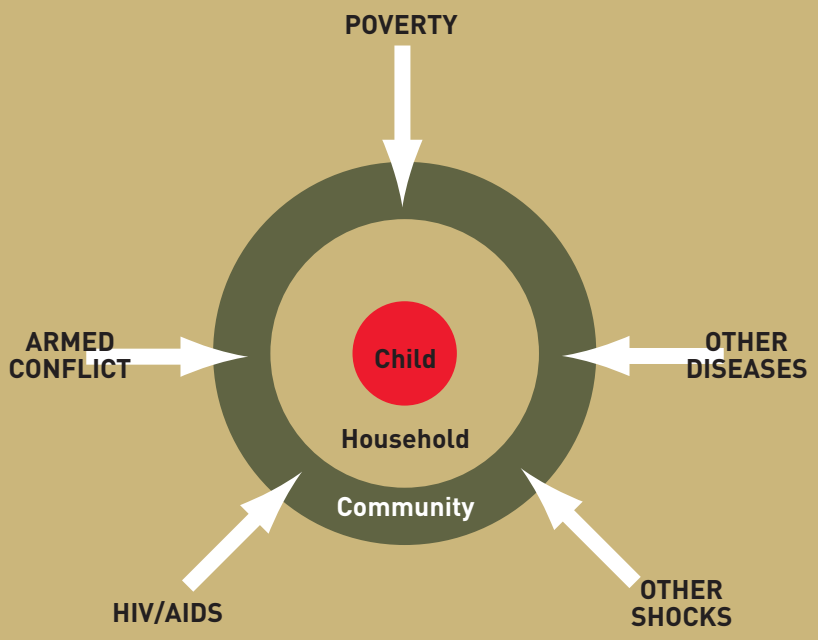
raged for years, engaging military forces from all over the continent and peacekeepers drawn from the world at large. Scientists say it is much too dangerous for them to work in the DRC, so samples of HIV strains are not readily available. Still, the DRC is known to be a mixing pot for HIV, with dozens of unique forms of the virus circulating in the vast nation.[91] And, as was the case a decade ago with peacekeepers in Cambodia, genetic analysis of HIV strains found among the soldiers working in the DRC under the blue UN flag could offer irrefutable evidence of their misconduct. Further, using such genetic fingerprinting might well dissuade future misconduct among UN peacekeepers, as the potential of being caught and punished would clearly loom.

The use of HIV genetics as a form of verification, or to track the spread of HIV, is currently limited by the way blood samples are collected from infected people around the world. Most sampling is done by scientists who are seeking to answer different questions, and the researchers who actually perform genetic studies are not usually the same individuals that collect samples. Funding should be made available to support targeted collection and analysis of samples. Scientists engaged in such efforts would require protection—such as that currently provided for UN weapons inspectors—as the regions most likely responsible for promulgating and spreading new forms of HIV tend to be among the world's top danger zones.

There would be an added benefit to targeting funding to such efforts: Understanding the overall evolution of HIV. The virus mutates at a very high rate, and since its emergence into human beings several decades ago, HIV has burst outwards in a virtual dandelion of genetic branches. At this time, no scientist can say where this evolution is headed, or what new attributes the virus might one day acquire. The virus' evolution bears close scrutiny.

Social Instability: Security and Afflicted States

HIV/AIDS is only one of the major causes of child vulnerability



The impact of HIV is felt alongside an array of pressures on highly afflicted states, leading not only to adult deaths from AIDS, but elevated mortality in their families and children.

Source: U.S. Agency for International Development.

The discussions above already defined the uniformed services and verification issues pertinent to territorial integrity and national sovereignty, relevant to both countries with large epidemics and those less afflicted by the pandemic. Political threats to endemic states might best be characterized as questions of internal stability. Many nations have responded to HIV with this concern chiefly in mind, prompting actions that were directed not against the virus, but the people infected with HIV. Over the last two decades, this has resulted in numerous egregious violations of the personal, civil, and community rights of both the people who were living with HIV and their families and colleagues.

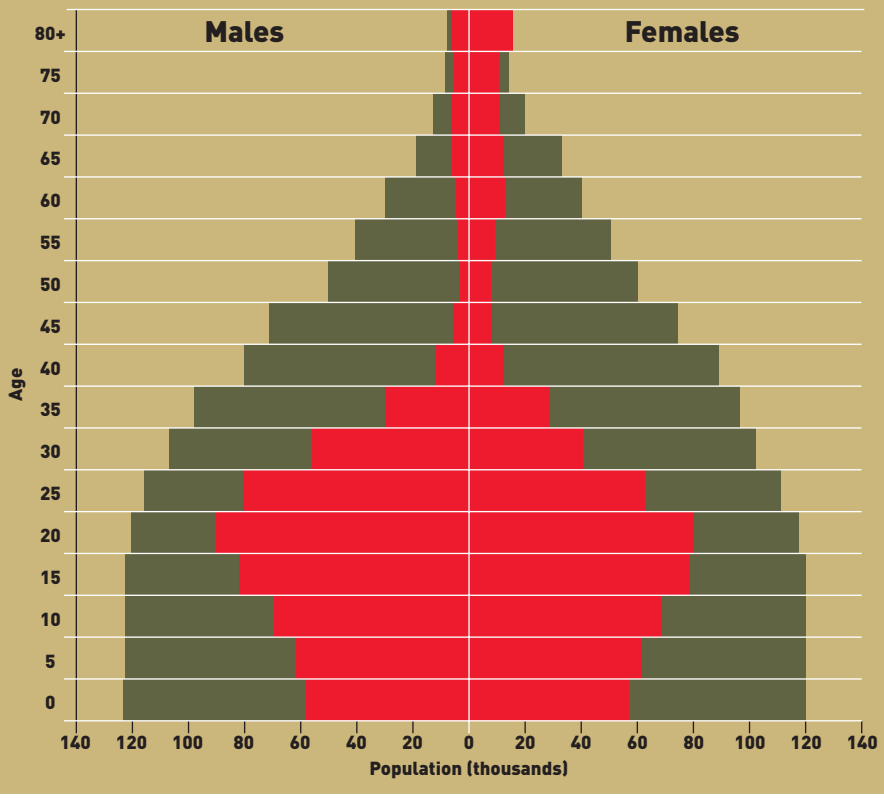
In many countries today, AIDS activists continue to be treated as threats to the state, facing imprisonment and social isolation. Merely drawing attention to the existence of AIDS has been considered a threat to national security. For example, when word leaked to the international media of blood donors suffering from AIDS in China's Henan province, the primary concern expressed by Chinese leaders was best summarized by Deputy Minister of Health Yin Dakui in a 2001 statement that leaders "are worried that, once the problem is revealed, it will harm their social and economic development." When, subsequently, the Pandora's Box of Henan's AIDS outbreak was opened, concern about stability shifted to fear for the political survival of the province's Communist Party leadership.[92]

Because of this type of legacy, there is an understandable reluctance within the community of AIDS-related organizations and patient representatives to label any aspect of the epidemic a "security threat." As vital as the human rights agenda is in the HIV pandemic, however, it ought not be permitted to befuddle attention to security.

The most obvious political dimension of security is in regard to the lives of nations' leaders, as parliamentarians, cabinet members, ministers, and military leaders succumb to AIDS. These cases are usually left unacknowledged—the deceased are listed as victims of tuberculosis, "prolonged illness," or other diagnoses that avoid the stigmatization of AIDS. To date, no head of state has officially been designated an AIDS death. Nevertheless, AIDS is taking its toll in the ranks of politicians, depleting nations of seasoned leaders and institutional memories. For example, between 1964 and 1984, Zambia held fourteen by-elections for reason of the deaths of incumbents (and thirty-two for other political reasons). In 1984, Zambia officially noted its first AIDS case, and between that time and 2003, the number of necessary by-elections soared to 102; thirty-nine of them due to the death of an incumbent.[93] Each of these special elections represented the loss of political experience and enormous monetary expense to the government. The Institute for Democracy in South Africa has published long lists of similar figures for countries all over sub-Saharan Africa.[94]

The civil service ranks are also being thinned, rendering some previously rocky bureaucracies marginally functional. Surviving civil servants are likely to suffer frequent absenteeism due to funerals and the exigencies of caring for relatives, or rearing the children of deceased family members.[95] UNAIDS has documented the steady erosion of key civil service sectors in sub-Saharan Africa in numerous publications from the agency, especially noting the depleted ranks of teachers, hospital workers, and finance agency employees.

Projected Population Structure of Botswana in 2020 with and without AIDS



Many highly afflicted states are experiencing the so-called chimney effect. In the green is the projected demographic distribution of the population in the absence of HIV. The red depicts the society's demographic distribution with HIV. The "chimney" can be seen in the dramatic narrowing in the ages 35–55 years. The "youth bulge" can be seen in the ages 10–29 years.

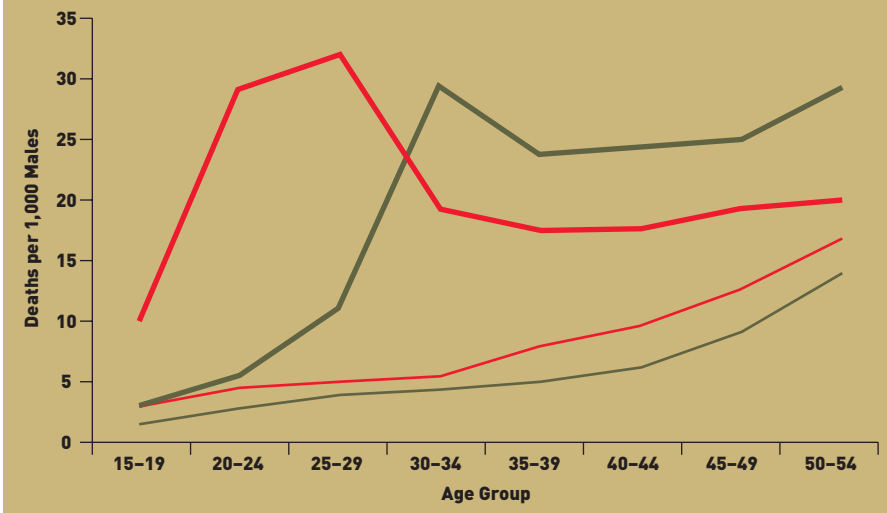
Source: U.S. Census Bureau demographic estimates and projections, 2002.

In the long run, the most profound challenge to state stability will probably be the result of the same demographic change produced by the fourteenth century Black Death: the "chimney effect." Because HIV is a sexually transmitted disease, it is taking its greatest tolls among men and women aged twenty to fifty years, carving out the lives of nations' productive labor forces, parents, leaders, and trained professionals. The older dependent population remains comparatively intact. And below age twenty, there is the youth bulge. Children and adolescents outnumber adults. Overall life expectancy rolls backwards. And an increasing percentage of the youth bulge consists of orphans who have lost one or both parents to HIV.

In a 2003 speech, Secretary of State Collin Powell gave his opinion of how HIV is reshaping the demographies of hard-hit countries: "It's a foreign policy issue not just because of this statistic dealing with loss of life. It's loss of hope, it's the destruction…of whole families where you have generations wiped out. And the generation that's most critical is the middle generation…. In the absence of that generation, wealth is lost to the country, hope is lost, families are broken, and orphans are created. It is every bit as much a crisis as Iraq or any other crisis that you might choose to point out. President Bush understood this clearly."[96]

In 2004, South Africa lost 100,000 more people to HIV than the total still missing or known to have died in the December 26, 2004, Indian Ocean earthquake and tsunami.[97]

Male Death Rates:
France in World War II versus Zimbabwe today



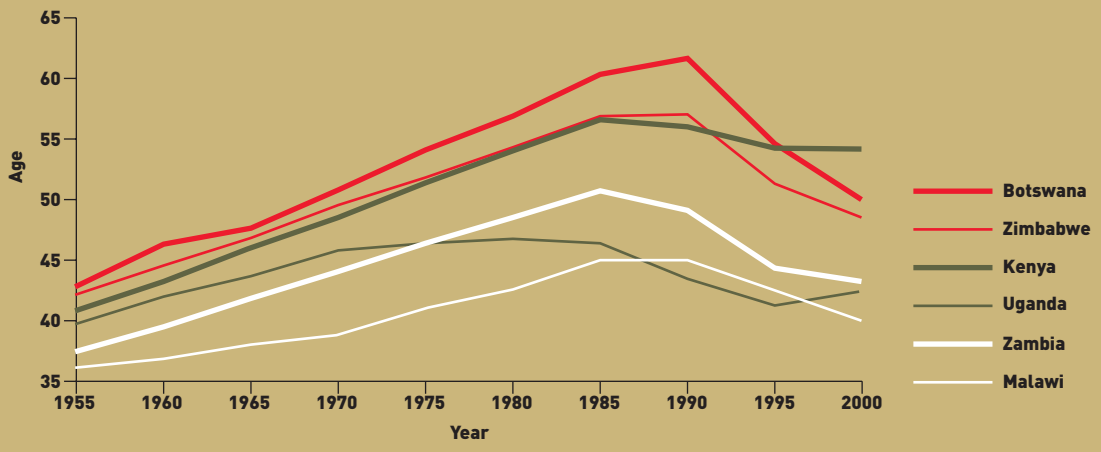
Male mortality in France before, and during, WWII showed a dramatic loss of young men aged 19–28 years amid the war. HIV has wrought a similarly dramatic death toll on Zimbabwean men, though in the 29–54 year age group.

France 1939
France 1944
Zimbabwe 1986
Zimbabwe 1997

Sources: Nicholas Eberstadt, Experts' Study Group on HIV and National Security, July 28–29, 2004. Council on Foreign Relations. With permission from author.

Nicholas Eberstadt, a scholar at the American Enterprise Institute, argues that declining life expectancy constitutes one of the most important threats to the security of hard-hit countries, as it is a marker of diminishing state capacity. He offers a comparison of male deaths in France prior to, and during World War II, to male deaths in Zimbabwe before widespread HIV infection, and in 1997, when AIDS was beginning to claim significant death tolls. When comparing age groups, death distributions in pre-war France and pre-AIDS Zimbabwe tracked in parallel. At the peak of WWII, in contrast, France's males aged fifteen to twenty-five suffered a tremendous death toll. In 1997, Zimbabwe death rates in males under twenty-five exceeded the country's pre-AIDS rates, but only slightly. Death rates among men and women aged twenty-nine to fifty-four, however, soared, and surpassed French World War II deaths.[98]

Projected Life Expectancy at Birth
Selected sub-Saharan Countries



Source: *World Population Prospects: The 1996 revision.* United Nations Population Division, 1996.

According to the U.S. Census Bureau, forty nations will have declining life expectancies by 2010; in thirty-five of them, HIV will be the primary cause. Twenty-five sub-Saharan African nations will have significantly reduced life expectancies, compared to their 1990 levels. Eight Caribbean nations and seven members of the CIS will also see their life expectancies fall, compared to 1990 levels, some of them due to AIDS. It may not always be possible to tease the impact of HIV out from the toll taken by its companions: tuberculosis, malaria, and general poverty. But it is noteworthy that the key reversals seen in Africa commenced between 1985–90, when the first great wave of HIV swept through the region.[99]

Countries facing long-term decline in life expectancy at birth (1990 vs. 2010): U.S. Census Bureau Current Projections

SUB-SAHARAN AFRICA	ANGOLA	BENIN	BOTSWANA	BURKINA FASO	CAMEROON	CENTRAL AFRICAN REPUBLIC	CONGO	IVORY COAST	DJIBOUTI
1990	36.7	49.1	63.8	46.8	50.1	48.5	52.6	47	43.8
2010	35	47.9	26.7	43.5	47.9	41	47	41.7	43.4

SUB-SAHARAN AFRICA	ERITREA	ETHIOPIA	GABON	GHANA	KENYA	LESOTHO	MALAWI	MOZAMBIQUE	NAMIBIA
1990	51.8	45.6	58.1	56.3	53.1	44.5	43.3	45.2	60.6
2010	48.9	40	52.9	55.6	43.6	36.5	36.9	32.4	33.8

SUB-SAHARAN AFRICA	NIGERIA	RWANDA	SO. AFRICA	SWAZILAND	TANZANIA	TOGO	ZAMBIA	ZIMBABWE
1990	52.6	46.2	62.8	65.1	49.9	56.6	39.4	60.6
2010	47.3	38.7	36.5	33	44.6	50.7	34.4	34.6

LATIN AMERICA AND THE CARIBBEAN	THE BAHAMAS	BARBADOS	DOMINICAN REPUBLIC	GRENADA	GUYANA	HONDURAS	PANAMA	TRINIDAD & TOBAGO
1990	67.2	73.1	70	66.9	64.5	67.5	72.9	69.6
2010	65.8	71.2	66.7	66.3	57.1	62.2	72.1	64.5

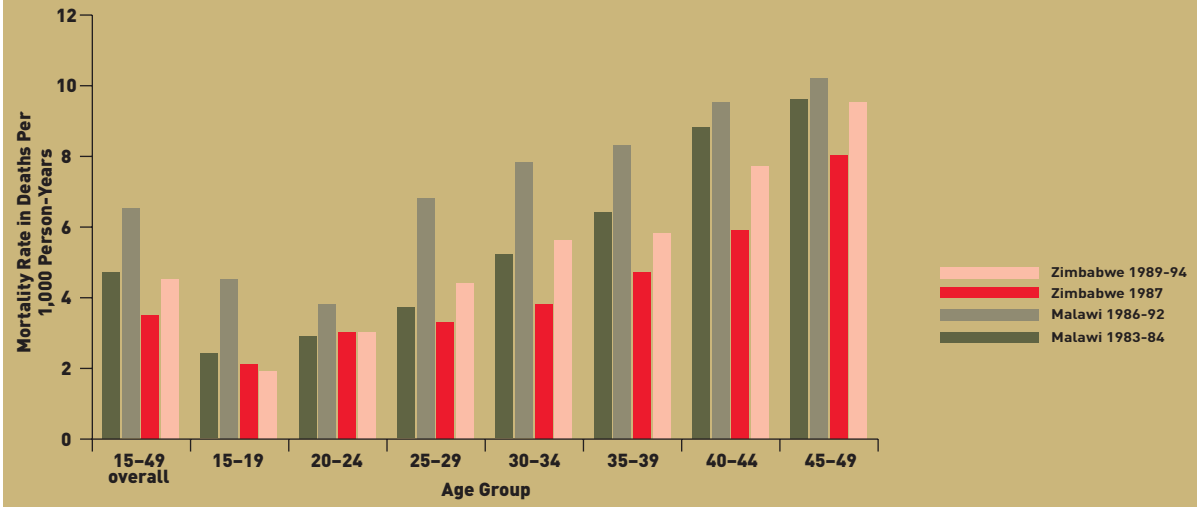
COMMONWEATH OF INDEPENDENT STATES	AZERBAIJAN	BELARUS	RUSSIA	TAJIKISTAN	TURKMENISTAN	UKRAINE	UZBEKISTAN
1990	68.4	70.9	68.5	67.2	64.7	69.7	67.4
2010	66	70.6	68.3	66.5	63.7	68.5	66.2

OCEANIA	NAURU
1990	66.7
2010	64.6

Source: U.S. Census Bureau, International Data Base, http://www.census.gov/cgi-bin/ipc/agggen.

In Malawi, for example, life expectancy by 2000 had fallen to the country's 1969 level, essentially reversing thirty years' worth of development investment. Zimbabwe has witnessed a dramatic reversal in life expectancy: A child born in the country in 1970 faced an average life expectancy of fifty-six years. By 2002, that life expectancy had fallen to a grim thirty-three years, a loss of twenty-three years. In the same period, also largely due to HIV/AIDS, Zambia lost 32.4 years of life expectancy; Botswana sixteen years; and Lesotho lost 14.4 years. Such declines, in the absence of war, are unprecedented in human history. Only the post–Cold War declines in male life expectancies in the former Soviet Union nations can compare.

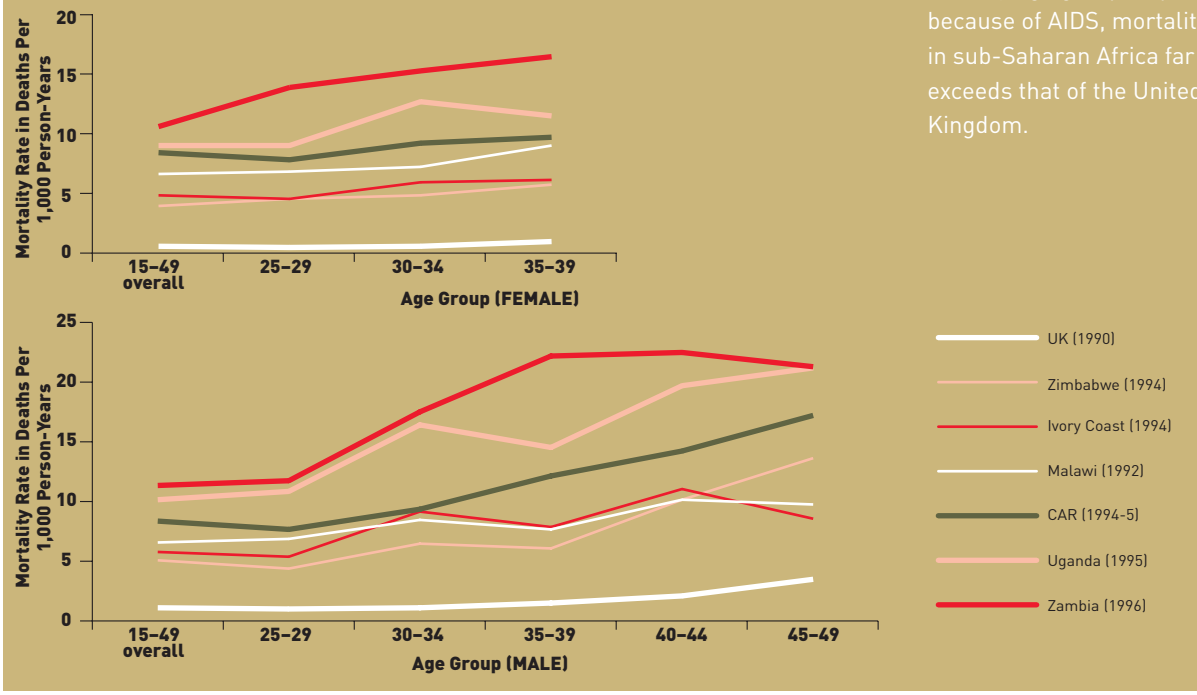
Mortality, Before and During the AIDS Epidemic



Source: Bicego, G., *Health Transition Review,* Suppl. 2 to Vol. 7, 1997, pp. 7–22.

The Mortality Gap

In every age group, in part because of AIDS, mortality in sub-Saharan Africa far exceeds that of the United Kingdom.



Source: Bicego, G., *Health Transition Review,* Suppl. 2 to Vol. 7, 1997, pp. 7–22.

The epidemic has also reversed gains made in infant and child mortality in many countries, according to the U.S. Census Bureau. By 2002, for example, infant mortality in Haiti had increased by 6.2 percent due to HIV; mortality rates for children under five years old had jumped 10.5 percent. In South Africa, infant mortality increased 20.6 percent; child mortality, 35.9 percent. And in hardest-hit Botswana, those mortality figures soared by 44.8 percent for infants; 76.5 percent for children under five. Few of these babies and toddlers have died of HIV infection; rather, they have suffered from a host of poverty-related illnesses and deprivations due to the loss of their parents, or family impoverishment by AIDS.

INCREASES IN UNDER 5-YEAR-OLD CHILD, AND INFANT, MORTALITY DUE TO AIDS 2002

Country	% Increase Infant	% Increase Child
Botswana	44.8	76.5
Ethiopia	12.2	20
Malawi	18.9	29.7
So. Africa	20.6	35.9
Haiti	6.2	10.5
Cambodia	3.8	7.0

Source: Karen Stanecki, U.S. Census Bureau, 2002.

As horrible as those numbers are, the Census Bureau forecasts much worse outcomes for 2012 for the African countries, with South African infant mortality jumping by 33.7 percent due to HIV, and child mortality by 57 percent. In Botswana, those hideous figures display a 58.8 percent increase for infant mortality and a 100.1 percent increase for children.

INCREASES IN UNDER 5-YEAR-OLD CHILD, AND INFANT, MORTALITY DUE TO AIDS 2012

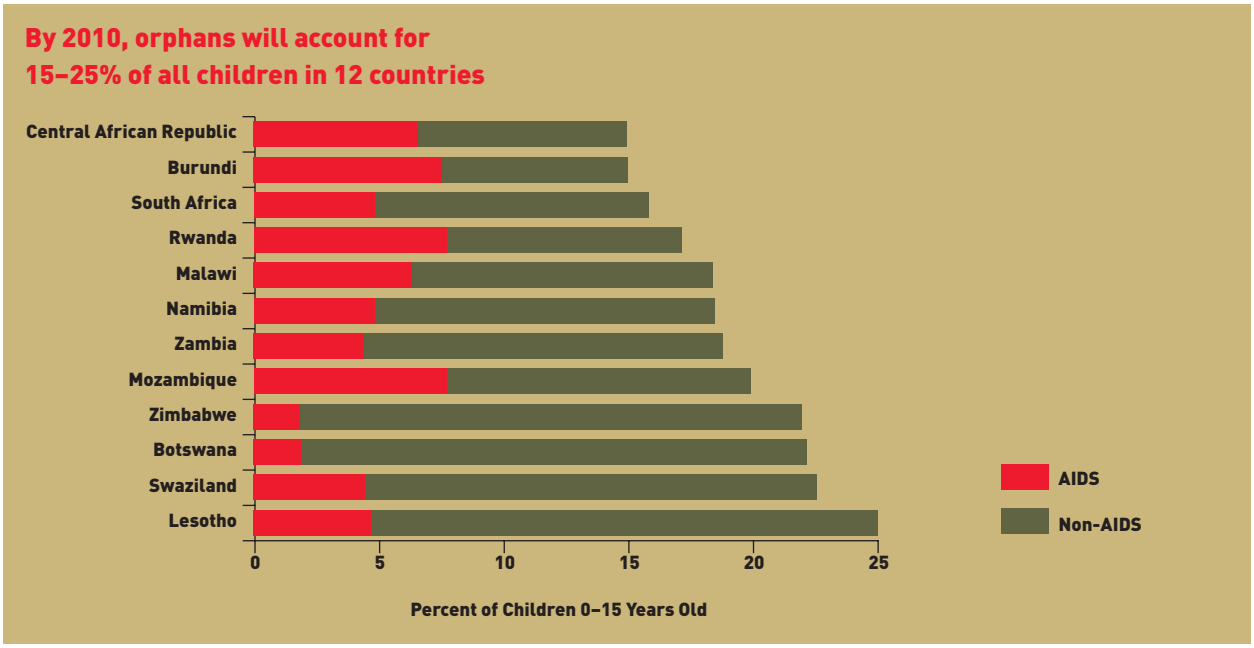
Country	% Increase Infant	% Increase Child
Botswana	58.8	100.1
Ethiopia	16.9	27.5
Malawi	24.7	57.0
So. Africa	33.7	57.0
Haiti	6.6	11.3
Cambodia	3.4	6.0

Source: Karen Stanecki, U.S. Census Bureau, 2002.

In nations that have completed at least one significant wave of the pandemic, the HIV tsunami has already left in its wake 15 million orphans, and will have generated by some estimates 40 million to 45 million children who have lost one or both of their parents to the disease by 2010.[100] In poor countries, where even before the

pandemic millions of children lost at least one parent before reaching adulthood, there has been a net increase in the percentage of children who are orphans, with the bulk of them so-called AIDS orphans—a phrase human rights advocates abhor on the grounds that it stigmatizes these children.

For example, in 1990, only 7 percent of all children in Botswana were orphans, but by 2003, one out of five children in the country were orphans and 77 percent of all orphans had lost one or both parents to HIV. The government reckons that by 2010, one out of four children will be orphans. Even in South Africa, where the epidemic is newer than in Botswana and claims about half as much of the population percentage, the number of orphans is soaring. In 1990, about one out of ten South African children were orphans: Today, that number tops 13 percent, and by 2010, about one out of five children will be orphans. In 2003, about half of South Africa's orphans had lost a parent to HIV, according to the UN Development Programme (UNDP).[101]



Source: UNAIDS/UNICEF, *Children on the Brink,* 2003.

Recalling the astounding impact the chimney effect and orphans burden had on Europe following the Black Death, it seems fair to assume sub-Saharan Africa and, in the more distant future, pockets of Asia and the CIS will reel from this demographic assault.[102] Most of the countries now slammed by HIV already had youth bulges before the virus arrived, meaning a disproportionate percentage of the population were adults aged fifteen to twenty-nine years, and children. HIV is pushing exaggeration of the youth-bulge effect on these societies, especially among adolescent age groups.[103] In 1975, only seventeen countries in the world had youth bulges so severe that more than half their population fell in the fifteen to twenty-nine years old adult bracket. Today, thirty-seven countries have such severe distributions, nearly all of them in sub-Saharan Africa. Several studies show that countries that had such radically large youth bulges in 1990–2000 were three times more likely to suffer civil wars, coups, or armed insurrections.[104]

Population Action International recently identified a pattern of instability associated with such radical changes in societies, published in *The Security Demographic: Population and Civil Conflict After the Cold War.*[105] They argue that no single demographic change, no matter how radical it may be, has proven responsible in the post–Cold War world for destabilizing countries or regions. Rather, it is various combinations of three key population issues and their relative severity that predicts instability: a youth bulge, rapid urbanization into under-

developed cities, and poor crop and/or fresh water production. In most populations, all three of these potential stressors are becoming less dangerous, thanks to economic improvements and the strengthening of civil societies. But in the poorest parts of the world, the reverse is the case: All of the stressors are becoming increasingly pronounced. HIV's chief impact on domestic and regional security in these areas, then, is as a contributor to the already deeply challenged social dynamic.

A survey of child soldiers conducted in 2002 by the International Save the Children Alliance in the DRC, Sudan, and Colombia found that most of the youngsters successfully recruited came from impoverished households headed either by another child or a single mother.[106] The vast majority of the child soldiers were either abandoned by their parents or orphaned. Development expert Anthony Stahelski has surveyed the backgrounds of individuals involved in such terrorist groups as the Bader Meinhoff Gang of Germany, Italy's Red Brigades, and more recent groups associated with hijackings and terrorism. The vast majority of the participants in such groups, he argues, come from homes in which they were either abandoned or orphaned by loss of a father figure. He argues that many of these individuals joined their respective group in search of a substitute family.[107]

There is considerable debate regarding the coping mechanisms of the current flood of AIDS orphans and their likelihood of being forced into lives of deprivation, even crime.[108] Geoff Foster and his colleagues in Zimbabwe, for example, insist that extended family mechanisms in that country have largely succeeded in absorbing orphaned children, and studies in several other countries suggest that older children are managing to raise siblings in parentless households without resorting to criminal activities.[109] But Kalanidhi Subbarao and World Bank colleagues have shown that the orphan crisis has created a massive shock to the economies in hard-hit communities. For example, five years ago, 27 percent of families in Uganda were fostering orphaned children, causing a reduction in household savings and investment of 33 percent. The Bank estimates the orphan burden in Burundi and Uganda is costing the countries 2.5 percent of their GDP growth annually. Were governments in poor countries to offer children orphaned by HIV direct subsidies, the impact would lead to bankruptcy. For example, the Bank group found that a modest subsidy of ten cents a day for each child orphaned by AIDS in Malawi would cost the government 6 percent of total GDP annually.[110]

Prostitution is criminal activity in most countries, and there is striking evidence that orphaned girls as young as ten or eleven years are being forced by adult caretakers into lives of prostitution. Often described as a "victimless crime," prostitution is overlooked in many databases on the fate of children orphaned by HIV, but it is apparent that these girls are, themselves, the victims, as they are compelled into sexual activity with adult men, in many cases two or three decades their seniors, and are more likely to become HIV-positive than their non-orphan peers.[111] A UNICEF study in Zimbabwe, for example, finds orphaned girls are three times more likely to be infected with HIV than age-matched non-orphans.[112] If any crime has increased as a direct result of AIDS orphaning, it is adult male predatory sexual activity directed at pre-adolescent and teenage girls.[113]

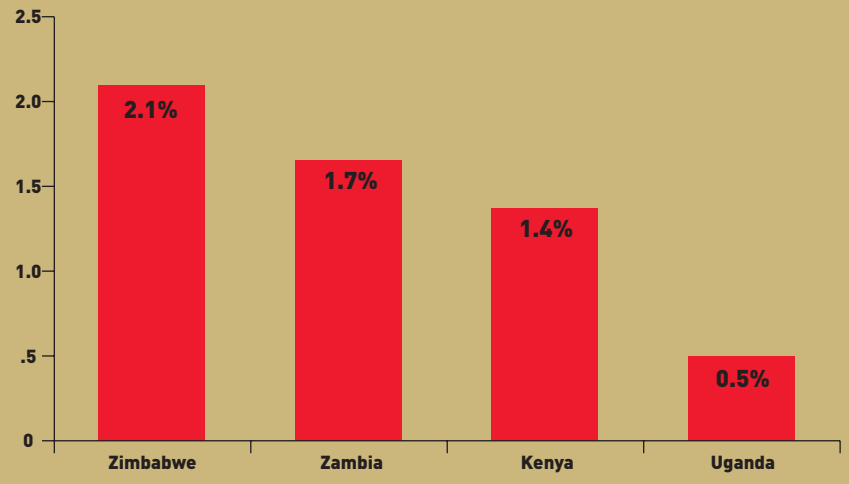
A dramatic demographic bulge in the child and adolescent populations of societies need not directly contribute terrorist operatives or child soldiers to the world in order to represent a challenge to local stability.[114] In the absence of sufficient parents, teachers, and productive labor force to feed, educate, protect, and guide youngsters, their sheer numbers may prove overwhelming for forces of social order and civil society, particularly if those forces are also stressed by food shortages and rapid urbanization.[115] In 2002, the UN's Food and Agriculture Organization (FAO) estimated AIDS had cumulatively claimed the lives of seven million agricultural workers, nearly all of them in Africa.[116]

The 2002 drought across much of southern Africa brought on a famine that was, according to numerous studies,[117] grossly exacerbated by the HIV pandemic, as families and villages were less able to cope. The concept of "new variant famine," widely used to describe this link between drought, HIV, and starvation, has recently received a skeptical reappraisal.[118] Some studies show, however, that families hard-hit by AIDS tend to grow crops closer to home and to focus on those that require the least physical exertion to cultivate and reap.[119] Summarizing the impact of HIV on Zimbabwe's agriculture and economy, the country's minister for public service, labor, and social welfare said, in 2004, "there is no doubt that the economic hardships, high poverty levels, and the HIV and AIDS epidemic are reinforcing each other. The HIV, AIDS, and poverty nexus therefore remains the greatest development challenge."[120]

UNAIDS Programme Executive Director Peter Piot added, "The majority of African countries worst-hit by HIV/AIDS are also those heavily reliant on agriculture. For many rural households in these countries, AIDS has turned what used to be a food shortage into a food crisis."[121] The World Food Program and the UN secretary-general's special envoy for humanitarian needs in southern Africa also ascribe the incapacity to cope with droughts across southern Africa in 2005 to the region's HIV/AIDS epidemic.

AIDS and Supply of Teachers[122]

Annual average percentage of teachers who will die from AIDS, 2000–2010.



Source: World Bank/UNAIDS, *Modeling the Impact of HIV/AIDS on Education Systems,* 2002.

By the end of 2006, at least eleven African countries will have lost in excess of 10 percent of their work forces due to AIDS, an astounding figure that implies stark economic consequences.[123] The economic impact of HIV on hard-hit societies would seem intuitively obvious, until the South African paradox is revealed. Despite having about one out of every four adults aged fifteen to forty-nine infected with HIV, a rising death toll, and no real access to life-sparing anti-HIV drugs, the economy of that nation is booming. The Bureau for Economic Research at Stellenbosch University estimates that HIV has diminished the country's GDP by only 0.3 percent—a sum more than offset by growth in the service and industrial sectors. South Africa has had high unemployment for decades, and the government of Thabo Mbeki has not generated significant numbers of jobs. It would seem, then, that the people worst afflicted with HIV, and the unemployed, are not key to South Africa's economic vitality. This similar, and troubling, paradigm may hold true across several HIV-afflicted areas.

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In contrast, in 2002, President Yoweri Museveni announced that AIDS and malaria cost Uganda more than a billion dollars annually, or one-sixth of its GDP. The AIDS-specific cost to Uganda was pegged at $702 million per year.[124]

The World Bank's 2005 Global Economic Forecast predicts sub-Saharan Africa will have a net per capita GDP growth of 1.6 percent between 2006 and 2015, versus a world growth GDP of 2.1 percent. And over the same time period, the number of people living in acute poverty, on less than one dollar a day, will increase from 227 million in 1990 to 340 million in 2015. The number of people in the region living on less than two dollars a day will also increase substantially. The overall picture painted by numerous forecasters is of a world in which the disparities between rich and poor magnify, both within countries and between regions of the world, resulting in a steady increase in the numbers of desperately impoverished people in the world.[125]

A consortium of analysts from UNAIDS, the World Bank, the UNDP, and Royal Dutch/Shell recently published *AIDS in Africa: Three Scenarios to 2025,* offering grim forecasts for the continent's epidemic. In a best-case scenario, in which external donors provide massive resources, afflicted countries radically restructure not only health programs, but their entire development apparatuses, and 70 percent of those who need it receive anti-HIV drug treatment, state security in the region is stable, economies avoid downward spirals, and 43 million would-be AIDS cases are averted. In a worst-case scenario, most African governments resist fundamental structural change, external donor support stagnates at current levels, fewer than 20 percent of those who need it receive AIDS treatment, and the outcome is dire. Life expectancies continue to plummet, economies tailspin and cannot recover, government institutions are overwhelmed, and much of the region becomes unstable.[126]

That HIV is hitting hardest in precisely the same areas most afflicted by dire poverty may make it impossible to observe direct disease impact on most local and regional economies.[127] Nevertheless, the pandemic is now, and it will be to a greater degree in the future, pouring salt on economic wounds and exacerbating widening chasms in wealth and food security.[128] Further, HIV's presence dissuades outside investment, as few companies are interested in building operations in a region where labor productivity and costs are so dramatically affected by disease and death.[129]

The Threats to Relatively Less-afflicted States

The Canadian-owned Placer Dome mining corporation is finding it more costly and difficult to extract gold from the lodes of South Africa. Economic analysis shows that if the company simply continues business as usual, the cost of gold production will increase over the next five years by $10 an ounce. If, in contrast, the company spends money to put its HIV-infected workers on anti-viral drugs, the future cost of gold will rise by $3 an ounce. Overall mining costs in South Africa, alone, will increase by $250 million over the next five years due to HIV, according to the country's mining trade groups. Whether or not mining companies offer treatment to their employees, their industry is hardest-hit by HIV: The undiscounted cost of prevalent infections in 2006 is forecast to hit 18.1 percent of payroll costs.[130]

In 2001, the International Crisis Group predicted that HIV will severely reduce access to key resources in Africa: petroleum, gold, diamonds, uranium, platinum, cobalt, and copper. Russia is already experiencing serious labor shortages in its mining and petroleum sectors, which are expected to be exacerbated by its rapidly shrinking population size and reduced male life expectancy, some of it due to HIV/AIDS. In Africa, mining and natural resources constitute highly significant contributions to national GDPs and foreign exchange—as much as half of a country's GDP in some cases.[131]

The NIC estimates that U.S. shifts away from strategic dependency on Middle Eastern oil supplies will elevate the importance of African petroleum, with perhaps a quarter of all oil entering the U.S. market by 2015 coming from Angola, Nigeria, Congo-Brazzaville, Gabon, Cameroon, and Equatorial Guinea.[132] Gulf of Guinea oil supplies, estimated to equal 1.8 billion barrels, have become of such strategic importance that consumer nations, including the United States and China, are worried about the complex disputes in the region over maritime boundaries and security. The gulf is already an area rife with piracy and maritime dispute.[133]

Genuine security concerns related to HIV have come from many other quarters. For example, when al-Qaeda operatives bombed U.S. embassies in Kenya and Tanzania on August 7, 1998, more than 1000 victims of the blasts were in immediate need of blood transfusions. But lack of proper testing of the countries' blood supplies, against a background of high HIV rates in the general population, left U.S. State Department medical personnel deeply concerned about how to avoid transfusing the virus into embassy personnel and staff.[134]

With U.S. and NATO troops stationed in countries all over the world, HIV can pose a threat to their survival and safety, whether acquired in blood transfusions, through sexual activity, or in exposure to contaminated needles and medical equipment.

The 9/11 Commission recently warned the U.S. Congress: "International terrorist organizations continue to use Africa as a safe haven, staging area, or transit point to target U.S. interests. In general, the international terror threat against the U.S. and local national interests is likely to continue to grow in several parts of Africa because of porous borders, lax security, political instability, and a lack of state resources and capacities."[135] According to the U.S. Department of Defense, about a quarter of the insurgency fighters captured in Iraq in

the spring of 2005 came from Africa, primarily the western Sahel region. The U.S. military is training counterinsurgency forces in that region, as well as in the Horn of Africa.[136]

Operatives for al-Qaeda, Hezbollah, Hamas, the Provisional IRA, and dozens of other terrorist organizations find destabilized African countries ideal settings for arms trading, and use diamonds as their untraceable, easily transported currency.[137] To the degree that HIV contributes to destabilization in the region, the pandemic may enhance such terrorist opportunities. Though some observers have warned of widespread recruitment activities by terrorists in AIDS-ravaged areas of Africa,[138] there is absolutely no evidence at this time linking such groups as children orphaned by AIDS or any other HIV/AIDS-related group to any terrorist organization or movement.

Security concerns should not be limited to the direct threat of terrorism, however. The UN secretary-general's high-level panel on threats, challenges, and change issued its report on December 1, 2004, entitled *A More Secure World: Our Shared Responsibility.* The report stipulated that HIV/AIDS constituted a threat to global stability and security, noting: "Poverty, infectious disease, environmental degradation, and war feed one another in a deadly cycle. Poverty...is strongly associated with the outbreak of civil war. Diseases such as malaria and HIV/AIDS continue to cause large numbers of deaths and reinforce poverty."[139]

Addressing the Global Business Coalition on HIV/AIDS, which has some 200 members drawn from Fortune 500 companies, Secretary of State Colin Powell on June 11, 2003, summarized their concerns about foreign business and trade operations: "You assembled here this evening in the international corporate world live every day with the human and economic costs of HIV. You have to deal with the shortage of skilled labor overseas. You face the loss of productivity from absenteeism when your employees become ill or take time off to care for family members who are ill. You have a constant need to train new workers to replace…those who succumb to the disease. Your markets literally are dying before your eyes. AIDS has dealt devastating blows to business and investment in so many developing countries. And business investments are crucial to lifting poor nations onto the path of development and stability."

In general terms, any downturn in AIDS-hit economies threatens to reverse the impact of decades of post–Bretton Woods development investment.[140] While development, or the lack thereof, in the poor world may not directly impact the security of wealthy nations, this certainly represents a resounding defeat of the key feature of twentieth-century, wealthy-world foreign policies directed to the poor world. The widening gap in disability-adjusted life expectancies between the wealthy and poor worlds, clearly exacerbated by HIV, offers a serious challenge. In 2000, Japan was the longest-lived society, with a disability-adjusted life expectancy for children born that year of 74.5 years. All of the six shortest life expectancies (below thirty-five years) in 2000 were in sub-Saharan African countries, with all but one of them—Sierra Leone—having HIV prevalences above 20 percent. The U.S. Census Bureau forecasts that the gap will widen further by 2010, with Japan attaining a still longer life expectancy, and Botswana falling to just 26.7 years.[141]

General Brent Scowcroft, who twice served as U.S. national security adviser, headed up a 2004 reappraisal of the mission of the UN in the post-9/11 world. Warning that traditional notions of national security were obsolete in the age of globalization, Scowcroft urged leaders in the wealthy world to heed the dangers of failing states that are overcome by poverty and diseases. Such places have spawned conflicts, in some cases demanding the involvement of external military forces, Scowcroft asserted. A hallmark of failing states is an unraveling of capacity to respond to the essential health and food needs of the populace, with an ever-increasing linkage emerging between health and national security.

"If we want our own security concerns to be recognized by the UN, and of course we do," Scowcroft warned an American audience in 2004, "it (is) clear that we must recognize the security concerns of others, whose concerns are very different from ours. As I say, for much of the world, it is not issues of global war. It is not issues of weapons of mass destruction, attack, and so on. It's how they can continue to survive in the face of poverty, in the face of disease."[142]

Thus, the wealthy world cannot impose its particular national security parameters and strategies on poorer countries. Nor can it be assumed that the security dimensions of the poor world are irrelevant to the rich world. It is increasingly apparent that a viable security paradigm for any nation must recognize that parts of the world where entire societies are comprised of families surviving on less than $2 a day, and besieged by HIV/AIDS, correctly view the nexus of disease and poverty as their paramount national security threat.[143]

Widening gaps in access to anti-HIV drugs, creating glaring differences in life expectancies for America's HIV-infected population versus the vast majority of AIDS-affected people in the world, have become pivotal sources of global political anger. Resentment is building in both middle-income and poor nations, as the wealthiest nine nations become gerontocracies, while the poorest nations witness the evaporation of previous development gains, rising foreign debts, and rising mortalities. Resentment can translate into support for anti-Americanism in many forms. In 2004, the imams of northern Nigeria, for example, convinced mothers to eschew polio vaccination for their children, on the premise that "America put HIV" in the vaccine—a successful propaganda campaign that has so far spawned resurgence of crippling polio epidemics in Nigeria and at least sixteen other predominately Muslim nations. Though many pharmaceutical companies have fought to protect high pricing schemes and patents at the expense of global access to affordable medicines, American firms have taken the brunt of the blame and been the target of special anger.

In the U.S. government, under the leadership of President George Bush, the questions of engagement in the fight against HIV/AIDS has been framed three ways: in charitable/traditional terms; in fresh multilateral terms that are also, ultimately, charitable; and in terms of a $15 billion program that is nested—quite contrary to tradition—inside the State Department. The Bush administration's National Security Strategy stipulates that: "A world where some live in comfort and plenty, while half of the human race lives on less than $2 a day, is neither just nor stable. Including all of the world's poor in an expanding circle of development and opportunity is a moral imperative and one of the top priorities of U.S. international policy."

Among the eight strategic actions the U.S. national security strategy calls for to implement the above "moral imperative" is to "secure public health."

Extending Life by One Year Through HAART Under Alternative Pricing Regimens: Illustrative Calculations of Cost

	Pricing Regimen	Total Treatment Cost/ Year of Additional Life
Western Pricing	$10,000+	$45,000+
Cipla (Government)	$600	approx. $3,300
Cipla (NGO)	$350	approx. $2,000
Clinton Foundation (announced)	$140	approx. $1,300
Free Handout	$0	approx. $670

ASSUMPTIONS USED:
- Discount rate of 6% per year
- Median onset of AIDS 9 years after HIV infection
- Life expectancy after onset of AIDS averages 2 years
- Average HAART treatment begins 4 years after HIV infection
- HAART treatment extends healthy life an average of 3 years
- Administering HAART requires an average of $150 per year in healthcare services

The use of highly active antiretroviral therapy (HAART) may approach affordability and cost-effectiveness if generic drugs, such as those made by Cipla of India, are used. But, when administrative and infrastructure costs are considered, even "free" treatment is costly.

Sources: Nicholas Eberstadt, Experts' Study Group on HIV and National Security, July 28–29, 2004. Council on Foreign Relations. With permission from author.

In his 2002 State of the Union address, President Bush called for a $15 billion program to combat AIDS largely on a bilateral basis in fourteen countries. The President's Emergency Plan for AIDS Relief (PEPFAR) was created, eventually adding a fifteenth country (Vietnam) to its list of African and Caribbean nations. As of March 2005, PEPFAR had actually spent 3 percent of its funds, directly providing treatment to 155,000 people. In June 2005, it announced achievement of its interim target of 200,000 people in treatment. PEPFAR also boasts having provided supportive (non-medical) care for 1.7 million people affected by the epidemic, including 630,000 orphans. As currently conceived, PEPFAR will be treating 2,000,000 people by the end of 2008, and providing other types of care to 10,000,000. No other donor nation has mounted an AIDS campaign of this scale, though many have contributed to the Global Fund to Fight AIDS, Malaria and Tuberculosis, which claims treatment and prevention campaigns worldwide that rival the scale of the U.S. effort.[144]

The appropriations bill allocating PEPFAR's 2004 budget stipulated that a third of the prevention and education funds had to be spent on abstinence-promoting programs; none of the money could be spent buying sterile syringes or needles for I.V. drug users; and faith-based organizations should receive special priority for receipt of care and treatment funds. Congress has also limited the ability of the administration to direct funds to the multilateral Global Fund to Fight AIDS, Tuberculosis and Malaria, stipulating that U.S. contributions to the Global Fund must not exceed 33 percent of total donations. All of these stipulations have proven enormously controversial, both inside the United States and overseas. In terms of the "hearts and minds" aspect of U.S. foreign policy and security, the current PEPFAR approach may be a wash, though this could likely improve if Congress continues the stream of allocations and American-backed treatment becomes far more available and visible.[145]

The congressional limitations could, of course, be overcome if other donor nations vastly increased their contributions to the Global Fund, raising the overall ceiling and thereby allowing PEPFAR to give more gener-

ously to the multilateral mechanism. If, for example, Germany, the United Kingdom, Italy, Japan, and France each doubled their current contributions, the United States would be able to increase its contribution from a 2004 level of $458.8 million to about $1.2 billion per year without violating the congressional ceiling of 33 percent.[146]

According to Global Fund's Chief Executive Officer Richard Feachem, most of the wealthy states are acutely interested in supporting HIV/AIDS prevention and treatment programs in more seriously afflicted neighboring states, reflecting concerns about their own state securities. For example, Japan has bilateral programs in China, Southeast Asia, and Indonesia; Germany supports efforts in former Warsaw Pact European countries; and Italy and Spain are increasingly concerned about rising HIV rates in the Balkan nations and northern Africa.

The UN secretary-general's high-level panel on threats, challenges, and change reported that the global response to HIV/AIDS is "shockingly slow and remains shamefully ill-resourced." The panel also underscored the need to cease viewing security strictly in terms of threats to the physical boundaries or interests of specific states:

Today, more than ever before, threats are interrelated and a threat to one is a threat to all. The mutual vulnerability of weak and strong has never been clearer…the security of the most affluent state can be held hostage to the ability of the poorest state to contain an emerging disease.

Imagining the future shape of our modern pandemic, some two or three wave lengths ahead, is exceedingly difficult. If no effective vaccine or cure is found within the next twenty years, areas of the world that are now witnessing explosive epidemics, or are in their second or third waves of AIDS epidemics, may well be more deeply altered than Europe was following the Black Death. In Africa, for example, there are many features in place that mirror pre-plague Europe, including an enormous surplus of unskilled labor, lack of clear property rights for the bulk of the population, domination by tiny social elites, widespread warfare waged both by state and mercenary forces, and transition from dispersed agrarian to disastrously urbanized societies. Each of these factors was radically altered by the Black Death, and could well be reshaped by HIV.

KAL, *The Economist.*

Pakistani Soldiers Participating in UN Peacekeeping Operations in Sierra Leone in 2003.

Recommendations

It is in the security interests of the entire world to ensure that anti-HIV drugs are used properly, minimizing the potential emergence of highly drug resistant forms of the virus. Therefore:

Action One: All state strategies for the use of anti-HIV drugs must strive to minimize emergence of drug-resistant strains. All states have an interest in ensuring that these imperfect drugs retain utility until alternative therapies are affordably available.

Armed and uniformed forces worldwide, including UN peacekeepers, are sustaining losses due to the pandemic, and this trend will escalate both in size and geographic dispersal. Programs aimed at preventing sexual and drug-use activities that put uniformed personnel at risk for infection, and at providing condoms and sterile needles to preclude them from passing the virus on to others, should be bolstered, and financially supported by wealthy nations. Therefore:

Action Two: Programs to educate uniformed services personnel worldwide, including police, about the risks and prevention of HIV must increase and become permanent features of military and police training. Condoms must be available to uniformed services personnel as needed. Efforts must be made to limit the length of deployment of soldiers away from their spouses and families.

Molecular epidemiology, if properly executed and funded, offers both a verification tool and a method for monitoring the evolutionary course of the virus. Therefore:

Action Three: Viral genetic fingerprinting should be used to trace the spread of HIV, identify key states or transnational forces (such as heroin smuggling) associated with spreading HIV, and ensure compliance and prosecution of misconduct among peacekeeping forces.

The paucity of reliable, meaningful data on the social, security, and economic dimensions of the HIV/AIDS pandemic is already striking. With time, the lack of baseline and comparative data will only make it more difficult for policymakers to comprehend trends in their epidemics, derive appropriate long-term security solutions, and correctly prioritize resources. Therefore:

Action Four: Governments and academic institutions must vastly increase support for ongoing analysis of the social, political, and economic impacts of the HIV/AIDS pandemic, including creation of population cohorts for decades' long scrutiny and computer modeling of options and outlooks for the future. The paucity of reliable data regarding current pandemic impacts on economic, social, and behavioral issues that might have security dimensions is a serious concern. Major scientific institutions in North America, Europe, and Japan should fund and promote such research, conducted in collaboration with researchers indigenous to hard-hit regions. Longitudinal cohort studies should be created now to track, over coming decades, key population groups, such as children orphaned by AIDS, agricultural workers, soldiers, peacekeepers, migrant workers, and miners.

The horrors of HIV might not be felt so acutely, forcing agonizing decisions for leaders the world over, were there an international commitment to blocking the further spread of the virus. Prevention efforts, generally, have taken a backseat to treatment campaigns, however, and some human rights groups have framed the question of access to life-extending medicines as the paramount AIDS issue of the day. There is at least an equally compelling argument that people have a right not to get infected in the first place, meaning that access to life-saving education, condoms, safe needles, and possible vaccines and microbicides constitute essential human rights. Of all of the tools of prevention, the only one likely to stop the pandemic is an effective vaccine. Sadly, investment in vaccine research and development is woefully inadequate, with 2004 total spending worldwide amounting to a mere $680 million, of which $610 million came from public sources. Commercial-sector investment in AIDS vaccine work is extremely modest, at roughly $50 million internationally. The U.S. government remains clearly dominant in contributions to the vaccine search, having spent $526 million, or 80 percent of the total world vaccine effort. Fortunately, the Bill and Melinda Gates Foundation in 2005 announced the creation of an enterprise initiative to tackle the quest for an AIDS vaccine, adding $450 million to the global effort and a mechanism meant to coordinate the pursuits of various government and private initiatives. Nevertheless, the overall vaccine research effort is characterized by financial inadequacy, a serious lack of urgency, along with highly significant intellectual challenges. Therefore:

Action Five: Development of an effective, affordable, protective HIV vaccine must rank among the world's top biological research priorities. The effort lacks sufficient funding and urgency at this time.

The introduction of treatment options for HIV presents sources of both potential mitigation and exacerbation. Using antiretroviral therapy to treat specific sectors of society—including armed forces—will lengthen the wavelength phenomenon of the AIDS pandemic in those populations. That will, in turn, offer more openings for coping activities, both at the micro- and macro-levels. But, inequitable access to the medicines is already creating global tension, with poor countries angry that they cannot afford to give their people life-sparing drugs that are readily available in wealthy countries. If poor and middle-income countries now use external funds to provide such life-extending medicines to select elites, they risk creating the same tensions between haves and have-nots, domestically. On the other hand, the survival of the state may literally depend upon ensuring access to the medicines for highly skilled elites, such as military commanders, top political leaders, physicians, teachers, and key civil service sectors. Nations face tough strategic choices. Therefore:

Action Six: Though prolonging the lives of valued elite human resources must be a priority in highly afflicted states, it cannot be viewed as a sustainable policy. General public perception of elite preferential access to treatment will, over time, risk undermining state authority. States and the global community have little option but to strive for universal access to the drugs. In the long run, however, this will also prove unsatisfactory, as the drugs are imperfect, prone to selecting for resistant strains, and, even at generic pricing, are still too expensive. The world needs an entirely new wave of anti-HIV medicines, and the research and development community—both public and private—must be reenergized.

For donors, the future holds a wide range of possibilities: Either the wealthy world ignores the pandemic, hoping it never generates significant challenges to the security of their states, or they escalate commitment to the crisis. If the wealthy world opts for the latter position, the donor community must recognize that it is creating an unprecedented dependency paradigm that can be predicted to persist for at least one, and possibly more, human generations. There can be no option for suddenly cutting the funding cycle, as it would mean abruptly eliminating the pharmaceutical life-support systems for millions of people dependent on externally funded treatment. Even now, the Global Fund is unable to match some $2 billion in commitments to countries that have met all criteria necessary for demonstrating their reliability—properly executing AIDS programs for one

year—and thereby earning guarantees for ongoing support. The wealthy world's best option is to bite the bullet and spend heavily not only on HIV prevention, care, and treatment, but also on development programs aimed at bringing the poor world into the global economy, from which it may eventually derive sufficient wealth to absorb the costly exigencies of AIDS. Supporting HIV/AIDS and other disease programs alone cannot lead to eventual disengagement for donors. Few recipient countries are likely to have the financial wherewithal to eventually pick up the tab unless larger economic constraints, such as foreign debt, trade restrictions, lack of hard currency investment, and structural underdevelopment, are also addressed. Therefore:

Action Seven: The G8 and other wealthy states must increase donor support for the Global Fund and other mechanisms aimed at reducing the spread of HIV and treating AIDS in poor countries. Further, they must recognize that these donor commitments cannot be revoked at a later date, as revocation would undoubtedly result in the immediate deaths of those HIV patients who have become dependent upon the treatments.

In post-9/11 America, there is a tendency to define all national security through the prism of terrorism. That framework is overly limited even for the United States: It is an absurdly narrow template to apply to the security of most of the states of the world. At a minimum, the HIV pandemic is an enormous stressor that is aggravating laundry lists of underlying tensions in developing, devolving, and failed states. As the burden of death due to AIDS skyrockets all over the world over the next five to ten years, HIV may well take a more profound role on the security stages of many nations and present the wealthy world with a challenge, the likes of which it has never seen before. Less-afflicted states should ask themselves: What would it mean if the world of 2015 has a Russia that looks, in terms of demographics and HIV/AIDS, like Botswana today? Or an India with HIV rates in 2020 that resemble those seen today in South Africa? States that have yet to experience massive death tolls due to AIDS, but do currently have large populations of HIV-infected people, should look to the examples of hard-hit states in sub-Saharan Africa to envision how their countries will be affected, and take appropriate steps today to prevent further HIV spread and soften the blow AIDS mortalities will eventually deal them. How countries, rich and poor, frame HIV within their national security perspectives today may well determine their capacities to respond to the massive collective grief, demographic horror, and security threats AIDS will present tomorrow. Each state, rich and poor, highly afflicted and less afflicted, has genuine cause for security concerns deriving from the HIV/AIDS pandemic.

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NOTES

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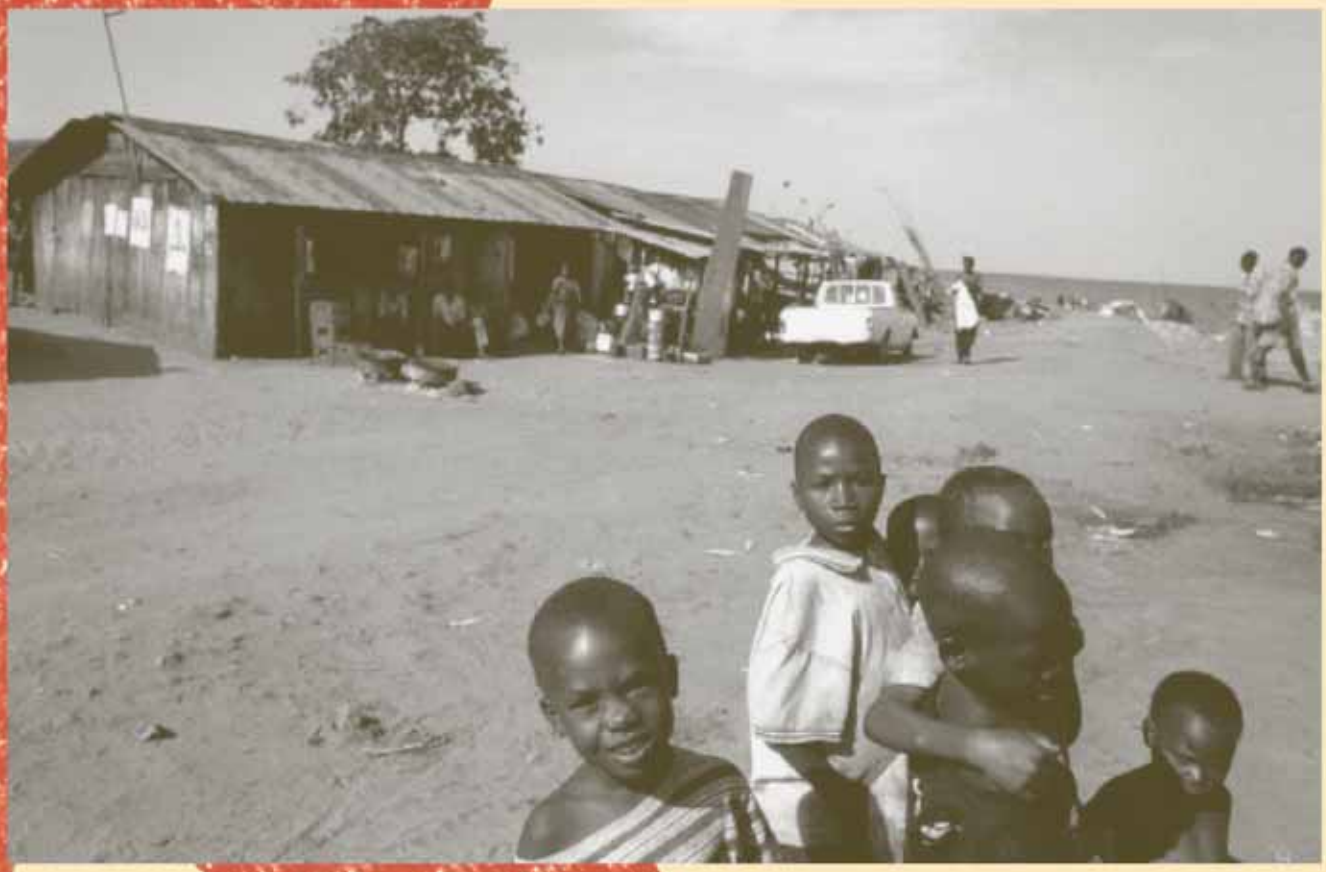

Photo by Laurie Garrett
Orphans of Kansansero, Uganda

About the Author

Laurie Garrett joined the Council on Foreign Relations as senior fellow for global health in March 2004. Prior to that time, she was a Pulitzer Prize-winning health and science reporter for *Newsday*. She is the author of two bestsellers: *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* (Farrar, Straus and Giroux, 1994), and *Betrayal of Trust: The Collapse of Global Public Health* (Hyperion, 2000). Garrett's writings have earned her two honorary PhDs, a Pulitzer Prize, two George C. Polk Awards, the George Foster Peabody Award, four awards from the Overseas Press Club of America, and a host of other citations, awards, and honors. Garrett has served on the faculties of the graduate schools of journalism at the University of California in Berkeley and Columbia University. Garrett did graduate studies at UC Berkeley in immunology, and undergraduate studies at the University of California in Santa Cruz, majoring in biology.

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