

The Second Wave of the HIV/AIDS Pandemic

China, India, Russia, Ethiopia, Nigeria

A Conference Report of the
CSIS Task Force on HIV/AIDS

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Preface

On September 30, 2000, the National Intelligence Council (NIC) released a report on the HIV/AIDS pandemic in five of the world's most populous states: China, India, Ethiopia, Nigeria, and Russia. The report predicts that in those five countries alone, between 50 and 75 million people will be HIV-positive in 2010. Today, more than 70 percent of people infected are in sub-Saharan Africa. But as the National Intelligence Council report spells out, the devastation of the disease will not remain limited to Africa. HIV/AIDS is truly global and is now lapping at the shores of many countries worldwide. Asia and the Pacific are home to 6.6 million people infected with HIV, including over 1 million of the 5 million people newly infected last year. Infections are rising most steeply in Russia and in other Eastern European countries. The Americas and the Caribbean are also vulnerable.

The Center for Strategic and International Studies (CSIS) hosted a conference on October 3–4, 2002, timed to the release of the NIC report, entitled “The Next Wave of the HIV/AIDS Pandemic: China, India, Russia, Ethiopia, Nigeria.” Its purpose was to engage senior leadership from each of the five countries identified in the NIC report; explore the distinctive driving factors contributing to the pandemic in each; examine what governmental and nongovernmental sectors are doing to stem the disease's spread; and seek ways that the United States can constructively engage their leadership to fight the disease. The event marked the first time that high-ranking delegations from the five second-wave states were brought together in a forum with U.S. counterparts.

As the presentations made clear, the HIV/AIDS pandemic, particularly its second wave, varies significantly from country to country in its impetus, its demographic distribution, and its societal impact. Similarly, the key components of an effective national response to HIV/AIDS—public and private capacity, human and financial resources, research and health infrastructures, political will and public awareness—are often quite divergent. Nevertheless, in the course of the CSIS conference, several common compelling themes were sounded.

Most striking among these was the high energy, commitment, and expertise of the delegates themselves. They are genuinely seized with proving the skeptics wrong and seek to engage—openly and self-critically—with U.S. policymakers to build new partnerships to battle the disease in their respective countries. Although the NIC estimates were perceived to be somewhat on the “high side,” there was clearly an understanding of the gravity of the HIV/AIDS threat and its likely impact on individuals, communities, economic development, and security. Although HIV/AIDS is not yet flagrantly visible in the large populous second-wave states—“underwater, like an iceberg,” in the words of one participant—the delegates, at least, were clear about the menace it poses and the need for urgent action. The delegates expressed a sense of urgency, but not hopelessness.

Across the five countries there was rich discussion of the interrelation of HIV/AIDS with other social and economic stresses: poverty, social crisis, economic upheavals, famine, and demographic shifts, for example. In all cases, gender inequality and the subordinate, highly vulnerable status of women play a major part in driving the HIV/AIDS epidemic, although how the gender gap manifests itself varies across regions: commercial sex work and lack of alternative income-generating activities; inadequate access to education for girls and to social and economic services for women; inability of women, both married and unmarried, to negotiate safe sex with potentially high-risk partners; and rape, domestic abuse, and lack of legal recourse or protection, among others.

Targeting prevention and care efforts at high-risk segments of the population is another urgent imperative in each of the focal countries. It is profoundly difficult because many high-risk groups are marginalized within society—prison populations, for example—or engaged in illegal or socially proscribed activities. Injecting drug use and commercial sex are illegal in all five countries; homosexuality is illegal in China, India, Nigeria, and Ethiopia and was only recently legalized in Russia. People identified as HIV-positive are also subject to stigma and marginalization, a major disincentive for individuals to get tested or receive counseling. Accessing these groups without driving them underground will remain a difficult but critical task, which may require changes in law enforcement and judicial processes (with for example, stronger emphasis on harm reduction and rehabilitation than on retribution), greater integration of health, justice, and penal systems, and significant shifts in popular attitudes.

All delegations emphasized their countries' critical lack of detailed, national epidemiological and behavioral data essential to the design of effective prevention and care programs. Further, all five countries anxiously remain at the pilot-project stage without sufficient resources—either human or financial—to scale up efforts to effective nation- or region-wide responses.

Two gaps were apparent in discussions on access to affordable antiretroviral drugs: an acute and worsening resource gap, and a persistent perceptual gap between developing and developed countries. The five focal countries are at widely different points in their ability to produce, import, and distribute antiretrovirals. Nevertheless, all confront the prospect of sharp increases in HIV-positive citizens, and none has a viable strategy or adequate resources for wide-scale treatment. As domestic demand for treatment rises, leaders may be less and less willing to await changes in international trade regulations that will make quality pharmaceuticals more readily available to the developing world. A member of the Nigerian delegation, for example, explained that though his country would prefer to import from brand-name, high-quality pharmaceutical companies, given the enormity of Nigeria's HIV/AIDS crisis and the price of brand-name drugs, the country has few options and has made a strategic choice to import generic medications. There is a strong possibility that delays in resolving the issue of affordable access will lead to a costly clash between those countries acutely affected by HIV/AIDS and those wealthy northern countries that are home to the research-based pharmaceutical industry. That clash is coming, and much more creative work is required to avert it and bring antiretrovirals—at high volume, low cost, over an indefinite period, with

effective controls over diversion and fraud—to the world's ever-larger poor population infected by the HIV virus.

The U.S. government's response to global HIV/AIDS has gained momentum in the last four years, and resources and senior-level attention devoted to fighting the pandemic have risen considerably. Yet with the advent of the pandemic's second wave, and continued intensification of the pandemic in southern and eastern Africa, the world is entering a phase of colossal increases in demand for resources, technical assistance, personnel, and pharmaceuticals that will far outstrip what is currently available. The National Intelligence Council has put a spotlight on the pandemic's emergent threats to China, Russia, Nigeria, India, and Ethiopia, and in doing so pushed the margins of policy debate significantly. In the National Security Strategy issued in September 2002, President Bush identified battling HIV/AIDS as a key component in building global security. In line with these changes, senior administration officials at the CSIS conference and elsewhere have begun to wrestle openly with these emergent realities. Still, the U.S. government is slow to bring policy, programs, and resource levels into line with what is needed to sustain U.S. leadership, galvanize the global response, and minimize zero-sum competition that pits states and regions against one another. That step is essential, but it will not be easy, given worsening budget deficits, a weak U.S. economy, the predominance in U.S. foreign policy of the counterterrorism campaign, the effort to bring greater control over weapons of mass destruction in Iraq and elsewhere, and a major competing foreign aid initiative, the Millennium Challenge Account.

Acknowledgments

On October 3–4, 2002, the CSIS Task Force on HIV/AIDS organized a conference entitled “The Second Wave of the HIV/AIDS Pandemic.” The Task Force—cochaired by Senators Bill Frist (R-Tenn.) and John Kerry (D-Mass.) and directed by J. Stephen Morrison, director of the CSIS Africa Program—is a two-year effort to strengthen U.S. leadership by informing Congress and the Bush administration of critical emergent challenges posed by the pandemic and devising proactive policy initiatives. It is funded by the Bill and Melinda Gates Foundation and the Catherine Marron Foundation.

CSIS is indebted to the conference delegates representing the five focal countries for the knowledge, commitment, and energy they demonstrated in their presentations and discussions. It is grateful for the invaluable support of the Centers for Disease Control and Prevention, the U.S. Agency for International Development, the Open Society Institute, and the Packard Foundation in helping organize and make possible the delegates’ participation. The Kaiser Family Foundation generously webcast selected sessions of the event, available online at <http://www.kaisernetwork.org/healthcast/csis/oct02>. Jennifer G. Cooke, deputy director of the CSIS Africa Program, edited these proceedings.



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The Second-Wave Countries

Introduction

John Hamre

John Hamre, President and CEO of the Center for Strategic and International Studies, opened the conference, saying that there is growing awareness in the United States that HIV/AIDS is not simply a private tragedy for those immediately affected, but a public crisis with vital political, economic, and security dimensions. In the 1980s, the United States was initially slow to respond to its own domestic HIV/AIDS crisis because a “web of morality” surrounding the disease prevented a prompt and forceful response. Unfortunately, that pattern is now mirrored on the international stage, as country after country struggles to confront the epidemic expeditiously and effectively in its early stages.

Opening Remarks

Senator Bill Frist

Senator Bill Frist (R-Tenn.), cochair of the CSIS Task Force on HIV/AIDS, stressed in his opening remarks that the NIC projections are estimates and are not cast in stone. The global community has successfully eradicated other deadly infectious diseases through focused, disciplined collaboration. Smallpox—which in the last century killed 300 million people and as recently as the 1950s afflicted close to 50 million people worldwide—has been eradicated, except for known stocks held by the United States and Russia. Right now the world is losing the battle against HIV/AIDS. But Senegal, Thailand, Brazil, and Uganda have all made remarkable progress. If the world community pulls together in a targeted way, with adequate leadership, political will, and firm determination it can accomplish great things in the second-wave countries. The United States, argued Frist, has an enduring moral obligation to lead the global community in the battle against HIV/AIDS.

The National Intelligence Council's Second-Wave Report

DAVID GORDON, INCOMING DIRECTOR OF THE CENTRAL INTELLIGENCE AGENCY'S OFFICE OF TRANSNATIONAL ISSUES, former national intelligence officer for global and economic affairs and lead author of the NIC report, presented the study's findings. *The Next Wave of HIV/AIDS: Nigeria, Ethiopia, Russia, India, and China* follows on the 2000 National Intelligence Estimate, *The Global Infectious Disease*

Threat and Its Implications for the United States, and is the NIC's latest effort to look at the next phase of the global HIV/AIDS pandemic and its implications for the next eight years. Despite an extraordinary increase in international attention in recent years, the AIDS pandemic continues to advance at an alarming pace. The data suggest that the global evolution of the disease remains at a relatively early stage.

Less than a decade ago, HIV prevalence rates in many southern African countries stood at 2 to 3 percent. Today rates exceed 20 percent—and in some countries over 30 percent. These rapid increases caught most governments unprepared, and their slow response has had extraordinarily negative consequences. The NIC projects 50 to 75 million HIV-positive persons in the five second-wave countries alone in 2010, and those projections assume prevalence rates in China and India that are only a tiny fraction of those in the most heavily affected countries of southern Africa.

To date, the HIV/AIDS pandemic has been overwhelmingly concentrated among central and southern African nations. But the pandemic is poised to become in the next decade much more diffuse, both within and beyond Africa. Already the disease is moving dramatically into the Eurasian landmass, especially Russia, China, and India. In these large, regionally and globally strategic states, governments and societies alike are at a critical phase in grasping the threat posed by the pandemic and weighing their respective responses.

The NIC report's focus on these five countries does not imply that other countries need not worry about HIV/AIDS or that U.S. policy should focus solely on these states to the exclusion of others. Rather, the report highlights the changing dynamics of the disease and the diversity of predominant vectors: drug use, plasma selling, heterosexual transmission, and prison populations. In Russia, declining population and a dramatic decrease in general health status are driving factors; Nigeria has recently emerged from a destructive period of military dictatorship and institutional decline; Ethiopia suffers from acute poverty compounded by a 1998-2000 border war that devoured vast human and financial resources. India and China have been among the most dynamic and rapidly growing economies in the world over the past 20 years. But both face extraordinary challenges in social policy. In China, for example, rapid urbanization and an aggressive effort to facilitate integration into the world economy are under way. The variant ways that the disease will unfold in these diverse settings pose major analytical and policy challenges.

Over the next decade, the potential impact of the disease will be greatest in Nigeria and Ethiopia. Their governments are challenged to ensure that the pandemic does not follow the dangerous pattern seen in southern Africa with its catastrophic loss of life and family resources and its devastating impact on both communities and institutions. In Russia the challenge will be to reconcile a rebounding economy and resurgence from a period of chaotic change with already negative trends in demography and public health. According to the NIC, HIV/AIDS will likely have less immediately visible societal impact in India and China in the next decade as compared with acutely affected African countries. But if the disease

is not addressed now, over the longer term, the impact of AIDS in India and China could grow exponentially.

Every government that has faced the HIV/AIDS challenge has gotten off to a slow start. The NIC report aims not to indict specific governments but to speak candidly to emergent realities, raise international awareness, and stir a constructive policy debate over what can and should be done in partnership with the affected states.

The Demographic Impact

KAREN STANECKI OF THE U.S. CENSUS BUREAU outlined the potential demographic impacts of the pandemic's second wave, based on Census Bureau population estimates. She argued that different patterns will be seen in each of the five focal countries, which require very different responses.

The Census Bureau incorporates AIDS mortality into population estimates only after countries have reached a national adult HIV prevalence of 1 percent, at which point the disease begins to have measurable demographic impacts. Thus far, among the five countries examined in the NIC report, the bureau has done projections for Nigeria and Ethiopia. Adult prevalence rates in India, China, and Russia are just slightly under 1 percent at a national level. However, certain regions in each of those countries have rates that exceed 1 percent, with measurable demographic impacts. In India and China, each state or province is larger than most sub-Saharan African countries; these countries should be analyzed on a state-by-state basis, not just at the national level.

In Nigeria, HIV/AIDS has reduced life expectancy from about 60 to 51 years, and by 2010, will have reduced it to 47 years. Infant mortality in Nigeria has already increased from 66 to 72 per 1,000 live births. In Ethiopia, life expectancy has been reduced from 53 years to 42 years, and by 2010 will be further reduced to 40 years. Infant mortality in Ethiopia has increased from 92 to 104 per 1,000 live births. It was once estimated that by 2010 infant mortalities would have declined to 78 per 1,000 live births; instead, the current estimate is 95 deaths per 1,000 live births because of HIV/AIDS.

In India, the states of Maharashtra, Manipur, and Tamil Nadu are the most severely affected by the HIV/AIDS epidemic, and prevalences—particularly in Maharashtra and Tamil Nadu—will likely reach 3 to 4 percent by 2010. Those rates will have demographic impacts similar to those manifest in sub-Saharan Africa.

Nigeria and Ethiopia alone account for over 25 percent of all orphans in sub-Saharan Africa. In Ethiopia, 13 percent of all children (3.8 million) are orphans, a quarter of them due to AIDS. In Nigeria, 10 percent of all children (5.4 million) are orphans, approximately 18 percent due to AIDS. By 2010 approximately 14 percent of all Ethiopian children will be orphaned (43 percent due to AIDS), and 11 percent of all Nigerian children (with 40 percent due to AIDS). The impact will be less severe for orphaned children in China and India. In China less than 5 percent of all children are orphans, and only 1 percent of those are because of AIDS. By 2010, approximately 4.5 percent of all Chinese children will be orphaned, with 4 percent of those due to HIV/AIDS.

In Ethiopia and Nigeria there are more HIV-positive women than men, whereas in China, India, and Russia there are two to three times more infected men than women, with very different implications for the epidemic's trajectory. In Nigeria and Ethiopia transmission by intravenous drug use is virtually nil, whereas in parts of China, in Manipur state in India, and in Russia, the epidemic is primarily driven by intravenous drug use. What these differences mean for the spread to the general population is not yet clear. There are very few examples where epidemics have been driven solely by intravenous drug use. Thailand, for example, has experienced two concurrent epidemics, an injecting drug user epidemic in Bangkok, and a sex worker/client-driven epidemic in the north.

Understanding behavior patterns will be critical to the effectiveness of prevention efforts. A recent study of rickshaw pullers in Bangladesh revealed complex overlapping behavior patterns that could have dire consequences if combined with an HIV/AIDS epidemic. Of rickshaw pullers surveyed, 76 percent are married, 9 percent of them are injecting drug users, and 70 percent of them frequent sex workers. Half of the men who identify themselves as having sex with men are married, and a third of them patronize commercial sex workers. Among sex workers, 2 percent are injecting drug users, and of injecting drug users, a third patronize sex workers. Predicting the pandemic's course in India, China, and Russia will require a far deeper understanding of these complex and overlapping behavior patterns. Understanding migration patterns and their impact will be equally important.

What Do the Projections Mean?

ULF KRISTOFFERSSON, CHIEF OF THE UNAIDS HUMANITARIAN UNIT, argued that future projections of HIV/AIDS prevalence are highly speculative. Almost every past prediction of the spread of global HIV/AIDS has in fact been surpassed. Estimates in 1991 predicted that in sub-Saharan Africa, by the end of the decade, 9 million people would be infected and 5 million people would die. That was a three-fold underestimation. The world has seen that HIV/AIDS can devastate entire regions, reverse decades of national development, widen the gulf between rich and poor nations, and push already stigmatized groups closer to the margins of society. And the epidemic is still only in its early stages.

The most recent global update on the epidemic shows dramatic new highs in the world's worst affected countries. HIV/AIDS is not reaching a "natural limit" in countries like Botswana, Swaziland, and Zimbabwe, where already more than a third of adults are infected. In some areas of West Africa, after what appeared to be a plateau in adult prevalence, infection rates are once again rising steeply. In some countries that until now appeared almost immune, like Indonesia, the virus is spreading rapidly.

HIV/AIDS is steeped in stigma, discrimination, fear and denial, which hinder the collection of adequate data. Political and community mobilization is essential to battling HIV/AIDS, but fostering such mobilization requires eliminating stigma, developing partnerships between social and government actors, and systematically involving communities and individuals impacted by HIV/AIDS. The five states examined in the NIC report are now central to the unfolding global pandemic. Sustained commitment of senior political leaders to overcome poor health systems,

lack of awareness, stigmatization of those infected, and mismanagement and corruption, will be decisive.

The diversity of the pandemic's spread worldwide is striking. While many sub-Saharan Africa countries reported overall adult HIV prevalence of more than 10 percent by the end of 1999, in 119 countries adult HIV prevalence was less than one percent. Low national prevalence rates can, however, be misleading. Threatening epidemics can be initially concentrated in certain localities or among specific population groups and spill quickly into the wider population. Nationwide prevalence in Myanmar, for example, is estimated at 1 percent. Yet HIV rates are as high as 60 percent among injecting drug users and almost 40 percent among sex workers. The Indian states of Maharashtra, Andhra Pradesh, and Tamil Nadu, each with at least 55 million inhabitants, have reached HIV prevalence rates of 10 percent among patients with sexually-transmitted infections, although India's national adult HIV prevalence rate is under 1 percent.

HIV/AIDS is not only claiming human lives but is also destroying structures of governance that ensure human security. HIV/AIDS generates more demand for resources and services, while simultaneously weakening national economies. Several of the worst affected countries were already struggling with daunting development challenges, excessive debt burdens, and declining terms of trades before the epidemic hit. This is most obvious in sub-Saharan Africa, but it is increasingly true in the second-wave countries, where socioeconomic setbacks have accompanied economic restructuring.

Responses from Delegates

Although some delegates responded that the predictions in the NIC report are "exaggerated," "on the high side," or "somewhat alarmist," none dismissed the estimates as inconceivable, and all acknowledged that HIV/AIDS poses a massive social and economic threat to their respective countries.

In Ethiopia, the government has declared HIV/AIDS a national emergency; India is beginning to treat HIV/AIDS as the single largest threat to development. India is particularly concerned about its six high-prevalence states, each of which has populations larger than many acutely affected African states. The Nigerian delegation was gratified by the sea change in U.S. attitudes towards HIV/AIDS and viewed the NIC report as a call to action. Nigeria, said one delegate, is alive to that call. The delegation from China responded that although HIV/AIDS in China is not currently an acute problem, China is aware that it is not only a health problem but also a potential threat to the nation's economic and social development, and to national security. If China does not take measures immediately, HIV/AIDS will almost certainly become a very serious problem and a national tragedy. China is ready to cooperate with the international community and the U.S. government to fight the pandemic. Russia is putting new emphasis on forging a joint response by government and nongovernmental organizations.

Discussion

■ What are the potential regional impacts of rising national HIV prevalence rates in Nigeria?

Overall HIV prevalence in West Africa has remained below 5 percent for 20 years, said one participant. Yet in Nigeria, prevalence rates are now beginning to exceed 5 percent, and given regional migratory patterns and the Nigerian military's role as the major peacekeeping force in West Africa, higher rates could quickly spread throughout the region. Although the NIC did not expressly look at potential regional trends, a major concern of its second wave report is that after a long period of relative stability there is now the possibility of a significant rise in Nigerian rates. If the NIC projections are borne out, a sharp increase in Nigeria's prevalence will be felt across West Africa, threatening to diffuse heightened prevalence in the single sub-Saharan region that has appeared resistant to the sharp increases seen in southern and eastern Africa.

■ What will be the impact on youth?

One reason the epidemic has been so devastating is that over half of current infections are among people under 25. Not only do young people become infected, but the loss of a parent or household breadwinner has a drastic effect on the life trajectories of the children in that household, as now seen in the highly-affected areas of sub-Saharan Africa. It is important, however, not to project southern African patterns to the rest of the world. Although the NIC envisions a continued and potentially dramatic increase in aggregate numbers worldwide, rates of prevalence, particularly in the high population countries in Eurasia, will remain lower, providing initially a much greater absorptive capacity in those societies for issues like the pandemic's impact on youth. Although numbers of AIDS orphans will increase dramatically in Asia, they will likely not reach the overwhelming AIDS orphan phenomenon of sub-Saharan Africa, owing to lower prevalence levels and the ability, therefore, of families and communities to manage and absorb social dislocations created by the disease.

In the most heavily impacted countries, especially in southern Africa where adult prevalence rates range from 20 to 30 percent, virtually every family and enormous proportions of communities are directly affected. In certain parts of India and China—for example Henan Province, where it is estimated blood plasma selling led to over one million HIV infections—there are prevalence rates that are beginning to reach the scale of sub-Saharan Africa. Nevertheless, HIV/AIDS will likely be much less of a society-wide phenomenon. This is not to minimize the impacts, but to emphasize that outside of sub-Saharan Africa, the drivers, the impacts, and the evolution of the pandemic will adhere to significantly different patterns.

China

Panel Chair:

Bates Gill

CSIS Freeman Chair in China Studies

Bates Gill, introducing the panel on China, noted that HIV/AIDS represents one of many internal challenges faced by China as it moves from a relatively closed, command economy to one far more open to the outside world, developing what Chinese leaders often call a “socialist market economy with Chinese characteristics”—i.e., capitalism. With that shift come enormous challenges, one of which is clearly the emergence of HIV/AIDS. The pandemic is a microcosm of what afflicts China in many other spheres: lack of state capacity, central authorities’ difficulty in implementing effective policies in far-flung areas of China, social shifts like the increases in drug use and extramarital/premarital sexual activity, and the lack of adequate health care. Although there are many sensitive and difficult questions in U.S.-China relations, HIV/AIDS is one area where expanded collaboration is possible and where effective cooperation may achieve concrete results that help stabilize the larger relationship.

On June 28, 2002, Chinese health minister Zhang Wenkang spoke at CSIS during an official visit to meet with U.S. Secretary of Health Tommy Thompson. While at CSIS, he offered to send a high-level delegation to the CSIS Second Wave conference. Further, he invited the CSIS Task Force on HIV/AIDS to organize and dispatch a high-ranking U.S. delegation to Beijing to work with him and the Health Ministry to increase awareness and explore new opportunities for the United States and China to cooperate, both at official and unofficial levels, to deal with HIV/AIDS.

DR. WU ZUNYOU, DIRECTOR OF THE DIVISION OF HEALTH EDUCATION AND BEHAVIORAL INTERVENTION IN THE CHINESE CENTER FOR DISEASE CONTROL AND PREVENTION’S NATIONAL CENTER FOR AIDS CONTROL AND PREVENTION, provided an overview of China’s pandemic. There are four distinct HIV/AIDS sub-epidemics in China.

The first is driven by injecting drug users. An epidemic among injecting drug users was first reported in 1989 and before 1995 was limited to one province. In 1995, it was reported in 3 provinces, and by 2000 in 26 provinces. In 2002, all 31 provinces report an epidemic among injecting drug users. The rate of HIV infec-

tion among injecting drug users has increased some 500-fold between 1995 and 2000 from 0.02 percent to 10 percent. In some areas, prevalence is as high as 80 percent, while the number of reported drug addicts has grown from 70,000 in 1990 to 901,000 in 2001. Between 450,000 and 675,000 injections occur every day with used needles. Today the pandemic is spreading to the general population. Infection rates have reached more than 1 percent among couples applying for marriage licenses in concentrated drug injecting populations found in the cities of Nanning and Kunming.

The second sub-epidemic is driven by blood plasma donations dating back to the mid-1990s. Infection rates were very high among former plasma donors, ranging from 9 to 17 percent. Rates increased with the frequency of donations, and among some subgroups were as high as 42 percent. The blood plasma-driven epidemic is now almost eradicated.

The third sub-epidemic is driven by heterosexual contact with sex workers. The sex worker population has grown considerably throughout China, and a high proportion of sex workers do not use protection. The rate of infection among sex workers is low but has increased 66-fold over the last five years. Condom use is rare, and reported STD cases have increased tremendously, including a rising number of HIV cases among them. There is little reliable information on how many people may have been exposed to HIV through heterosexual contact. Factoring in the possibility of multiple partners increases the uncertainty.

The fourth sub-epidemic is driven by homosexual or bisexual men. This population is probably large, but precise numbers are unknown. HIV is spreading among this population, and estimated rates exceed 10 percent. The majority of men who engage in homosexual or bisexual activities are in stable marriages with women. Because homosexual behavior is illegal, Chinese authorities have little effective access to this group.

To date, only 30,000 HIV cases have been identified, although estimates are that the actual number of cases is at least three times greater. The vast majority of HIV-positive people remain unknown, and it will be difficult to identify and reach them to provide treatment and care.

China, according to Dr. Wu, is beginning to address the threat of HIV/AIDS frankly and pragmatically. The country has a population of 1.3 billion, approximately 24 percent of the world's population. Its current HIV/AIDS infection rate is low—about 0.066 percent, but if that infection rate were to triple, it would result in an additional 1.7 million infections. If the infection rate increases to 4 percent, China's HIV-positive population would reach 42 million, matching the current number of people with the disease worldwide. China's strategy is to control the epidemic in its early stages and prevent the incremental increases that will create millions of new sufferers. China has proposed six nationwide priorities: primary prevention; voluntary counseling and testing; care and treatment for HIV-infected persons; surveillance; comprehensive training; and blood safety.

China's current five-year action plan proposes promising strategies like condom promotion, methadone maintenance, and social marketing of needles. The approach to injecting drug users concentrates on education, detoxification centers, and community programs. Similarly, there is a re-education program for sex work-

ers, although to date, outreach to sex workers in entertainment zones has been limited. Pilot projects on these various fronts have been successful, but a national policy to expand effective programs is now required. It is also essential to review existing laws and regulations, with a view to revising legal obstacles to an effective campaign against HIV/AIDS. The central government has recently increased its financial support, but given China's huge population, the increased budget is still not enough for an effective AIDS control program. Across the board, the challenge is to respond quickly and on a national scale to these epidemics.

DR. HAO YANG, DIRECTOR OF THE DIVISION OF AIDS, STDs, TB, AND LEPROSY, WITH THE CHINESE MINISTRY OF HEALTH'S DEPARTMENT OF DISEASE CONTROL AND PREVENTION, provided additional detail on the Chinese government's current AIDS response.

The first reported case of AIDS—a foreign tourist—occurred in 1985. The first report of a China citizen infected with HIV through sexual transmission occurred in 1989. That same year, HIV infection was first reported among injecting drug users, and in 1995, the first case of HIV infection through mother-to-child transmission was reported. From 1985 to 2001, officially tabulated cases increased rapidly, although actual numbers are even higher. Approximately, 6 to 8 percent of HIV cases were transmitted by injecting drug use, 9.7 percent from illegal blood plasma collection, and 74.2 percent by sexual activity. By the end of June 2002, HIV infection cases numbered about 1 million, although the NIC report estimates 1.5 million. Both figures demonstrate that the HIV/AIDS situation in China has reached grave proportions. The majority of cases are "under water, like an iceberg", dangerously undetected.

The government, according to Dr. Hao, has defined the duties and responsibilities of various government ministries and commissions. The National Committee for HIV and AIDS Control Coordination was established in 1995, and the HIV and STD Prevention and Control Committee was set up within the State Council under the chairmanship of Minister Dr. Li Lanqing, who also chairs the Coordination Committee (Minister of Health Zhang Wenkang is vice chair). The State Council has issued its plan for HIV prevention and control from 1998 to 2010, and a China Action Plan for AIDS prevention and control from 2001 to 2005. The latter will monitor current work on STDs, HIV, and AIDS prevention and control. The government is now attempting to mobilize the whole society in support of HIV/AIDS prevention and control.

Central government expenditure on HIV/AIDS prevention and control has increased from \$1.8 million to \$12 million per year, and will double again next year. The central government has allocated \$144 million to construct blood centers to ensure blood safety. Local government expenditure has also increased. The central government has allocated funds to establish 101 HIV/AIDS sentinel surveillance sites and 24 STD sites. These sites will target five population groups: STD clinical patients, prostitutes, drug users, long distance travelers and migrants, and pregnant women. Over 1,500 screening centers and 41 confirmation laboratories have been established.

The Ministry of Health is also attempting to improve health education and, in collaboration with the Ministry of Publicity and other concerned agencies, is formulating a publicity strategy for a campaign to improve HIV/AIDS awareness. Mass media and public service advertisements will disseminate key HIV/AIDS messages. The Health Ministry is working with the Ministry of Education to include HIV/AIDS education in the middle and high school curriculum and is seeking to change behavior patterns among high-risk populations. It is also considering introducing a social marketing program targeted at injecting drug users and sex workers. Further, the government is devising programs to counsel and educate STD patients about HIV/AIDS and condoms, and is considering undertaking a methadone replacement survey among injecting drug users.

China is working closely with UN agencies and the governments of the United States, the United Kingdom, Australia, and Canada to improve prevention and care programs. It is eager to work with NGOs such as Médecins Sans Frontières, Health Unlimited, the HIV, STD, and AIDS Prevention and Control Association, and the Chinese Association of Preventive Medicine in promoting local and national HIV/AIDS and STD campaigns, and it is collaborating with youth leaders and women's federations, labor unions, and the Red Cross.

China is also seriously considering providing antiretroviral treatment, establishing a community-based care model, and taking steps to prevent mother-to-child transmission. As part of this program, the Health Ministry is working with the German pharmaceutical company Boehringer-Ingelheim, which provides Nevirapine free of charge to prevent mother-to-child transmission.

Many problems remain. China's large population of drug users exceeded 900,000 in 2001. The proportion of injecting drug use among them is also increasing. An estimated 53 percent of drug users share needles and serums, an increase of 37 percent in recent years. China's prostitute population is also increasing, as is the number of clients. The number of STD cases remains high. There were 156,000 new cases reported in the first quarter of 2001. The homosexual population, which remains largely underground, is very active and difficult to estimate. The Department of Public Security claims there are one million homosexuals in China. Condom use among prostitutes and their clients remains low and, as prostitution and homosexual behavior remain illegal, it is difficult to address these problems effectively.

Another risk factor is China's migrant population, estimated at 120 million persons. Huge populations of poor people are moving from rural areas to more developed cities. Most have little knowledge of HIV, and knowledge of the disease among the general public is also low. Although the government is using the mass media and newspapers to explain the dangers posed by HIV/AIDS, it is difficult to reach people in rural villages and isolated regions.

The provision of care and treatment will be a heavy burden. China currently produces only one drug—AZT—but as the virus mutates it creates resistance to the drug. Ongoing negotiations with overseas pharmaceutical companies have so far not yielded an agreement on an appropriate price level. The Chinese government will adhere to WTO regulations and will only manufacture antiretroviral medicines with a clear prior understanding with the WTO. But negotiations continue. Already

80,000 to 100,000 patients would benefit from antiretroviral therapy. The cost of treating them all is prohibitive and will require mobilizing both national and international resources and satisfactory negotiated pricing arrangements.

KURT TONG, COUNSELOR FOR ENVIRONMENT, SCIENCE AND TECHNOLOGY AT THE U.S. EMBASSY IN BEIJING, discussed China's overall response to HIV/AIDS and areas where the United States and China could collaborate effectively. The two countries have a long history of working together on medical and health issues. Researchers at the National Institutes of Health (NIH) have for years collaborated with China on a broad range of health problems. The Centers for Disease Control and Prevention (CDC) has experts in Beijing working on areas such as hepatitis immunization, polio eradication, and using folic acid to prevent birth defects. These collaborations have been successful and have set valuable precedents for the collaborative work that is possible on HIV/AIDS.

Two or three years ago, much of China's leadership, including some health officials, still downplayed the potential severity of HIV/AIDS in China. As recently as six months ago, China's leadership and the informed general public were convinced that China had a serious HIV/AIDS problem, but they still lacked a solid understanding of the policy innovations and the financial, organizational, and intellectual resources required to make China an HIV/AIDS success story, rather than an HIV/AIDS tragedy. Progress in China over the last few years has been encouraging, but that there is still much room for improvement.

What are benchmarks for future progress? First, when central and local government funding reaches an order of magnitude larger than the current level. Central government funding may double next year; however, that increase alone will be insufficient. Second, consistent, high-level involvement is important. And third, information and debate on questions related to HIV/AIDS need to be broached as openly as, for instance, environmental issues are now handled. HIV/AIDS has progressed from being a taboo issue and is becoming a more open issue in China, but it isn't yet a fully open issue. Nor has China adopted a "war-on-AIDS" posture. Technical understanding of the problems and of key strategies required has improved but is limited to a relatively narrow range of specialists. There is a commitment to a multisectoral response, but the high-level leadership that is required to force all sectors of the government and society to organize and engage each other at the local and national level is not yet manifest.

To date, China has put the greatest emphasis on HIV/AIDS prevention, and health leaders have systematically investigated other countries' control strategies. There are pilot projects to test these strategies, and much has been learned about what may or may not work in different regions and among different target populations. These projects have included some socially radical approaches, including reaching out to drug users and commercial sex workers. The next stage is for China to study how Thailand and other countries have successfully scaled up pilot strategies. This is precisely where foreign governments and NGOs can be of greatest assistance, not necessarily by simply paying for expansion, but by helping strategize on how it can be done on a larger scale. Foreign financing for key initiatives can be

critical to breaking down barriers to new strategies and programs. At the same time, the bulk of the cost of fighting HIV/AIDS in China will be borne by China.

On what should foreigners focus? First, they should share experience and expertise from other countries, providing general advocacy to help China's top leaders understand the importance of action. This is precisely what CSIS is doing with its upcoming delegation to Beijing in January 2003. Second is to provide technical know-how and international expertise and experience to help China in designing its response to HIV/AIDS. Already a significant number of international NGOs are working with local governments and community-based organizations around China.

In June 2002, when Secretary of State Powell met Health Minister Zhang, they agreed on the urgent need to address the growing epidemic in China and on its national security implications. Also during that trip, Minister Zhang and Secretary Thompson signed a Memorandum of Understanding on cooperation in HIV/AIDS. Following that agreement, the CDC moved forward plans to station two HIV/AIDS experts in China, together with Chinese staff, focused initially on helping design and establish a more effective surveillance system. The NIH has made some of its largest ever grants overseas to China for cooperative research on HIV/AIDS and strategies to fight it, and there are now a number of NIH-funded HIV/AIDS research projects under way in China. The U.S. Agency for International Development (USAID) is considering expanding its HIV/AIDS prevention program from the Macau region into China's southern provinces. China recently submitted an application to the Global Fund to Fight AIDS, TB, and Malaria, to which the United States is a major contributor, for help in attacking the problem of testing and treating the many people in central China who contracted HIV/AIDS through selling blood.

NICHOLAS EBERSTADT, HENRY WENDT CHAIR IN POLITICAL ECONOMY AT THE AMERICAN ENTERPRISE INSTITUTE, offered several comments on the presentations. First, true HIV prevalence rates in China are today unknown. There are no more than 60 surveillance sites in China, excluding Yunnan, averaging one site for every 20 million people. The equivalent would be two-and-a-half sites for all of Thailand.

Second, in some quarters of the Chinese government there is official stonewalling or worse on the sensitive blood plasma issue. Writing can be censored, but epidemics cannot. For these reasons, current estimates may understate, rather than overstate, the scale of the problem. China faces unique dynamics with respect to HIV/AIDS, such as the blood plasma issue, which is highly particular to China. There is also a mounting gender imbalance that is generating ever-higher numbers of unmarriageable males. And perhaps most important is China's floating population, the marginalized, officially invisible, juridically illegal migrant population that is moving from rural areas to urban areas, acting as a carburetor for HIV/AIDS.

Third, HIV/AIDS could become a serious drag on China's economic growth by 2010. China's leadership would be well advised to regard HIV/AIDS as an economic problem as well as a humanitarian and medical problem.

Finally, China will encounter special difficulties in coping with HIV/AIDS in the future. While Thailand's success relied on a strong civil society, active and unfettered NGOs, and a trust in government, China currently lacks these three critical elements. With respect to antiretroviral therapies, the cost-benefit calculations are very unforgiving for poor populations. Even if medications were given away for free, in many parts of China the cost per worker per year would still be \$1,000, which would be unaffordable and would not stand up to cold cost-benefit analysis.

Discussion

■ Do the dynamics of the disease vary by region in China?

The dynamics of the disease do vary by region, said Dr. Hao. Paid plasma donors are primarily located in seven provinces of central China, including Henan, Jiangxi, and Hebei, where in 1995 roughly 10,000 people selling plasma actually had HIV transmitted by infected blood. The drug user epidemic is located primarily in Hunan, Guangxi, Sichuan, and Xinjiang provinces, and Shanghai. The epidemic among sex worker centers mainly in more prosperous areas, like Shanghai, Beijing, Tianjin, Fujian, and Guangdong.

The IDU epidemic, said Wu, will continue to be a major problem in China. The plasma epidemic will end in the near future, although there will be a secondary wave of sexual transmission. Inexorably, China's epidemic will be driven by heterosexual transmission by sex workers, who tend to stay in one place for only a few months and then migrate to other urban centers, carrying the virus with them. There are a huge number of people involved in the sex business, drawn from different classes; many of them are married and many eventually infect their spouses. It is predicted that the epidemic among sex workers will develop in conjunction with the epidemic among injecting drug users, particularly in Yunnan and Guangxi and then spread to other places.

■ How is the government of China engaging nongovernmental organizations in the fight against HIV/AIDS?

China recognizes, said Dr. Hao, the importance of engaging civil society and NGOs in prevention and control of HIV/AIDS. The government has already established working relationships with the National AIDS and HIV Prevention Association and the Red Cross. But the concept of NGOs in China is different from elsewhere, noted Kurt Tong. Nongovernmental organizations in China range from "GONGOs" or "government-owned NGOs," which are really extensions of ministries, to grassroots organizations established by communities themselves. In the health sector, grassroots organizations have not yet flourished.

The government and Health Ministry welcome participation by grassroots organizations, especially on HIV/AIDS, other independent experts observed, but few are active in the health sector, and there are several stark obstacles to involving community groups. The biggest barrier is expertise, since knowledge about HIV/AIDS is not widespread. There are also legal barriers. For example, if an NGO wishes to get involved in voluntary counseling and testing, it can do the latter, but

testing must be done, according to current law, by a government agency. Similarly, care can be provided by a community-based NGO, but treatment cannot.

■ **How is the government of China addressing the issue of stigma associated with HIV/AIDS?**

Addressing stigma is another huge challenge for China. It will take time to reach marginalized groups effectively, and it will be crucial to get cooperation from other government sectors and from China's topmost national leadership. Stigma is particularly difficult in that the government cannot simply mandate a society-wide change in attitudes toward, for example, homosexuality. There are legal issues as well. China, like many countries, is struggling with how drug use and prostitution should be best handled legally. The UN Development Program has funded promising preliminary work on reforming Chinese law to address issues where Chinese law conflicts with the goal of HIV/AIDS prevention.

Bates Gill noted that the HIV-afflicted population in China is mostly within marginalized segments of society, often engaged in illicit activities, like prostitution and intravenous drug use. As the epidemic moves increasingly into the mainstream heterosexual population, the political dynamic of HIV/AIDS in China will change considerably.

Above the level of Health Minister Zhang, said Gill, there needs to be a far more public display of commitment and interest in combating this disease. Top-down leadership is required if there is to be measurable movement on HIV/AIDS prevention and control measures. With the world's oldest bureaucracy, China is especially good at confining policies to bureaucratic stovepipes, which impedes multisectoral and multi-ministerial cooperation. As the country modernizes, the central authority is having increasing difficulty operating through local and provincial levels to ensure that national plans are implemented.

Intellectual Property

Panel Cochairs:

Sherman E. Katz

CSIS William M. Scholl Chair in International Business

Carol M. Browner

Principal, The Albright Group

Sherman Katz opened the panel on the impact of the second wave on intellectual property rights and affordable access to treatment. Carol Browner, principal with the Albright Group, cochaired the panel.

The conventional wisdom on intellectual property rights (IPRs)—that patents encourage innovation and growth—is now under serious scrutiny. The British Department for International Development created the Commission on Intellectual Property Rights, comprising lawyers, bio-ethicists, and industry executives, to determine how, and perhaps whether, IPRs benefit poor countries. On September 12, the commission issued its report, which contained a clear and controversial message: poor countries should avoid committing themselves to rich-world systems for protecting intellectual property unless those systems will meet their national interests. At the same time, the commission said that rich countries should not push poor countries to adopt such systems, at least until the longer-term benefits of those systems are better demonstrated.

Poor countries, however, don't have the luxury of time in adopting intellectual property rights. Indeed, any country that wants to be a member of the World Trade Organization must also sign up to the Agreement on Trade-Related Intellectual Property, or TRIPS. This sets out minimum standards for legal protection of intellectual property, and when this agreement was created in 1993, poor countries, no matter how poor, had until 2006 to comply. Moreover, TRIPS lays out ground-rules, which extend IPRs to areas such as computer programs, integrated circuits, plant varieties, and pharmaceuticals, all of which had been unprotected in most poor countries.

Although many poor countries felt that TRIPS was highly disadvantageous, with high costs and scant benefits, most agreed that they had to sign up, for lack of alternatives. But a few developing countries, India and Brazil foremost among them, have challenged western standards of IPR, with particular regard to health and agriculture.

The British-funded commission noted that the wording of TRIPS gives poor countries latitude to protect their national interests when setting up intellectual property systems. Indeed, at the instigation of the Africa Group, a caucus within WTO, the Doha Ministerial Meeting in November 2001 produced a special declaration on drugs. That declaration, which committed WTO to a developmental agenda, effectively gave primacy to public health and emergency health crises over intellectual property rights, and also gave the poor countries an additional 10 years, until 2016, to adopt the systems required by TRIPS. Now, by the end 2002, the task for the TRIPS Council is to find a way to deal with the compulsory licensing problem. Article 7 of the TRIPS agreement states that when countries adopt intellectual property systems, they should not only stimulate innovation and growth, but they should also stimulate social welfare. Article 31 also says that, in the event of health emergencies, countries should be entitled to undertake compulsory licensing, i.e. licensing and distribution without the permission of the patent holder.

The tough unresolved trade question is: what if a particular country, facing an emergency, doesn't have the ability to produce the drugs? Should countries like India and Brazil be able to export the drugs they produce to countries with national health emergencies? By 2006, India and Brazil are slated to follow all the same rules as advanced countries. How these issues will be worked out in TRIPS remains to be seen.

PAUL SALMON OF THE U.S. PATENT AND TRADEMARK OFFICE (PTO) examined the patent situation in the five second wave countries. The existing TRIPS agreement, said Salmon, should provide needed patent flexibilities for China and Russia, both of which have robust manufacturing facilities. Ethiopia has no HIV drug patents registered; Nigeria has very few or none; and India does not yet provide patent protection for pharmaceuticals. The U.S. government is committed to helping countries address their public health crises, but in the view of the U.S. PTO, patents are not a major obstacle and are, in fact, part of the solution.

The ministers at Doha clearly reaffirmed their commitment to the existing TRIPS agreement and the importance of intellectual property rights to the development of new medicines. In doing so, they signaled that the TRIPS agreement helps, versus hinders, improving access to pharmaceuticals. In addition to extending the deadline for least-developed countries with regard to pharmaceuticals, the ministers also affirmed the flexibilities contained within the TRIPS agreement, like the ability to use compulsory licensing in cases of national public health emergencies. WTO members are currently seeking an expeditious solution to problems that some members with insufficient or no manufacturing capacity in the pharmaceutical sector will face. Such members may not be able to use effectively the compulsory licensing provisions of the TRIPS agreement.

The U.S. government tabled papers in March and June 2002 that underscore its commitment to developing a solution to this specific problem for poor countries, while at the same time trying to avoid creating a huge loophole in the TRIPS agreement. Two recent studies, one commissioned by World Intellectual Property Organization, the other published in *the Journal of the American Medical Association*, point out that HIV antiretroviral drugs are not widely patented in least-

developed countries. Rather, drugs are more often patented in countries that have pharmaceutical manufacturing capacities. As noted by numerous reports of UNAIDS and other groups, the major obstacles facing poor countries include lack of health care infrastructure, lack of financing, and a lack of political will. These countries will require outside assistance, whether for generic drugs or discounted brand-name drugs.

All second-wave countries, except for India, provide patent protection for pharmaceutical products. All also have compulsory licensing provisions to permit the government to grant licenses when faced with public health emergencies. China's patent law of 1984 was amended in 1992 in response to a Memorandum of Understanding signed with the United States. The 1992 amendment introduced, among other things, the patentability of pharmaceutical products. It also extended the patent term from 15 years to 20 years. In 2000, the Chinese patent law was again amended to bring China's compulsory licensing provisions in line with the safeguards of Article 31 of the TRIPS agreement.

Ethiopia adopted its first law protecting inventions through a 1995 proclamation and established implementing regulations in 1997. Pharmaceutical products in Ethiopia are protected for 15 years from the filing of an application. An additional five-year extension may be granted. Ethiopia is an observer to the World Trade Organization, but not yet a member.

India's patent law dates from 1970 and has been amended twice. In 1999, the amendment provided for the acceptance of mailbox applications for pharmaceutical products, but protection is not guaranteed. The 1999 amendment was made retroactive to 1995, in line with TRIPS obligations. The patent term of 14 years for most products was amended in May 2002. Now all patents receive a term of 20 years from the filing date. Evidence of implementation locally is required within three years of the grant of a patent.

Nigeria's patent law also dates from 1970 and provides protection for pharmaceutical products with a patent term of 20 years from the filing. Applications in Nigeria undergo a formal examination only and are not substantively examined. Patents are therefore granted without any guarantee of their validity. The patent law does require local enforcement or implementation within three years from the grant. Otherwise, compulsory licenses may be granted.

Upon the dissolution of the Soviet Union, Russia announced that former Soviet obligations and treaties would apply. Russia adopted a new patent law in 1992. Under the prior Soviet law, patents were not granted for pharmaceutical products. Only inventor certificates were available, which gave the government the exclusive right to use the invention for 15 years. Under the 1992 law, patents are available for pharmaceutical products for a term of 20 years from the filing and compulsory licenses are available where patents are not operational. Compulsory licenses are also available for dependent patents in national defense cases. A draft law is currently before the Duma to bring these provisions in line with the safeguards of Article 31 of TRIPS. It should also be noted that Russia has never granted a compulsory license.

NILS DAULAIRE, PRESIDENT OF THE GLOBAL HEALTH COUNCIL, offered his perspective as a medical doctor and public health practitioner who has worked for several decades in the developing world. Why discuss patents if patent law is not really an obstacle in treating HIV/AIDS?

There are 40 million HIV-infected people in the world; just under 30 million reside in sub-Saharan Africa. In the past year there were 5 million new infections. Experts estimate that in all of sub-Saharan Africa approximately 30,000 people receive antiretroviral treatment for HIV infection. That's one-tenth of 1 percent of the people who are infected.

Who are these people? Most are desperately poor, living on less than \$2 per day. They live in societies that rarely spend more than \$10 per person per year in health care costs. The United States spends approximately \$4,000 per person per year. There is no question that antiretrovirals are not the answer to HIV/AIDS, but they are a critical means of assuring the survival and the continued economic productivity of people who are suffering from the disease. Antiretroviral therapy has had a huge effect in the United States and other developing countries.

Why is access to these therapies so low in the developing world? Is it because people living in these countries are unable to keep to the regimens? Previous programs to administer four-times-a-day regimens of antibiotics to treat childhood diseases have been successful, using simple pictograms. Access to services is certainly a factor, but most people in the developing world do have limited access to some clinical services. Perhaps 80 percent have limited access to relatively poor services, but that leaves considerably more than one-tenth of 1 percent with access to decent services, where, if the drugs were available, it would be possible to get treatment.

That leaves cost. The United States spends between \$10,000 and \$20,000 per HIV-positive person annually on antiretroviral therapy, well in excess of what the developing world can afford. Is this market failure? Demand exists, but it is not effective demand. There are 40 million people who will need treatment for HIV/AIDS. What can be done to bring treatment?

A great deal of debate has surrounded TRIPS and intellectual property issues. Although TRIPS is not the problem, it is clear that there was a very substantial change from the prevailing approach when TRIPS was adopted in the early 1990s. Industry has aggressively defended intellectual property even in places where TRIPS had not come into full force. Many countries fear trade retribution if they too aggressively challenge patent protections on antiretrovirals. Such fears may be subsiding as a result of the most recent WTO decisions taken at Doha.

Compulsory licensing is put forward as a remedy. Pharmaceutical companies point to the high cost of inventing and manufacturing new drugs; their business model is to put resources into research and development of new drugs. This is quite different from that of manufacturers of generic drugs, where investment goes into producing drugs more cheaply. There have been dramatic changes in the last two years. Cipla, a generic manufacturer in India announced a year and a half ago that it would provide a triple therapy at a cost of \$350 per person annually, down from the lowest market price prior to that time of between \$3,000 and \$5,000 per person

annually. Cipla based this decision on its calculation of what a very large market could bear in terms of the marginal cost of production.

Many small poor countries cannot afford generic manufacturing. This is where the issue of “parallel trade” comes in: whether those countries should be permitted to import generic drugs from places like India or Brazil at low cost to the importing companies. Parallel trade raises the risk of leakage and diversion. According to recent reports, low-cost HIV drugs from GlaxoSmithKline, intended for Africa, reappeared in Europe at market cost. There will clearly be a need for stringent regulation and oversight.

The question remains, however, of what is to become of the 40 million people—next year 45 million; the year after that 50 million—who are living with the HIV virus? Will they be simply written off because they cannot meet market conditions, or will the world seek extraordinary measures in the face of an extraordinary epidemic? Intellectual property protection is critically important for new discoveries, but it is equally critical that the world finds ways to deal with those persons who live outside the commercial marketplace.

SUSAN KLING FINSTON, ASSOCIATE VICE PRESIDENT OF PhRMA (the Pharmaceutical Research and Manufacturers of America), presented an industry perspective.

First, prevention is critical in the fight against HIV/AIDS. If national HIV prevalence rates get out of control, it becomes almost impossible to treat entire populations, at any drug price, because the epidemic overburdens society. The Senegalese government has proactively kept HIV prevalence rate under 2 percent. In countries like Uganda, Senegal, and Botswana, where Merck and other companies are working in active partnership with their respective governments, national leaders have made public health a major national priority and are committed to stopping the spread of HIV/AIDS.

Unfortunately, China and India are at the beginning stages, despite warnings of impending crises. India has already reached the crisis stage that sub-Saharan Africa has faced. Mumbai state is now the epicenter of the disease, and there are 10,000 new HIV cases every day. A recent article in *The New Yorker* made the point that even if drugs were free in India, they would be of little use because 70 percent of India’s population resides in remote rural areas. Many do not have access to potable water and many use non-western medicines. These countries must put a higher priority on public health. Commitment is needed all around, and the pharmaceutical industry is committed to playing its part.

On the positive side, TRIPS does, with the current mechanisms of the Doha Declaration, accommodate developing countries’ needs. PhRMA members have reached agreements through the Global Access Fund and the UNAIDS Accelerated Access Initiative to improve affordable access to essential medicines in acutely affected countries. The 30,000 to 35,000 individuals getting treatment in Africa, although such treatment is still grossly inadequate, are getting assistance from PhRMA members, not from generic manufacturers like Cipla. Cipla’s triple therapy has not had any clinical trials, and is in a sense a clinical experiment on Africa. U.S. companies would be forbidden by health authorities from doing what Cipla is doing.

Medicines currently on the market cannot be patented retroactively. Patents only protect future innovations. Thus everything on the market now in India, China, Russia or anywhere else, from before the time of patents, will continue to be available. In fact, the Indian industry has said that, from 2015 onward, all essential drugs may be produced legally in India and, therefore, exported. Although many developing countries criticize the TRIPS agreement, it is in fact market access on textiles and agriculture, not TRIPS *per se*, that they are most unhappy about.

How then to provide access to effective medicines? First, the medicines must exist. The poorest countries of the world need new treatments for tuberculosis and malaria, and will need a new generation of treatments for HIV/AIDS. Once Indian scientists have patents, they will almost certainly innovate more. Right now India innovates 0.1 percent of its funds because there are no incentives. In Jordan, for example, there is a “virtuous circle” in which the government is committed to health care reform and is promoting the conditions that bring benefits to patients across the board. Jordan first adopted TRIPS legislation and then adopted legislation to provide for clinical research. Now the country has clinical research organizations, is developing new drugs, and has developed better regulatory processes for getting drugs on the market. Coming into the WTO, once it had a patent system, Jordan found it had applications and people wanting to do research, and it is now developing an innovative industry, exporting high-quality generic products to Europe and elsewhere.

PhRMA believes that there must be a focus on providing developing countries and those without capacity with the medicines they need. Member companies are committed to work in partnership. Patents are not the substantial barrier, and TRIPS has sufficient flexibility. Compulsory licensing and parallel trade can lead to counterfeit products, re-labeling and diversion.

PhRMA members seek expanded partnership opportunities. In the last three years member companies have expended more than \$2 billion in providing products for the 30,000 people in Africa who are getting treatment, far more than the Global Fund has done or is likely to do in the next year. The problem should not be privatized to one industry. If that happens, we may destroy the system that will eventually prove to be a crucial component of the solution.

TODD SUMMERS OF PROGRESSIVE HEALTH PARTNERS and chair of the CSIS Task Force committee focusing on international resource mobilization and coordination, responded to the presentations, posing questions with particular reference to the role of the Global Fund.

The Global Fund will soon make fundamental decisions regarding its role as a purchaser of commodities, including drugs, from some of the country manufacturers that have been discussed, like India. How does the NGO community see the Global Fund working in relation to access to medicines? Is there a price point at which antiretroviral treatments can be effective for low- and middle-income countries?

Nils Daulaire responded that the NGO community does indeed see the Global Fund as central to improving access to drugs. In TB and malaria, treatment plays a critical part. Prevention of HIV/AIDS by itself is unlikely to work, despite successes

seen in Senegal and Uganda. Access to treatment remains critical to fighting the disease.

What is affordable? Ultimately, if the cost of treatment is not affordable, it will be very difficult to sustain treatment in the long-term, despite the hopes pinned on the Global Fund. What is affordable and sustainable for a lifelong, life-threatening disease? Global Health Council estimates \$30 to \$50 per year—for a person earning between \$1 and \$2 per day—a tenth of the current level of Cipla's currently advertised pricing. Some experts believe that with current technology it would be possible to reduce manufacturing costs to \$100 per person annually, still two to three times higher than what is affordable.

Responses from the Delegates

CHINA. Protecting intellectual property is important, but protecting people's health is also very important. Some suggest that China should follow the example of Brazil or India to produce medicines itself, but the Chinese government decided that the country has a responsibility to follow the rules of the WTO. China therefore does not currently manufacture or produce medicines. The country is working with an international pharmaceutical company to secure drugs at reduced prices, allowing treatment for HIV patients at about \$500 per year, which would be affordable. But if the country cannot secure that price, it will consider other solutions. The Intellectual Property Bureau suggests that China negotiate with WTO to adopt compulsory licensing, which WTO allows for countries in emergency status.

Paul Salmon noted that what China proposes has been a proven strategy in other countries. Brazil, for example, threatened the use of compulsory licensing for certain drugs but determined that it was actually more cost-effective to buy the drugs from branded companies under discounts, with the accompanying quality assurances. Under WTO rules, if there is no emergency, the country must first try to negotiate with the patent holder. In an emergency, it does not need to take that step. That is part of the flexibility built into the TRIPS agreement.

INDIA. Deliberations on access and intellectual property rights should not lose sight of public health issues and the people who are waiting to be served. Sixteen African countries are among not only the most heavily indebted, but also the most highly infected with HIV/AIDS. Should regimes and protocols be imposed on countries that are unable to meet the minimal public health requirements of their own populations? And should consumers in these countries be denied affordable access to essential medicines until outstanding issues within the WTO framework are resolved?

NIGERIA. Three million Nigerians are HIV-positive. The public health budget is such that if care were to be provided at the price levels prevailing in the United States, Nigeria could treat possibly 1,000 people per year. Nigeria made the deliberate decision to import from Cipla, because it ensures access to care to a large number of people. Since Nigeria began using Cipla's triple combination therapy six months ago, it has seen the quality of life improve among those treated and brought CD-4 counts and viral loads under control. Cipla may not have undergone the same rigorous testing that some Western pharmaceuticals have gone through. Nigeria

would rather import drugs from brand-name manufactures, but those drugs are currently up to 15 times more expensive than Cipla's. Even if Cipla drugs were half as effective as brand-name drugs, Nigeria would rather use them than do nothing at all.

Other countries in the region have been able to negotiate access to drugs at either a donation level or 90 percent discount rates, within \$100 a year of the Cipla rate. But Nigeria's HIV-positive population—3 million—is larger than the entire population of many African states. What is possible for a country like Botswana, with its total population of 1.6 million, is simply not realistic in Nigeria.

ETHIOPIA. Ethiopia has devised draft rules on patents, trade and copyrights, and has formed a cabinet committee to examine the issues in more detail. The government is working on guidelines for antiretroviral drugs but is not currently in a position to produce or even import these drugs on a sustained basis.

Patent protections, said one nongovernmental delegate from Ethiopia, are created to protect the most powerful organizations that need the least protection, whereas the lives of millions of people in the developing world are at risk.

Discussion

■ If Cipla drugs are subject to stringent approval processes, what are the risks and how should countries balance costs and benefits?

If countries settle only for the “gold standard,” either on specific drugs or regimens of care, said Nils Daulaire, they are in fact condemning people who live in poverty to not receive care. A project in Nepal reduced child pneumonia deaths by 28 percent through simple diagnoses using a respiratory rate that would never pass muster in a U.S. hospital. The world needs solutions that are workable and practicable. Obviously, the gold standard is desirable, but should not prevent countries from taking action.

Susan Kling Finston replied that it is not a question of the “gold standard”; PhRMA objects when there is no standard at all. Generic producers have a very important role to play for products that are no longer patented or where there are agreements, and many local companies do a good job. But should India send to Africa products that they have chosen not to put through the same process required for domestic sale in India?

Jay Okey, acting national intelligence officer for the NIC's Office of Global and Economic Affairs and an author of the NIC report, pointed out that the cost of antiretroviral drugs is only a small portion of total costs. Whatever the cost of the drugs, to be effective will require an ongoing mechanism for testing and adaptation. A combination of drugs that works one month may be completely ineffective in six months. If the health infrastructure is not equipped for constant testing and changing of cocktail formulas, drug therapy will not be effective.

Dr. Girija Vaithiyanathan, secretary of health in Tamil Nadu, India, objected to sweeping generalizations about the quality of developing country health infrastructures. First, there is significant regional variation within countries or even states or provinces. Tam il Nadu, for example has successfully stemmed major public health epidemics, including malaria and tuberculosis to a reasonable extent, eliminating

polio almost entirely. No two places will be the same in the abilities even within a country or a state or a community to confront the problem and develop solutions. Second, in most cases, once treatment is available and begun, the infrastructure itself improves operationally. Nils Daulaire agreed, saying that in country after country, when clinics are supplied with basic drugs—like antibiotics, oral rehydration salts, and vaccines—it reinforces the capacities of the health system, as people demand services that they come to recognize should come from the health system. That creates a positive feedback loop.

Discussion made clear that the issue of affordable access will remain contentious and complex. If the total cost of treating HIV-infected patients is \$500 a year, for example, and the NIC estimates up to 75 million HIV-positive people by 2010 in the five second-wave countries, the totals required will be well over \$30 billion a year. Current efforts focus on raising global expenditures for HIV/AIDS to \$9 billion a year. Clearly, a much more consolidated effort is required among pharmaceutical companies, public health infrastructures, activists, donor institutions, and countries to think strategically about how to raise and allocate the totality of these costs as the costs grow exponentially.

India

Panel Cochairs:

Ambassador Teresita Schaffer

Director, CSIS South East Asia Program

Geeta Rao Gupta

President, International Center for Research on Women

Congressman Jim McDermott (D-Wash.) emphasized that the pandemic in India has been a long time in the making. The Indian response to HIV/AIDS was understandably slow to emerge—HIV was perceived as a future threat as opposed to immediate urgent health challenges, including tuberculosis, malaria, diarrhea, and cholera.

The United States must remain engaged on HIV/AIDS. Contributions to the Global Fund have so far been inadequate. Contributions to the fund need to approach \$1 billion annually, but although Congress authorized \$750 million, only \$300 million was appropriated. It will be tragic if the United States spends between \$100 and \$200 billion on a military operation in Iraq, and cannot find a billion dollars per year to battle HIV/AIDS. A key challenge will be to spend the monies available for HIV/AIDS in a way that demonstrates concrete results.

Ambassador Teresita Schaffer emphasized that India's size and diversity present a formidable challenge in fighting HIV/AIDS. Disaggregating problems is crucial, since states differ from one another in their demography, geography, the capabilities of governmental structures and civil society, both nationally and at the state level. India also illustrates the importance of not relying only on one instrument for dealing with the multifaceted HIV/AIDS crisis. Central government, state governments, freestanding institutions, and civil society groups all have important roles to play. While China has the advantage of having a well-developed national governmental system in a country that has an even larger population than India, India is advantaged by its highly developed, diverse array of civic organizations.

Geeta Rao Gupta noted that India is often described as the “new” epicenter of the global epidemic. What then can it learn from the experience of countries that have been at the epicenter of the epidemic for many years? One lesson is that countries cannot pit prevention, treatment, and care against each other. They are all essential, and although there are many barriers that hinder progress, creative solutions are possible and promising private-public partnerships are emerging.

A second key lesson is the centrality of social, cultural, and economic aspects of the pandemic, in particular gender roles and norms. There is an unequal balance of

power in gender relationships in India and elsewhere: men have relatively more access to economic resources and higher social status, making it easier for them to negotiate access to protection, care, treatment, and services. Women, by virtue of their lower social and economic status, are far less able to protect themselves. Unless that social and economic disparity is addressed head-on through economic interventions, there will be little progress in addressing the spread of this epidemic.

A third lesson is that violence against women, particularly sexual violence, the most flagrant expression of the unequal balance of power, must be confronted. Sexual violence is directly related to women's vulnerability to infection; women who fear violence are unable to negotiate protection for fear of the consequences. Abandonment and destitution are very real consequences for many women who try to protect themselves. A recent study by the International Center for Research on Women in seven different sites in India showed that 40 percent of married women had experienced violence at the hands of an intimate partner, half of them during pregnancy.

A fourth lesson is the imperative to talk openly about sex. HIV is primarily a sexually-transmitted infection, and boys and girls must be provided with adequate information to protect themselves. Policy initiatives that push for abstinence only are problematic: abstinence is only one part of a larger message.

A fifth lesson learned is that HIV/AIDS is an infectious disease, but it is also a reproductive health illness. Family planning and reproductive health infrastructures are most often at the front-line in fighting the disease. Countries must continue to invest in that infrastructure. If resources to family planning are reduced, even as resources to HIV/AIDS rise, the entire effort is undermined.

MRS. MEENAKSHI DATTA GHOSH, ADDITIONAL SECRETARY IN THE INDIAN MINISTRY OF HEALTH AND FAMILY WELFARE AND PROJECT DIRECTOR OF THE INDIAN NATIONAL AIDS CONTROL ORGANIZATION, gave an overview of how the epidemic has evolved in India and what the country is doing to combat its spread.

In 1986, HIV prevalence in India was virtually nil, except for the state of Chennai, where the first case was detected. By 1990, HIV prevalence was more than 5 percent among high-risk groups in Maharashtra and Manipur states. In 1994, 1.74 million people were infected; by 1998, 3.5 million; by 2000, 3.86 million; and by the end of 2001, 4 million Indians were living with HIV, according to current surveillance systems. Nation-wide, more than 85 percent of the epidemic is transmitted sexually, up to 3 percent through blood transmission, 2.14 percent through injecting drug use, and 5 percent through unknown sources.

HIV/AIDS in India is not a single epidemic. Each state in India is bigger than many single countries, and each has a different epidemic with distinct vulnerabilities, stages of maturity, and impact. An effective response therefore calls for decentralized decision-making, diverse technical resource persons, and capacity-building at both state and national levels.

In Maharashtra and Tamil Nadu, the HIV virus is predominantly transmitted through heterosexual contact and confined to high-risk groups. A distinctly different epicenter, primarily driven by injecting drug use, has emerged in the northeast, particularly in the area that borders the Golden Triangle. Drugs come into the

country along National Highway 39 into Nagaland and Manipur, both high-prevalence states where the terrain is difficult, roads and communication poor, and where there are serious social, political, and economic problems. By 1998, all states and union territories in the country were affected, and by 2000, Andhra Pradesh, Karnataka, Manipur, Mizoram, Nagaland, and Tamil Nadu were all experiencing generalized epidemics with more than 1 percent of antenatal mothers testing positive for HIV. Gujarat, Goa, and Pondicherry were experiencing concentrated epidemics—5 percent prevalence among high-risk groups.

As a nation, India is categorized as having a low level epidemic, with prevalence among high-risk groups at less than 5 percent, and prevalence among antenatal clinic attendees at less than 1 percent. But the currently low-prevalence states are also among the most vulnerable because of their large population base, the high incidence of migration, mobile populations who spread HIV from urban to rural areas, low levels of literacy, early age at marriage, low social status of women, poor access to health services, and skewed distribution of economic resources.

India's National AIDS Control Program began in 1992 with an \$84 million loan from the World Bank and technical assistance from the World Health Organization's Global Program on AIDS Program. The program now has a budget of almost \$400 million, much of which is World Bank credit and grants from the United Kingdom's Department for International Development and USAID.

The program's objectives are to reduce the spread of HIV infection; contain prevalence at 3 percent in states with a generalized epidemic, 2 percent in states with a concentrated epidemic, and 1 percent in the rest of the country; and to continue to strengthen capacity to respond on a long-term basis. The program seeks to reduce blood-borne transmission of HIV to less than 1 percent; attain 90 percent awareness levels among youth and other segments of the population; and raise condom use to 90 percent among high-risk groups.

Even if India achieves these objectives, anticipated HIV infections by 2006 will grow to 9 million. If there is a 50 percent slippage in attaining these goals, infections will rise to 14.7 million. Given the 10-year median survival in India from the date of HIV-infection, by 2010 1.9 million people will have died from AIDS. Morbidity and mortality associated with TB will increase dramatically, due to HIV-TB co-infection, and HIV/AIDS will overtake TB as the leading cause of adult mortality.

There is a strong political commitment at the highest levels of government to fight the disease. Indian Prime Minister Atal Bihari Vajpayee has said that "no country, however mighty economically and advanced technologically, can liberate itself fully from HIV and AIDS until the entire human race can be so liberated. HIV is the single largest development threat facing India. The best way to respond is to act locally and to collaborate globally."

In 2003, India will implement the National AIDS Prevention and Control Policy, the National Blood Policy, community care and support, and home-based care. Based on India's community structures, its family structures, and its holistic tradition of community and home-based care, the government will strive to ensure that people at community levels gain access to appropriate services.

What are India's imminent challenges? First is the burden of disease. India has the world's second largest number of HIV infections after South Africa; 33 percent

of the world's tuberculosis cases; and 75 percent of the malaria load in the southeast Asian region. Despite this burden, India received no support in the first round of grants from the Global Fund for either HIV/AIDS or malaria funding, while tuberculosis efforts received only \$8.5 million. India was "appalled" that Sri Lanka, Thailand, and Indonesia received more funding, given India's disease burden, and many wondered whether the fund was a "global" fund at all. India's population size means that even a minuscule change in prevalence levels translates into astronomic new infections. A 1 percent increase in prevalence in HIV/AIDS means five million additional infections. Women are most vulnerable.

A second challenge is accessibility to condoms, a logistical and resource problem, especially with a highly mobile population. Many states have poor delivery capacities, and 100 percent coverage of high-risk groups is still a distant goal. Only in the states of Kerala and Mizoram are condoms available to more than 60 percent of the population within 15 minutes travel time. The three distribution routes—free supply, social marketing, and commercial marketing—must be expanded.

Low levels of awareness and the vulnerability of women remain stark challenges.

So too is reaching mobile populations. Currently, large numbers of people travel between the low-prevalence areas and Maharashtra and south India, where HIV/AIDS is rampant. The government has identified a network of state-of-the-art voluntary counseling and testing (VCT) centers as one means to reach mobile populations. Such centers will not only raise awareness but also reduce stigma and discrimination. Currently, there are VCT centers in all 132 districts of the six high-prevalence states. VCT centers are needed in 461 districts of the low-prevalence states as well. Existing VCT centers should be audited and the country should adopt standardized modules that will enable VCT centers to become a one-stop shop for communication of information, distribution of products, and delivery of services, as well as testing and counseling. They could act as centers for the prevention of mother-to-child transmission, and as STD clinics. The idea is to simultaneously address the need for information, advocacy, products, and services.

Another key challenge is surveillance. A nationwide behavior surveillance system was completed in 2001, and monitoring and evaluations systems are operating among the general population as well as among high-risk groups. However, the current sentinel surveillance systems do not tell the complete story. Typically, in low-prevalence situations the epidemic is confined to high-risk groups in urban areas. The workforce comprises migrant workers from rural areas, mostly single youth, who, even if they are married, come without their families to urban centers to increase savings and send remittances back home. These migrant workers often patronize sex workers, become HIV-positive, and act as a bridge for the virus to travel to rural areas in low-prevalence states. Existing sentinel surveillance sites cannot capture the rural-based epidemic.

India conducts an annual sentinel survey. In 1998, the country had only 55 sentinel surveillance sites; today there are 384, mostly in medical colleges and district hospitals—an improvement, but still inadequate. Antenatal care is generally limited to urban and peri-urban women. India needs community-based, rural-driven surveillance, and to begin cohort studies in different parts of the country. Cohort

groups, which could eventually serve as vaccine trial sites, should incorporate in both high- and low-prevalence states risk groups who need counseling, care, and support, including, perhaps, antiretrovirals. Without such interventions, it will be difficult to develop a realistic epidemiological profile.

What is the need of the hour? India must act now before the window of opportunity closes.

DR. NARSAPPA MATHEW SAMUEL, HEAD OF THE DEPARTMENT OF EXPERIMENTAL MEDICINE AND RESOURCE CENTER, MGR MEDICAL UNIVERSITY IN TAMIL NADU, described ongoing “prevention plus” efforts, which seek to prevent mother-to-child-transmission (MTCT) of HIV and offer treatment to infected mothers.

Sero-prevalence in India varies widely, ranging from 40 percent among commercial sex workers in urban areas such as Mumbai to less than 1 percent among pregnant women in metropolitan cities such as Delhi. The incidence of HIV in India is dwarfed by rates in sub-Saharan Africa, but the sheer size of India’s population is the basis for WHO predictions that there will be 25 million HIV-infected persons in India within the next five years.

Transmission of HIV in India is primarily sexual, at 82 percent. Transmission through blood and blood products is 4 percent; transmission through intravenous drug use, 4.2 percent, and unknown causes, 7.5 percent. Mother-to child transmission accounts for 1.5 percent of cases nation-wide, although in some areas it is 3 to 4 percent.

What is the rationale for prevention plus? Reducing HIV transmission from mothers to their infants has been a success story in India and must continue to receive highest priority. In August, 2000, the Tamil Nadu Doctor MGR Medical University initiated an MTCT prevention center in rural Namakkal, about 400 kilometers from the city of Chennai, providing 24-hour voluntary counseling and testing services. This program reaches people who use the public health system, and the program was purposely situated in the public health system to ensure sustainability. To date, 7,683 women have been counseled; 7,604 consented to testing, and 198 of those of those tested were HIV-positive.

Short-course AZT is administered to registered women, and those who are unregistered are given Nevirapine. Voluntary counseling and testing services and antiretroviral prophylaxis in this rural setting have increased risk perceptions among rural women and raised male partner attendance at the clinics. Several mothers, following delivery, have become ill or died, leaving an orphan. It is tragic that infants are saved while their parents die.

Most infected adults and children in India do not have access to lifesaving antiretroviral therapies. Drug companies now offer three drugs for as little as \$2 to \$3 per day, still far from the reach of the average Indian. Demonstration projects show that antiretroviral therapy can be safely and effectively administered in resource-limited settings like Namakkal. The program initiated triple therapy to mothers who had received antiretroviral prophylaxis for their infants. Thirty HIV-positive mothers were randomly selected. All had CD-4s and CD-8s, chest X-rays, blood counts, and blood chemistries evaluated. Seventeen women with no opportunistic infection, including tuberculosis, CD-4 counts below 500, and normal blood chem-

istries were started on Nevirapine and Combivir, and home-based care is provided. Pill counts at home are recorded, and side effects are noted. At the six-month follow-up, 82 percent of participants in this rural district adhered to the therapy and continue to do so. Pill counts of two women at month three revealed that they had too few remaining tablets, and on month four they revealed that they were sharing their medication with their husbands, who were also infected.

Although the cost of antiretroviral therapy is decreasing, the will to expand antiretroviral therapy is lacking. Priorities must change. By preventing the spread of infection and treating those infected, HIV can gradually be reduced, the quality of life increased, and stigma associated with the disease diminished. Antiretroviral therapy in the developed countries has greatly changed the lives of those infected, and they continue to live, with children growing up normally and adults returning to work. India needs to provide similar therapies to its patients, even if it is done in a phased manner. India has the tools and the knowledge. It needs to be bold, and it needs the help of the United States and others.

DR. RAMESH PARANJAPE, OFFICER IN CHARGE OF THE NATIONAL AIDS RESEARCH INSTITUTE AT THE INDIAN CENTER FOR MEDICAL RESEARCH, discussed HIV/AIDS research priorities in India and the work of the Institute. Any control or eradication program for HIV/AIDS needs to be supported by research activity that is specific to the issues of a particular site. The National AIDS Control Organization of India has outlined research priorities: epidemiology; clinical research, basic science; and behavioral science.

Epidemiology includes research on disease burden, surveillance, operational research, and vaccine trials. There have been few scientific studies on the overall disease burden in India, and there is a pressing need for additional surveillance techniques, as well as prevention research related to vaccine trials.

Clinical research is also lacking. There have not yet been controlled clinical trials for antiretroviral treatment in India. Nor have there been adequate mapping and studies for prophylaxes for opportunistic infections, STDs, or tuberculosis. In the city of Pune, 30 percent of new tuberculosis patients who reported to the clinic are found to be HIV-positive. Furthermore, because of HIV infection, Pune's tuberculosis burden has increased by 30 percent. Further research is needed in both the diagnosis and treatment of HIV and TB. Research into microbicides will be important, especially in India where women are not in a position to make decisions in reproductive matters.

In basic sciences, there is need for further studies on virus characterization—subtype C is present in India. There is also a need to develop better diagnostics, vaccines, and new antiretrovirals, to know more about the viruses in the region, and to understand better the immune profile of Indian patients.

There is a major need for further behavioral research and community-based studies on stigma and discrimination, effective counseling methods, and sexuality and sexual behavior.

The National AIDS Research Institute (NARI), based in Pune, has two STD clinics, two HIV clinics, and one comprehensive health care clinic in Pune's red

light district. It has excellent microbiology, immunology, virology, and biology laboratories, as well as a data management center.

The institute has been involved in various collaborative studies for almost a decade. NARI began a study for AIDS vaccine evaluation in 1992, in collaboration with Johns Hopkins University. The study resulted in the establishment of a cohort of HIV-negative STD patients attending clinics in Pune, and yielded reliable prevalence and incidence estimates for HIV in this particular risk group. Further, it provided information on biological and behavioral risk factors associated with HIV acquisition and on coefficients like herpes simplex virus and tuberculosis.

NARI has enrolled in an HIV prevention trial network, and hopes to study microbicides and antiretroviral treatment in discordant couples, examining the direction of transmission from HIV-infected partners to HIV-uninfected partners.

NARI is also studying the willingness among high-risk populations to participate in vaccine trials. The institute screened 95,000 HIV-negative-STD patients and had a follow-up of 2,200 HIV-negative persons, which generated reliable prevalence estimates, and for the first time a table of incidence. This cohort is being continued and can be a very useful resource for future vaccine trials as well as for future drug prevention trials. NARI has studied evidence of the HIV virus reaching the not-at-risk population of married, monogamous women in this cohort. Among women who reported sexual relationships only with their husbands and had no other risk factor, prevalence was about 14 percent, indicating that they were at risk only because of their husbands' high-risk behavior, over which they had no control. Both biological and behavioral risk factors for HIV infection were studied. Prevalence of HIV infection among female sex workers was as high as 50 percent, and incidence (the annual rate of new infections) was about 20 percent. Various factors, like the number of sex partners, receptive anal sex, recent sex with sex workers, lack of formal education, and living away from family, were important determinants of infection. These studies are being continued, and could provide valuable information for subsequent prevention programs.

Collaborative studies with Johns Hopkins have also helped in establishing laboratories. NARI has begun HIV subtyping, finding almost 600 strains or subtypes throughout the country, and establishing that subtype C is predominant in India. An HIV recombinant virus in India, a recombinant between subtype A and subtype C, was first discovered in the year 2000. This raises an important issue, especially in areas where India borders China, where subtype B as well as some of subtype E is present. A surveillance system has been established for studying the recombinant viruses in different parts of the country.

India has established HIV-I and HIV-II virus banks, storing more than 140 HIV strains isolated from different parts of the country. These virus strains have been characterized, subtyped, and phenotyped, and this repository will be available to any researcher who wants to use it.

A number of HIV vaccine initiatives are under way in India. One is a DNA-based vaccine involving three genes, based on subtype C, currently being tested on monkeys. Another initiative is the technology demonstration project, in which modified vaccine constructs with HIV-I subtype C are developed, currently being tested for immunogenicity in mice.

All vaccine trials are conducted under the HIV Vaccine Trial Unit established at NARI. Currently NARI is conducting a study to determine people's willingness to participate in HIV vaccine trials, barriers to participation, and other issues that need to be addressed. NARI is also involved in a vaccine development study with the International AIDS Vaccine Initiative (IAVI). A vaccine may be available in 2003. NARI is developing sites at Pune for Phase I trials for a vaccine based on Indian subtype C strain. Trials may be under way by late 2003 or early 2004.

A number of collaborative studies, beyond those at NARI, are under way between Indian and American institutes. The NARI collaborations have been a success story, and ten years of collaboration have led to a number of projects and important findings. An important outcome of such collaboration has been capacity-building, training, infrastructure development, and increased public awareness. Complying with both U.S. and Indian government regulations is often problematic, although generally feasible. Intellectual property rights are also a sometimes difficult issue. But overall, collaboration has advanced knowledge and should provide India with access to new technologies.

Discussion

■ How is the Indian government addressing the special vulnerabilities of women and girls?

This is an important issue across India, although in some states, like Rajasthan, and Madhya Pradesh, the social status of a woman is particularly low, whereas in others, like Gujarat and Tamil Nadu, it is somewhat higher. The social status of women is a problem not only in HIV/AIDS programs, but also in programs for family welfare and family planning. The Indian government has been battling to effect behavior change for a number of years. Currently it is beginning to incorporate gender-based criteria into all program designs, with some unexpected successes. The Comptroller and Auditor General of India recently said he will begin to add a gender component to the National Health Accounting Program. The word has spread, although this step has not yet been implemented in all programs. The National AIDS Control Program is working with the UN Development Fund for Women, the UN Population Fund, and UNAIDS to address the gender issue.

■ If India exports condoms to other countries, why is there inadequate access to condoms within India?

India is among the largest manufacturers of quality condoms and does, indeed, export them. But domestic budgets for condom procurement in India have not increased, whereas aggregate demand for condoms has. Further, donor and UN organizations do not typically fund commodity procurement. Finally, logistics are a problem, not only because procurement is largely in the hands of government, but also because of storage and transportation problems. All these issues need to be addressed with concern to guarantee effective implementation. The government is currently planning a condom programming workshop to examine issues of demand creation, as well as supply. Although there is much talk about procuring

condoms and reaching out with condoms, condom programming is not high on anyone's agenda.

- **The plan for a network of VCT centers at the national level sounds excellent. But once patients are identified what is the plan to get them into care?**

The VCT center concept was borrowed from the National Program on Tuberculosis, specifically its directly observed treatment short-course (DOTS) program. In collaboration with the TB Program, the government has drawn up an action plan not only for expanding VCT centers (currently a proposal before the Global Fund), but also using TB VCT centers to address HIV and TB co-infection. So far, existing HIV VCT centers emphasize awareness, not care. The government is beginning to look at care and support, and there will likely be a paradigm shift in the administration of these VCT centers.

- **It appears that most research investment has gone into one institute, the Indian Center for Medical Research (ICMR). Are there plans to affiliate ICMR/NARI with other centers to build infrastructure across the country?**

India does need centers of excellence in more than one place. ICMR has 26 permanent research institutes, mission-oriented national institutes located in different parts of the country focusing on specific diseases, and six regional medical research centers, which address regional health problems and aim to strengthen or generate research capabilities in different geographic areas. And it is networking with many non-ICMR institutions to build on existing expertise in areas where there is low capacity. And currently, there are plans, in an initiative of the U.S. NIH, to bring NGOs, universities, and other institutions besides NARI into the network, to "bridge" these institutions and allow significant studies to be carried out at each.

- **Is it right to spend so many resources on basic research? There is so much basic research being done on HIV already worldwide, that Indian research may be duplicative.**

India's basic research is not a duplication of research elsewhere. Until 1997, Indian researchers were unable to get any antigen based on subtype C, which is prevalent in India, and had to make their own specific antigen. There may indeed be some duplication, but specific work is needed for the viruses that have been isolated and are in circulation. Vaccines based on subtype C cannot be developed without knowledge of the individual subtypes and knowledge about immune responses of the Indian population.

- **Cipla is among the most prominent generic producers of antiretroviral drugs. Beside administrative constraints, why hasn't there been more widespread access in India, as there is for example in Brazil?**

Antiretroviral as prophylaxis is used in an increasing number of settings for mother-to-child transmission. And there will likely be a shift of paradigm to treat mothers who are infected free of charge. Currently, around 20,000 patients in India are using locally-manufacture antiretroviral drugs. But they themselves, not the public sector, are paying for them. India will look to international organizations like the World Bank to advise on how much to spend on antiretroviral therapy.

Nigeria

Panel Cochairs:

Mora McLean

President, Africa-America Institute

Jendayi Frazer

Senior Director for Africa, U.S. National Security Council

Jendayi Frazer offered remarks on the Bush administration's policy toward Africa, HIV/AIDS, and Nigeria.

Both Nigeria and Ethiopia are designated as strategic countries in the Bush administration's September 2002 National Security Strategy. Although media attention has focused on the strategy's doctrine of preemption, there is a good deal in the document on the broader vision of U.S. foreign policy.

U.S. Africa policy in the Bush administration is built on three pillars. The first is preserving human dignity. This includes a focus on health and education, and HIV/AIDS, tuberculosis, and malaria are key pandemics in Africa that must be addressed to preserve human dignity. A second pillar is the promotion of political and economic freedom. There is a strong economic relationship between the United States and Nigeria, which many see as centered on oil, but which is in fact much broader and a means to further democracy and political development. Third, the National Security Strategy calls for defense against terror and tyranny. Nigeria has been a key coalition partner in the global war on terrorism, and the United States continues to rely on its assistance in this regard. For these reasons, Nigeria is a strategic country. For it to maintain that position and for the United States to continue to build that partnership, the HIV/AIDS pandemic must be addressed.

It is critical that Nigeria focus on prevention to stem the spread of HIV/AIDS before it gets out into the general population. With 120 million people, Nigeria cannot afford to have HIV prevalence rates like those in southern Africa. HIV/AIDS needs to be attacked while prevalence rates are still below 10 percent.

The Bush administration's approach to HIV/AIDS is an integrated strategy, with a focus on prevention, but which also addresses treatment and care. As the administration develops a focused strategy, more resources will be committed. In May 2001 the U.S. began to mobilize the international community by helping to launch the Global Fund. President Obasanjo held an important conference on HIV/AIDS in Abuja in April 2001, and it was just after that that he and Kofi Annan were

at the Rose Garden, where President Bush launched the Fund with an initial U.S. contribution of \$200 million, which has since increased.

The most recent U.S. initiative is to prevent mother-to-child transmission of HIV. Nigeria is one of the countries that will benefit from an initial pilot phase of providing antiretroviral treatment to HIV-positive mothers. The U.S. government is moving into care and treatment, counseling, testing, creating the delivery systems and health care infrastructures, and beginning the provision of essential drugs.

A third element is U.S. bilateral HIV/AIDS programs, primarily through the U.S. Agency of International Development.

Mora Mclean outlined the challenges that Nigeria confronted since the early 1990s in mounting an effective response to HIV/AIDS. First has been the sheer scale and complexity of Nigeria, which among the five countries in the NIC report, is second only to India in its cultural, linguistic, religious, and political complexity. Second, Nigeria suffered in the early 1990s from a lack of political will to address HIV/AIDS, including a perception of low risk. Third, it suffers from a weak health delivery infrastructure and an absence of reliable health data. A fourth challenge is the low status of women.

But there are also opportunities to counter these challenges. Nigeria is blessed with a large number of trained health professionals to a far greater degree than the rest of Africa.

Second, there is a fledgling but very vocal NGO community, and a number of groups, largely led by women, focusing on these issues: people like Dr. Irene Thomas, who has been addressing problems of female genital mutilation; Pearl Nwshili, who founded a path-breaking organization called Stop AIDS, working at truck stops; Eka Esu Williams, with the National Society of Women and AIDS in Africa, and many others.

A third opportunity is the strong tradition of women's entrepreneurship, particularly in the southwest, which has mitigated women's economic dependence.

PROFESSOR BABATUNDE OSOTIMEHIN, CHAIR OF THE NIGERIAN NATIONAL ACTION COMMITTEE ON HIV/AIDS, AND IBRAHIM ATTA, MODERATOR OF THE CIVIL SOCIETY CONSULTATIVE GROUP ON HIV/AIDS, jointly presented an overview of Nigeria's HIV/AIDS pandemic and the country's response.

Nigeria's plays an important role both in Africa and the world. It has sent peacekeepers and soldiers to help quell conflicts in neighboring states—in Liberia, Sierra Leone, and most recently in Cote d'Ivoire—and is an economic engine for the West African region. It has played a leading role within the British Commonwealth, helping maintain a Commonwealth peer review on African member governments, and Nigeria will be the next chair of the Commonwealth of Nations. Most recently Nigeria has been at the forefront of the African-led New Partnership for African Development (NEPAD). If Nigeria's HIV prevalence rates rise significantly, it could have serious economic, social, and stability impacts throughout West Africa and the broader continent.

Nigeria has a population of 120 million people, and it is home to 25 percent of Africa's population. Its population is youthful: 65 percent of Nigerians are younger than 45 years old.

The first case of HIV in Nigeria was diagnosed in 1986. At that time there was national denial and a lack of political commitment. Few resources were made available for HIV/AIDS, and awareness levels were generally low. In 1992, adult prevalence was 1.8 percent, and has grown steadily to 5.8 percent in 2001. The Northern Zone has a prevalence rate of 5.5 percent, the Southern Zone 7.7 percent, while Southeast, Northeast, Southwest and Northwest have respectively 5.8, 5.4, 4.0, and 3.3 percent prevalence rates. These rates are averages taken from certain subsets estimated to cover the general population. In some areas prevalence exceeds 10 and 15 percent. The greatest numbers of people infected by HIV/AIDS are between the ages of 15 to 30 years.

An estimated 3.5 to 4 million Nigerians are living with HIV. By 2005, if current trends persist, the country will have an additional 350,000 new cases of HIV/AIDS, with a greater female than male preponderance. Similarly, in the annual death projections, more females are dying from AIDS than males. AIDS-related deaths are increasing as a percentage of overall deaths: in 1990, less than 10 percent of all deaths were AIDS-related; in 2000, almost 50 percent; and projections are that in 2005, more than 50 percent of all deaths will be caused by AIDS and AIDS-related illnesses.

High-risk sexual behavior, poverty, ignorance, and cultural beliefs are major drivers of the epidemic. Many areas of Nigeria are inaccessible and some are difficult to reach even by radio or television. Inhabitants of remote areas are largely ignorant of what is going on in the country with regard to HIV/AIDS. Cultural practices in some areas of Nigeria encourage infection, and a number of respondents in the far north, when questioned about HIV/AIDS, believed that having intercourse with a virgin would cure them. Ignorance and practices fueled by myth will spread the disease.

Political will exists at the highest level. In the public sector, the National Council on AIDS, chaired by President Obasanjo, is responsible for policy determination and resource provision, and the National Action Committee on AIDS (NACA) is responsible for coordination, capacity building, resource allocation, monitoring, and evaluation. Similar structures exist at the state and local level. In the private sector, the National Coalition on HIV and AIDS brings together a range of private sector organizations, and the Civil Society Consultative Group on HIV/AIDS and the Civil Society Action Coalition on Education for All represent NGOs and the private sector.

Nigeria developed the HIV/AIDS Emergency Action Plan (HEAP) as a short-term plan. It has now been extended to cover the next five years. The government has mobilized \$500 million in the last two years in internal and external resources. It has community mobilization and awareness programs throughout the country, conducted mainly by NGOs and local governments, and has implemented local counseling and testing activities, which it strives to scale up in the near future. Nigeria also has an ambitious antiretroviral program, which seeks to subsidize treatment for 10,000 infected adults and 5,000 children. Twenty-five centers are currently implementing the program—the government hopes to expand the number to 100 in the next few months. Although it was initially feared that people would not seek treatment because of stigma, all 25 centers are oversubscribed and

are now treating ten times as many patients as originally planned. Eight pilot centers for the prevention of mother-to-child transmission are operating; these programs are also slated to be scaled-up in the near future.

There have been serious obstacles to implementing the national strategy. A lack of transparency and accountability in resource allocation, at all levels, is a formidable constraint. Denial in some areas about the seriousness of the HIV/AIDS threat is another. Nigeria faces serious leadership and management challenges. The ability of organizations and local institutions to absorb, manage and sustain available resources is often problematic, and while there is capacity at the federal level, at lower levels capacity and commitment decline. The war against HIV/AIDS will be won at the level of communities, and the government is therefore working with local governments and local action committees, who in turn will need to work with state action committees, NGOs, community-based organizations, and the private sector. The private sector has done very little in this fight so far. The Coca Cola Africa Foundation has recently begun to step up its efforts. There is a large private sector community in Nigeria that needs to get involved.

Crosscutting all these challenges is poverty. Few Nigerians can afford antiretroviral treatments. The concept of “the future” belongs only to the rich. Those who are poor are understandably focused on their most immediate subsistence needs and are often more likely to engage in high-risk behavior.

Nigeria will require at least \$500 million annually to contain the epidemic. This includes funds to raise public consciousness of the disease and the cost of prevention, counseling, care, and antiretroviral treatment.

What is the way forward? Nigerians need to encourage leadership and develop processes appropriate to the Nigerian context. These will include working with traditional religious leaders and communities and continuing the decentralization of activities and resources. At least 70 percent of total HIV/AIDS-related resources should reach the communities in which people are infected. Awareness, especially among youth and high-risk groups, needs to increase. Reducing stigma and improving access to information on care are equally important. Nigeria must improve its capacity for research and monitoring at all levels and encourage novel intervention strategies and vaccine initiatives. Discussions are ongoing with the U.S. Human Biology Institute on developing candidate vaccines for Nigeria.

What are the possibilities for U.S.-Nigeria engagement? The United States can play an important role in promoting human development and encouraging Nigerian leaders to address the issue more forcefully. Nigeria can use help in capacity-building for day-to-day management of HIV/AIDS. The United States can facilitate future interventions that would drastically affect the cost of the epidemic, such as vaccine development.

The U.S. government can help strengthen collaborative programs with Nigerian institutions. The Gates Foundation has recently funded a collaborative initiative between Harvard University and three Nigerian universities.

The United States can facilitate information and collaboration between countries at different stages of the HIV/AIDS epidemic or with success cases like Uganda, Thailand, and Brazil, enabling them to share best practices. The Internet is a major tool, which can also serve to share knowledge of best practices. The United

States can assist by reducing regulation, permitting developing countries to explore less expensive alternatives to meet their needs, and committing more money to the Global Fund. The \$500 million that the United States has so far pledged to the Global Fund is too little. At least \$1 billion annually would be more appropriate for the world's superpower.

The United States should encourage corporate America to invest in Nigeria in the fight against HIV/AIDS. Many U.S. companies, especially oil companies, are operating in Nigeria, and they could demonstrate greater corporate responsibility by helping Nigeria fight HIV/AIDS.

The U.S. should also allow more flexibility in debt repayment. Nigeria pays five times as much in debt conversion as it spent for health and education in 2000. Much of the \$500 million per year that Nigeria requires could come from debt conversion. Money paid back on debt could be used for services and goods directly applicable to HIV/AIDS: drugs, training, and capacity-building. Actual money would not need to change hands, and there could be oversight mechanisms to ensure transparency.

Discussion

- **Will there be challenges to democratic rule in Nigeria as a result of its growing pandemic?**

Not in the near future. The new democratic dispensation in Nigeria has brought HIV/AIDS to the fore and has created awareness where before, under military rule, there was denial. This will likely improve, as people want to know more and do more about HIV/AIDS. Further, following a return to democratic rule, civil society has become far more active and empowered.

- **There has been controversy over HIV prevalence rates in the Nigerian military, government promises to treat all HIV-positive members of the military, and how such a program would be implemented. What is the status of that debate?**

Prevalence rates are higher in the Nigerian military than in the general population. Many of the soldiers who served in missions in West Africa have contracted the virus. The Nigerian minister of defense, in collaboration with the U.S. Department of Defense of the United States, is trying to provide care to those who are infected. The numbers are large, and there is contention over who gets treated first, but the plan is to reach all infected military personnel.

- **Are there concrete programs to address the pandemic in the West African sub-region?**

The Lagos-Abidjan Corridor Project, undertaken in collaboration with UNAIDS, the World Bank, and regional West African governments, is a coordinated effort to target HIV/AIDS prevention and care programs at migrants, transport sector workers and their clients, and resident populations.

- **The Nigerian data graphically demonstrate the vulnerability of women. What is being done to address that problem?**

Several programs specifically address gender and youth issues, and seek to integrate them into the broader national response. Civil society women's groups continue to be in the forefront, and seek funding from the Nigerian government and other sources to expand these activities and link them to other HIV/AIDS initiatives.

■ **How are traditional community and religious leaders incorporated into the Nigerian response?**

Nigerians tend to belong to very strong local communities, and working with a particular community requires working with its leaders (religious or otherwise), who play an important role in communication and social mobilization. Nigerian television and radio recently began a testimonial series, where community leaders and others discuss HIV/AIDS. Nigeria gives traditional leaders pride of place and could not succeed without them.

■ **What communities will be participating in eventual vaccine trials?**

Nigeria is currently collaborating with various institutions to examine candidate vaccines. Eventually the program will use volunteers in various communities, but those communities first need to be prepared and fully informed of the process. Nigeria is in collaboration with partners in east and southern Africa, trying to develop a communication strategy for communities to involve them in vaccine trials. Where trials have been undertaken without the active participation of the entire community, results have been poor. Nigeria intends to involve community leaders, NGOs, and community-based organizations to be actively involved in the planning and implementation of vaccine trials. Discussions are ongoing on mechanisms to address issues of bioethics once the trial process begins.

Jendayi Frazer commented on the proposal for debt relief tied to HIV/AIDS assistance. First, if Nigerians and Africans want to talk about debt relief more broadly, they need to get serious about it and look at real options. Before making a determination on debt relief, creditor countries will look at spending, not only on debt, health, and education, but on all sectors, including leakage through corruption. Second, if debt is such a tremendous burden for sub-Saharan Africa, African leaders need to come together and put collective pressure on creditors, with some concrete, practicable options.

Russia

Panel Chair:

Celeste Wallander

Director and Senior Fellow, CSIS Russia/Eurasia Program

Bertil Lindblad

Deputy Director, New York office of UNAIDS

Bertil Lindblad provided the overview of the Russian epidemic. There has been a startling increase in HIV infections in Russia. In 1998, there were only 10,903 reported cases. Three years later, there were 129,000; by the end of 2001, that number reached 180,000. Some experts estimate that actual cases could be four times higher than the reported total. Russia's epidemic is fairly new, but the country has the fastest growing HIV prevalence rate in the world, with new reported cases almost doubling every year since 1998.

Russia's prevalence rate will soon approach 1 percent of the adult population, a point at which there is usually a shift from an epidemic that is concentrated regionally or among high-risk groups to a full-blown epidemic within the generalized population.

Why is Russia's epidemic growing so rapidly? More than 90 percent of HIV infections in Russia are directly linked to injecting drug use. Russia is undergoing rapid social change following the collapse of the Soviet Union, marked by high unemployment, economic insecurity, and a wide range of social problems. Social and cultural norms are loosening. Although a public health infrastructure remains from the Soviet era, much of it deteriorated in the chaos of the post-Soviet transition.

Russia and the surrounding region are confronting an epidemic of drug use. An estimated 1 percent of the Russian population injects drugs—three times more than three years ago—and HIV is transmitted through the sharing of needles. Most injecting drug users in Russia are below the age of 29. In addition, young people are sexually active at a much earlier age than previously, and levels of other sexually transmitted infections, like syphilis, have also risen. While HIV and other sexually transmitted infections are closely related, the Russian health system has parallel structures that address these two separately.

Since the epidemic is still fairly concentrated, it is possible to devise strategies to prevent a generalized epidemic. The most logical containment strategy is to focus

on youth. Huge numbers of young people in Russia do not complete secondary school. This social crisis fuels social problems, including unsafe behavior, social exclusion, crime, drug use, and occasional sex work.

Commercial sex work has rapidly increased across the region, including cross-border commercial sex trade in Western Europe. Studies of sex workers in Moscow, St. Petersburg, and other cities have revealed alarming rates of HIV infection. In Thailand, where commercial sex was a major factor in the rapid spread of HIV, work started at an early stage targeting commercial sex workers in order to protect them and prevent the disease spreading to their clients. Russia needs to do the same for injecting drug users and their partners—regular or casual—who may not be injecting drug users themselves, but are vulnerable to HIV infection.

HIV/AIDS is still perceived primarily as a health problem, and cooperation among agencies and programs focusing on sexually-transmitted infections, HIV/AIDS, and injecting drug use has been lacking. Russia has been reluctant to introduce HIV/AIDS awareness education in schools. And prison and military authorities have yet to incorporate HIV/AIDS into their respective agendas, although HIV prevalence within the prison population is high and is rising among young military recruits.

Political will and resources, both human and financial, are lacking. There are many excellent pilot projects in Russia, and these isolated, small-scale interventions need enlarging. The NGO community in Russia is new, and it has been a challenge for community groups and NGOs to collaborate, and for international NGOs to work in Russia. The Soros Foundation/Open Society Institute has done much in Russia to improve the capacity of NGOs.

Stigma and discrimination persist. Commercial sex work and injecting drug use are illegal, and homosexuality was legalized only recently. Decisionmakers and politicians have been loath to devote scarce resources to injecting drug users, commercial sex workers, or men who have sex with men, even though such an investment would alleviate their vulnerability and suffering and help prevent a generalized epidemic.

A positive government response is gradually emerging, as evidenced by the October 2002 National AIDS Conference in Suzdal, Russia. Recent meetings have brought government and civil society together for the first time on the scale required to foster closer collaboration and understanding. Such collaboration is crucial in reaching drug users, sex workers, and young gay men, populations who would otherwise go underground.

In May 2002, Russia and other members of the Commonwealth of Independent States endorsed a regional urgent response plan for HIV/AIDS. This represented the first response by any regional grouping to follow up on the June 2002 Declaration of Commitment on HIV/AIDS adopted at the UN General Assembly Special Session. Such meetings are an essential step in creating the political buy-in that is so urgently needed. The Russian Orthodox Church is also becoming more engaged in HIV/AIDS work and has spoken out against stigma and discrimination.

Some elements of an urgent response are in place, but only to a limited degree. Russia needs massive efforts in prevention, awareness-raising, life skills training, and condom promotion. The country needs to integrate HIV/AIDS into school

curricula and devise specific interventions addressing the injecting drug-using population, prison populations, military recruits, and migrants. Finally, HIV/AIDS prevention should target the most vulnerable groups—men who have sex with men, commercial sex workers, abandoned children, and urban street children.

Collaboration with international partners will be important. Among the most active international actors in Russia are UNAIDS and a UN Theme Group on HIV/AIDS in Moscow that works with Russian authorities; also active are the British Department for International Development (DfID), USAID, the Swedish International Development Cooperation Agency, the government of Finland (which, with the United States and others, is sponsoring the Baltic Sea Initiative), and the World Bank.

ALONYA PERYSHKINA, PROGRAM DIRECTOR WITH AIDS INFOSHARE, discussed her organization's efforts to educate and motivate the public through social marketing.

AIDS Infoshare is a Russian NGO, created almost 10 years ago to respond to the lack of the HIV/AIDS related information and prevention activities, not just in Russia, but also in the CIS, the Ukraine, Kazakhstan, and Moldova. AIDS Infoshare is one of the leading HIV/AIDS training centers in Russia, serving NGOs, as well as government organizations and diverse population groups. Its primary activities are disseminating information, organizing training seminars for health professionals and NGOs, and conducting research and work with various target groups, especially commercial sex workers.

The organization seeks to promote responsible and low risk sexual behavior to prevent HIV/AIDS and sexually transmitted infections. In 1993, when Infoshare was first registered, there were only a few hundred people who had been infected and recorded as living with HIV across the federation. Although many people had heard of HIV/AIDS, few could correctly name routes of transmission or methods of prevention. Infoshare's first project was to create a database to provide accessible information. This required the support and assistance of the Russian Department of HIV/AIDS Prevention. However, most Russian officials were wary of NGOs, a relatively new phenomenon in Russia, and it took time before the department trusted Infoshare. This proved to be the beginning of a close and fruitful collaboration with the Russian Minister of Health. Infoshare learned that effective action requires dedication and creativity; attracting attention to get people interested; and building partnerships with government.

Attracting attention to the organization's activities proved challenging. It required research on the demographic, economic, political and cultural environments, attitudes, informational needs, and most importantly, understanding how the target audience, whether youth, sex workers, other NGOs, policymakers or health workers, would receive information.

Knowing the target group was essential in influencing sexual behavior. Infoshare learned not to impose ideas on audiences that may have different values and beliefs. How the message is delivered greatly influences its reception. Infoshare did this through individual counseling, a telephone hotline, outreach through brochures and posters, mass media, and training through workshops, roundtables, and special events.

People have different learning styles, and Infoshare employs a variety of communication modes. In one project targeting commercial sex workers, project staff noticed the popularity of crossword puzzles, and produced crossword puzzles to disseminate new information. The program established street magazines, edited and written by sex workers themselves. Infoshare learned that fear as a motivating factor does not work, and instead can increase denial and prejudice among both the general and targeted audience, unintentionally pushing vulnerable groups further underground. The message must be clear and consistent and must use language and terminology that is understood by the intended audience.

Establishing trust, with sex workers or government bureaucrats, is vital to developing networks—a new concept in Russia. AIDS Infoshare has built a strong relationship with the Russian government. Infoshare played a key role in an April 2002 conference that brought together government and NGOs and led to the creation of a public council of government and NGO representatives working on HIV/AIDS and STD prevention. Infoshare worked with the Russian government to develop Russia's application to the Global Fund (although it failed to meet the September deadline). Russian NGOs need to develop closer working relationships with the government, rather than simply criticizing from the outside.

OLUSOJI ADEYI, LEAD HEALTH SPECIALIST FOR EUROPE AND CENTRAL ASIA REGION WITH THE WORLD BANK, outlined the challenges of the Russian epidemic and the nature of the government's evolving response.

A unique combination of factors influences the way the epidemic is unfolding in Russia. Russia has a strong legacy of health services in the socialist model—very separate vertical systems. It also has a number of long-established political institutions that do not readily change. This combination, together with Russia's status as a member of G8 and the UN Security Council, shapes debate in the country and affects the way that ideas diffuse, the speed with which new programs are developed, and the extent to which change will come. The country has a large, swift-moving HIV/AIDS epidemic and ever-higher mortality. Unfortunately, it is very difficult for Russia to reverse course quickly.

So far there are 214,000 registered cases of HIV, but estimates of actual numbers vary widely. Those infected are a small percentage of the general population, but, while the core groups in Russia may be different than elsewhere, the pattern is the same as in other parts of the world: the virus is initially concentrated within a community of high-risk co-transmitters, spreads to a “bridge” population, typically sex partners of high-risk individuals, and from there enters the general population. HIV is increasingly spread by heterosexual contact—6 percent in 2000 and 15 percent in 2001.

If the epidemic continues unchecked, it is likely that in another five to 10 years Russia will begin to see declines in GDP growth and perhaps even negative growth. Investments will decline, and there will be a decrease in effective labor supply or the “quality-adjusted” labor supply, according to a World Bank study released earlier this year. The message is simple: if Russia does not tackle the HIV/AIDS epidemic, it is not likely to achieve sustained and rapid economic growth in the future. This message may be useful in mobilizing policymakers who are not epidemiologists or

physicians, but who worry about Russia's future prospects as a member of the G-8 and the prospect for economic growth.

Currently, Russia remains stuck at the pilot project stage. There is no shortage of good intentions or of increasingly active, well-organized NGOs. Unfortunately, NGO and public sector efforts tend to be small, and there is no effective nationwide program. One reason is inattention at the highest political levels, although this is improving, albeit slowly. There are also legal and regulatory obstacles. Preventing new infections in injecting drug users is problematic while participants are vulnerable to arrest or while programs are likely to be shut down because of unsupported or ambiguous legislation. There are social taboos, not uniquely Russian, about openly discussing sex and drug use. Financing remains inadequate, and there is a lack of capacity to develop and implement effectively large-scale programs that are strongly focused on high-risk populations.

Russia needs a focused, high-impact prevention strategy, focused first and foremost on preventing infection of and by injecting drug users. Policymakers cannot afford to be squeamish in this regard. Reform of the judicial system is crucial in reaching marginalized populations without driving them underground. The Russian prison system is an epidemiological pump for both HIV and tuberculosis, and it is critical to review the judicial system, with a view to reducing the rate of incarceration, improving preventive and treatment efforts within the prison system, and linking the efforts of the Ministries of Justice and Health. Also critical to a high-impact prevention strategy are: improved surveillance; 100 percent condom use among high-risk core transmitters; diagnosis and treatment of sexually transmitted infections, a safe blood supply, and the prevention of mother-to-child transmission.

Care and support programs also need strengthening. Most of those infected are not counseled at all, and few receive palliative care or treatment of opportunistic infections. Distribution of antiretrovirals will need to be based on sound protocols with adequate social support and laboratory backup to ensure that treatment is effective and drug resistance is minimized.

What is the role for governments or institutions seeking to assist Russia? No matter how many competent biologists, epidemiologist, economists, and NGOs a country has, if the environment in which they work is unsupportive, they will be less effective. There is therefore a need for governments, professional associations, international organizations, and foundations to encourage high-level Russian commitment and improve the working environment.

Science is central to controlling the epidemic, and at the core is getting the science right. There are four key scientific elements to tackling the epidemic successfully: epidemiological and behavioral surveillance and well-trained investigators; good laboratories and staff; effective communications; and the establishment of public trust, through policies and advice that are based on evidence. The international community can support Russia through technical partnerships that address these issues and ensure that public sector roles are effective in oversight, policy, and program design and evaluation.

Resources remain a problem, and the international community can assist with both financial and material support. To this end, it would be useful to update esti-

mates of Russia's incremental resource requirements, which would improve epidemiological data and give a better sense of likely fixed costs, recurrent costs, and funding gaps. Diagnostic equipment and supplies must be available at all levels. Condoms must be widely available and very inexpensive. Finally, in addition to antiretrovirals, laboratory infrastructure is needed for administering highly active antiretroviral therapy, and this need is likely to become increasingly pressing as the number of HIV-infected people in Russia rises.

Discussion

- **If the drug-using population is fueling Russia's HIV epidemic, reduction of demand is essential. Harm reduction programs for drug users are important but inadequate by themselves. What is Russia's strategy to check rising drug use?**

In 1997, one participant observed, there was little evidence in Russia of a transition from the punitive Soviet model of narcology to a truly interventionist, preventive, methadone-based, needle-exchange-based, alternative approach. Local police and the federal governments throughout the region heavily enforced paraphernalia laws and totally opposed the use of methadone, much as is the case in many parts of the United States. As a result there were few ways for injecting drug users to find alternatives and to lower their own risk. Further, the punitive approach was federalized throughout the Soviet system, squelching local initiative or innovation in prevention and treatment of injecting drug users. Finally, injecting drug use at that time was fueled by a tremendous social alienation among young people.

The most progressive recent initiative was undertaken by the Open Society Institute, which is beginning "harm-reduction" activities (like needle-exchange) in the Russian Federation. It is operating in 42 of Russia's 91 regions with multisectoral approaches based on partnerships between NGOs, AIDS centers, and treatment and rehabilitation centers. This is a first step in building referrals among these agencies, and is generally supported by the Minister of Health. Unfortunately, a federal law issued in 1998 makes harm-reduction activities illegal.

Beyond interventions like harm reduction that target injecting drug users, there are increasing drug prevention programs. The UN Drug Control Program, UNICEF, Population Services International, and others have programs targeting drug prevention and raising awareness among young people, parents, and teachers. But the factors that make young people vulnerable to drug use—unemployment, alienation, high school drop-out rates, a lack of support services—cannot be overlooked. Stemming the drug epidemic requires multiple interventions including demand and supply reduction. Those people who use drugs need to know how to protect themselves.

- **Russia's prison population is an epidemiological pump for tuberculosis and HIV. How does Russia ensure compliance with directly observed therapy (DOTS) for TB once prisoners are released? Noncompliance after release can give rise to drug resistant strains.**

Follow-up with prisoners poses both systemic and technical challenges. The Ministries of Justice and Health are beginning to communicate with one another. But a great deal more coordination will be required, since the Health Ministry will need to follow up with discharged prisoners. The World Bank has offered Russia a \$145 million loan for TB and HIV/AIDS drugs, for both prison and civilian populations, but there have been differences between the Ministries of Health and Justice on whether to accept the offer. Resolving these differences and improving coordination and communication among ministries will be the responsibility of the Russian government. Ongoing discussions in Russia in recent months have been constructive, according to one panelist. On the technical front, there is agreement between the government of the Russian Federation and the World Health Organization to harmonize the Russian approach with internationally recognized standards. Overall, the present outlook is far better than it was a year ago.

USAID is active on tuberculosis control in Russia in cooperation with the Russian government, the World Health Organization, and CDC. USAID has also involved the Russian Red Cross and the International Federation of the Red Cross and Red Crescent societies, reflecting the key role that NGOs in Russia can play in stemming the epidemic. USAID is supporting NGOs to provide assistance to prisoners who are undergoing DOTS treatment and to link regional health systems with the prison sector. It will be important to provide legal support, psychological counseling, incentives, and temporary shelters where ex-prisoners can register for benefits. The challenge will be to move from pilot schemes at the regional level to national programs.

■ **Russia is in the midst of an overall public health crisis. Is HIV/AIDS really its biggest health problem?**

In Russia, excess morbidity and mortality, compared to Western Europe countries, are due primarily to noncommunicable diseases—accidents and injuries, heart attacks, and lung cancer. These are “lifestyle” diseases in a country where smoking and alcohol binges are common. But epidemiologists focus not on a country’s current situation, but where it is headed, and although noncommunicable diseases will remain high in Russia unless serious action is taken, HIV/AIDS will worsen over time, and the balance among diseases will eventually tilt. Tuberculosis and HIV/AIDS are not the only problem that Russia faces; if current trends persist Russia will have two enormous public health problems—both noncommunicable “lifestyle” diseases and HIV/AIDS and TB—straining the health infrastructure.

Ethiopia

Panel Chair:

Ambassador Princeton Lyman

Executive Director, Global Interdependence Initiative,
The Aspen Institute

Ambassador Princeton Lyman introduced the Ethiopian delegation, which in addition to the four panelists, included Mr. Negatu Mereke, head of the National HIV/AIDS Prevention and Control Office; Dr. Yigeremu Abebe, head of health services for the Ethiopian National Defense Forces; and Tadesse Wuhib, country director of CDC's Ethiopia mission.

AMBASSADOR TESHOME TOGA, ETHIOPIAN MINISTER OF YOUTH, SPORTS AND CULTURE, described Ethiopia's HIV/AIDS situation and the challenges and opportunities ahead.

Ethiopia faces a range of challenges, including the aftermath of civil war and conflict, drought, poverty, a refugee crisis, and internal displacement, all of which have significant implications for the HIV/AIDS pandemic. It is a multi-ethnic nation with over 200 dialects. With a population of 65 million, Ethiopia is the second most populous country in Africa, accounting for nearly 10 percent of all sub-Saharan Africans.

The population is rural and young: 85 percent of Ethiopians live in rural areas; 44 percent are below 14 years of age; and 42 percent are between 15 and 49. Ethiopia is also one of the poorest nations in the world, with annual GDP per capita at \$120. Agriculture accounts for more than half of GDP, 90 percent of exports, and 80 percent of total employment. The unemployment rate is about 30 percent, and 64 percent of the population live on less than \$1 per day. Sixty-four percent of the population is illiterate. Life expectancy is currently 51 years and is projected to decline because of HIV/AIDS.

Healthcare service is available to only 51 percent of the population, health expenditure per capita is among the lowest in the world, and the public health infrastructure is poorly maintained. Ethiopia has few health facilities and health workers, relative to its population size. There is one doctor per 50,000 people, and the distribution of medical personnel is heavily biased toward urban centers. At primary health units, there are only 10 beds for 25,000 to 70,000 people. Utilization of services is even lower: 10 percent in rural areas and 14 percent among urban popu-

lations. Drugs and other pharmaceutical products are seldom available in sufficient supply. Respiratory illness, dysentery, and infectious diseases contribute to more than 85 percent of hospital visits. A series of natural and man-made disasters have compounded demands on the country's over-stressed health care system.

Since the first cases of HIV/AIDS in Ethiopia were reported in 1986, the virus has spread rapidly and has now become a national epidemic affecting both rural and urban populations in every region and every ethnic group throughout the country. HIV/AIDS prevalence in the adult population grew from 3.2 percent in 1993 to 7.3 percent by the end of 1999. Although Ethiopia has a lower prevalence compared to some of its neighbors, its current prevalence rate translates into large numbers because of the country's population size and high growth rate. About 2.6 million adults are currently infected with HIV/AIDS—almost 9 percent of the world's HIV/AIDS cases and the fourth largest population of HIV-infected persons in the world. There have been over one million deaths due to AIDS in Ethiopia, and there were 220,000 new cases of AIDS in 2001. About 250,000 children are currently living with HIV/AIDS, and over 800,000 children have been orphaned by AIDS. TB has been steadily increasing, coincident with the HIV/AIDS pandemic.

The pandemic's speedy progression in Ethiopia is driven by unprotected sex, the high frequency of casual partners, commercial sex work, and growing hopelessness among youth, due to poverty and unemployment. There is low popular perception of individual risk, a lack of understanding of behavioral risks, and pervasive silence, stigma, and denial surrounding the disease. The pandemic is also stoked by gender inequality and women's inability to defend against unsafe sex, abduction, early marriage, domestic abuse, rape, and female genital mutilation. Cultural barriers, notably secrecy and conservatism around sex, also hinder effective action.

HIV/AIDS is already having serious socio-economic impacts. In urban areas, AIDS patients occupy half the country's hospital beds, crowding out others. A substantial amount of the health budget has been diverted to HIV/AIDS. The pandemic is also seriously hindering effective implementation of the country's educational policy by reducing school enrollment, increasing school dropouts, and claiming the lives of teachers and educational administrators. HIV/AIDS reduces the country's productivity and income on the one hand, while increasing expenditure on affected individuals and households on the other, worsening poverty. The overall economy of the country will be seriously affected as more and more households are hit by the pandemic. About 90 percent of reported HIV/AIDS cases are among people between the ages of 20 and 49. The most productive segment of Ethiopian society is perishing at an unprecedented rate.

Government efforts to combat HIV/AIDS have accelerated since the end of the two-year war with Eritrea in 2001. The government issued a comprehensive HIV/AIDS policy and five-year national strategy framework for the years 2001 to 2005. The plan recognizes HIV/AIDS as a health, developmental, political, economic and social problem and aims to reduce HIV transmission and lessen the burden of HIV/AIDS on individuals, families, and the society at large. The plan proposes 10 focal strategies, including behavioral change, condom promotion and distribution, STD prevention and control, HIV testing and counseling, safe blood supply, surveil-

lance, notification and reporting, and the provision of medical care and psychosocial support to those affected by HIV/AIDS.

The government has established the National HIV/AIDS Prevention and Control Council, chaired by the head of the state, and the National Coordinating Office, accountable to the prime minister's office, to coordinate a multisectoral response to HIV/AIDS. The council comprises representatives from federal ministries, regional presidents, NGOs, faith-based organizations, civil society, private organizations, people living with HIV/AIDS, women, and academia, and serves as a national symbol of Ethiopia's multisectoral mobilization. There are similar HIV/AIDS councils and offices at the regional level.

Two years ago, the Ethiopian government secured a \$59.7 million loan from the World Bank for the implementation of its three-year plan. At that time, although the government was committed to fighting the pandemic, Ethiopia lacked the experience and capacity to administer a fund of that size. In the last year, however, political leadership has improved significantly, and institutional arrangements have been strengthened from the federal level down to the smallest community, reducing organizational confusion that impeded the speedy implementation of the World Bank loan. In the first year of the project, less than \$1.5 million was disbursed, while in the following year that amount rose to \$9 million. So far, 34 federal and 250 regional proposals have been approved and funded for prevention, control, care, and support activities.

The government of Ethiopia has made extensive efforts to enhance awareness about HIV/AIDS and engage faith-based organizations, people living with HIV/AIDS, the media, the private sector, community-based organizations, donor agencies, public health, medical and nursing associations, and others. The country now has active UN Thematic and Technical Working Groups, many bilateral and multilateral donor-supported programs, and many NGOs active in HIV prevention, care, and technical support.

Religious organizations and leaders have become increasingly involved in HIV/AIDS prevention and care, including the Ethiopian Orthodox Church, the Ethiopian Supreme Islamic Council, the Roman Catholic Church, and the Ethiopian Church of Christ.

The government has developed policies and manuals addressing surveillance, voluntary counseling and testing, behavioral change communication, prevention of mother-to-child transmission, sexually transmitted infections, and monitoring and evaluation. Some voluntary counseling and testing pilots are already functioning.

The government is determined to make low-cost antiretroviral drugs more widely available. Currently an estimated 300 people are receiving antiretroviral treatment in Ethiopia. For most people living with HIV/AIDS in Ethiopia, antiretroviral drugs are unaffordable. Moreover, the capacity of the health infrastructure and health professionals to administer these drugs and to monitor adverse effects is highly limited. Ethiopia will need roughly \$300 million per year to treat one-tenth of the people currently living with HIV, an amount far beyond the government's financial capacity. However, the government has issued antiretroviral drug supply and use policies, exempting drugs from import taxation, and encouraging local production of generic drugs.

The government is also negotiating price reductions with multinational pharmaceutical companies, and it has appealed to the Ethiopian diaspora to assist their relatives in Ethiopia. Training for procuring and administering safe and effective drugs is under way. About 15 antiretroviral drugs have been added to the national essential drug list, and private vendors have been invited to apply for permission to import these drugs. Several vendors have applied, and some have received import certificates. However, they have not yet procured the drugs because they are not confident that the people who need them will be able to afford them.

What are the major challenges? The magnitude of the problem in Ethiopia has so far outweighed the response, and consequently, efforts to stem the disease have thus far had modest impact. Public involvement at the community level remains minimal, and coordination and interventions across sectors are inadequate. Activities to foster awareness have been successful, but behavioral change is lagging behind increased awareness. Stigma associated with HIV/AIDS has been reduced somewhat in the last two years.

Several gaps impede swift and effective HIV/AIDS prevention and control efforts. For example, Ethiopia lacks an in-depth understanding of the pandemic's cultural determinants and transmission dynamics. Overall, Ethiopia needs a better understanding of the extent and distribution patterns of the pandemic. Sentinel surveillance sites are primarily in urban areas where only 5 percent of the population lives. In conjunction with CDC, the government plans to increase the number of sites from 35 to 67 in 2003, with most new sites serving rural areas. Beyond surveillance, interventions in prevention and care must be designed to reach rural areas, where no current model exists.

Ethiopia will need to improve its management of complex multisectoral responses to ensure maximal collective impact. The country will also need to bolster limited technical, financial, and managerial skills to fight the pandemic—lack of capacity and high staff turnover are immense challenges. Community mobilization and improved coordination and partnership between government and community groups are vital. And finally, there is a need for new legislation and enforcement of existing legislation to protect the rights of people living with HIV/AIDS and address gender inequality and gender-related harmful practices.

What strengths and opportunities does Ethiopia enjoy? The government is now fully engaged at high levels, civil society is fully mobilized, and structures have been put in place from the federal level to the grassroots level, with special emphasis on reaching women, children, and youth. Extensive traditional community structures have been engaged in the campaign, and the legislative framework has been put in place, including laws to encourage active NGO involvement.

What would Ethiopia like to see from enhanced U.S. and international engagement? Capacity-building is absolutely crucial. Adequate human and material resources need to be available to key national institutions to carry out activities for a sustained period of time. Training in basic epidemiology and biostatistics, public health management, laboratory quality assurance, and research methodology will be key. Infrastructure development should include improving working conditions and safety in handling infectious materials, diagnostic technology, surveillance, and information and communications systems. Increased collaboration and partner-

ship with U.S. institutions, including medical centers, universities, NGOs and government agencies, will be welcome. The twinning project and voluntary corps projects that are components of President Bush's MTCT+ initiative are very promising. Finally, the United States can assist globally through continued investments in economic and educational endeavors, debt reduction and conversion strategies, poverty reduction and food security, and funding for basic science and vaccine research.

TEDLA TESHOME, REPRESENTATIVE OF THE ETHIOPIAN ORTHODOX CHURCH, gave the perspective of a faith-based organization, emphasizing that all of Ethiopia's major religious organizations—the Supreme Moslem Council, the Catholic, Protestant, and Evangelical Churches, as well as the Ethiopian Orthodox Church—are united in their efforts to combat HIV/AIDS.

The Orthodox Church of Ethiopia is the largest faith-based institution in Ethiopia. It has over 40,000 churches and monasteries, roughly 500,000 clergy, and over 250,000 members of youth clubs and Sunday schools in 33 dioceses.

The Church has shown a strong commitment to combating the spread of HIV/AIDS. The Patriarch has participated in numerous international conferences and has supported the 26th Special Session of the United Nation General Assembly, the Millennium Declaration, the International Partnership Against AIDS in Africa, the Abuja Declaration, the Framework for Action, and other initiatives, both local and international. He, along with other major religious leaders, is a member of Ethiopia's National Council on HIV/AIDS.

HIV/AIDS awareness and knowledge has grown significantly among Church leaders. In early 2002, the Church held a special workshop, which the Patriarch himself attended, for all archbishops, bishops, and heads of churches, in which health and HIV/AIDS professionals briefed participants on the nature of the pandemic, the social problems involved, and what role the Church can play.

The Orthodox Church is also committed to working with Ethiopia's other religious organizations. UNAIDS has organized a National Religious AIDS Weekend on October 18-19, 2002, focusing on stigma and discrimination. The event, the largest of its kind to date, will involve all religious organizations, with street rallies, drama, choir performances, statements by all the major religious leaders, and visitations to the homes of AIDS patients.

The Orthodox Church itself has established a major campaign center within its Development Commission, and several projects on awareness, care, and support are under way. Currently these programs are supported by the Packard Foundation, Pathfinders, and USAID. The Commission works closely with the National AIDS Secretariat and adheres to the national strategy. Forty percent of Ethiopia's population is under 15 years old, and the Church puts great emphasis on reaching the young. It plans to use the 230,000 members of its Sunday schools and youth clubs to reach out to youth and create awareness. The Church is also committed to caring for those infected with HIV/AIDS, providing them, with the assistance of the international community, the drugs they require in order to die with dignity and to live valuable lives as long as they can.

The Church is an invaluable resource with a strong structure and the potential to deliver required services. What it needs is resources, capacity-building, and physical infrastructure, to address as effectively as possible HIV/AIDS and its consequences.

MS. BELETU MENGISTU MENGESHA, DIRECTOR OF INTEGRATED SERVICE FOR AIDS PREVENTION AND SUPPORT ORGANIZATION (ISAPSO), discussed the role of NGOs.

According to the Christian Relief and Development Association, an NGO umbrella organization in Ethiopia, there are currently 103 local and international NGOs and faith-based organizations that are active in Ethiopia on HIV/AIDS. Thirty-one of these have a care and support component, 48 are involved in counseling and training, a few provide services, and the rest are primarily focused on awareness-raising.

As HIV prevalence rates rise, however, almost all NGOs and faith-based organizations are beginning to include HIV/AIDS interventions in their programs. Anti-AIDS youth clubs are growing in number in all regions, and both local and international NGOs are attempting to reach high-risk groups like transport workers and commercial sex workers. As in many developing countries, commercial sex is largely driven by poverty, unemployment, early marriage, and the economic dependence of women on men. Some NGOs are focusing on strengthening condom negotiation skills of commercial sex workers; others on providing them with alternative sources of income.

As awareness increases, HIV-positive people have begun to require services, but currently no user-friendly service infrastructure exists. Counseling and training centers are almost without exception urban-based, and are provided by local and international NGOs rather than the Ministry of Health. There are very few testing centers, even in urban areas, provided by government hospitals, NGOs, and only a few private clinics. The cost of testing remains too high for the vast majority of Ethiopians. In a population of 64.5 million there are fewer than 90 mobile service providers. Although the environment is generally conducive, there is an acute lack of financial and human resources. With adequate resources and technical assistance, NGOs could help fill the gap.

Another major problem with which NGOs are grappling is the provision of long-term care and support. There are an estimated 750,000 AIDS orphans in Ethiopia who need love and care if they are to lead productive lives and avoid high-risk behavior. Home-based care is limited, given the magnitude of the problem. Despite these problems, there are growing signs of collaboration among private institutions, companies, and local and international NGOs to develop workplace HIV/AIDS prevention and care activities. These collaborations are at an early stage but demonstrate that the business community and private institutions are recognizing the impact of HIV/AIDS.

MR. SAHLU HAILE OF THE PACKARD FOUNDATION gave an overview of his organization's HIV/AIDS work in Ethiopia, which focuses to a large extent on youth, gender issues, and social marketing.

The Ethiopia program is one of the Packard Foundation's earliest and largest international programs. It began in 1998 and to date has granted of over \$35 million to 22 NGOs. The focus is reproductive health, including HIV/AIDS, although it also supports activities in conservation, organizational effectiveness, leadership development, and access to credit in rural areas. The foundation's two largest grants made to the Ethiopian Orthodox Church and the Ethiopian Supreme Moslem Council, in support of HIV/AIDS education, counseling, and provision of care.

The foundation's most significant intervention is its work with youth. In November 2000, it organized a major national conference on youth in Western Ethiopia, attended by senior government officials, religious leaders, non-governmental organizations, and youths themselves. Over a third of the participants were under the age of 24 and were vocal in expressing their concerns: a lack of communication with parents, inadequate preparation for life and work, rampant unemployment, and a sense of hopelessness and frustration.

Subsequently the foundation launched a vast adolescent reproductive health program in Amhara and Oromia, the two main regions of the country, investing over \$10 million in the last two years. Today, the foundation supports over 80 youth programs in the country, most managed by youth themselves, and, unlike other reproductive health programs in the country, situated outside major towns. The programs reach more than a million young people with information and education on HIV/AIDS, counseling and services. They also train young people in vocational skills and employment, improve relations between generations, provide sports and recreation centers, libraries, and Internet access in rural areas. The foundation is currently in discussion with the Ministry of Youth to establish a pilot fund to support youth employment schemes in rural areas.

The foundation is also active on gender issues and women's empowerment. It has recently launched a \$2 million access-to-credit project, targeting women in rural areas. This initiative is tied to a research project that will document over a period of seven to 10 years changes in reproductive health behavior of women as a result of the credit initiative and compare it to control groups.

Discussion

- **Across Africa, HIV prevalence rates in the military tend to be higher than in the general population. In Ethiopia, the HIV prevalence rate in the military is an estimated 6.1 percent, lower than that of the general population. What accounts for this?**

Conference participant Alex DeWaal of Justice Africa observed that the Ethiopian Army has an exceptional political culture. Until 1991, it was a guerilla army that eventually transformed itself into a national army. As a result, it developed a strong commitment to a social agenda. Troops were not merely trained militarily but were trained politically with a commitment to land reform and health provision. In the 1980s, said DeWaal, the then Tigre People's Liberation Front put in place doctors and a health delivery system in liberated territories. Further, although the army has a command structure, it also has within it democratic structures, including a coun-

cil of commanders, in which issues can be discussed openly, thereby building common ownership of policies.

Dr. Yigeremu Abebe, head of health services for the Ethiopian National Defense forces agreed that there is a sense of collective leadership and consensus management within the Ethiopian army. The strict hierarchical relationships prevalent in other militaries is supplemented in Ethiopia by easy access to supreme commanders. But a number of other factors contribute to the military's success in stemming HIV prevalence rates. First, commitment of professionals and health care workers in the military is extremely high. They are motivated to bring change in the health program, especially on HIV/AIDS, and to have the military program be a model for the entire country. The Ministry of Defense was the first ministry to present its work plan, secure adequate resources from the World Bank Fund, and use the fund effectively. A second important factor is that the soldiers themselves are highly motivated to participate in the campaign.

- **The religious community in Ethiopia should be congratulated for having taken active responsibility for educating youth. In the United States, the church was less quick to respond to the epidemic. But worldwide experience tends to demonstrate that moralizing doesn't help prevention efforts. How does the Ethiopian Church approach sexual promiscuity?**

For its part, said Mr. Tedla, the Orthodox Church speaks out against irresponsible sexual activities. And while it does not promote condom use, on this issue it has adopted a general attitude of “not see, not hear.” Ethiopia is lucky, added Mr. Sahlu, in that it doesn't have ideological church leaders. The Orthodox Church preaches abstinence and fidelity. But in many regions, there are “rebel” clerics, who, while supporting the church position, nevertheless recognize the gravity of HIV/AIDS and its spread, and individually promote condom use. Even where religious leaders preach against the use of condoms, there are usually organizations waiting at the gate of the church to distribute condoms. The country is proud that its religious organizations are involved in HIV/AIDS education and care: it is not absolutely necessary that they do everything.

- **The Ethiopian community in Washington, D.C., is not necessarily friendly to the Ethiopian government, said one participant. Nevertheless, government, church, and NGO representatives should speak to the Ethiopian community abroad and ask for technical, financial, and material help. The community is large and willing to respond.**

Ambassador Ayele Kassahun, Ethiopian Ambassador to the United States, responded, saying that the CSIS conference and discussion on Ethiopia reaffirmed for him the fact that in time of crisis, whatever differences exist among them, Ethiopians get together to fight a common problem, as a nation and as a people. The Ethiopian embassy in Washington has been trying to devise ways of engaging the diaspora to work together against common problems. HIV/AIDS is an enemy to a nation and to a people, not to a single government or leader. Whatever government is in place, whatever ideology it follows, and whatever differences there

exist between the government and the diaspora, these differences are meaningless in the face of problems like HIV/AIDS.

Keynote Address

Stephen Lewis

UN Secretary General Kofi Annan's
Special Representative on AIDS in Africa

Allow me to begin with three faintly heretical observations. First, I am bemused by the way in which the question of security, even if never fully defined, suddenly confers on the HIV/AIDS pandemic a new level of significance. All you have to say is that a study was produced by the National Intelligence Council, and everything is immediately elevated. The HIV/AIDS pandemic could not get traction within the multilateral system until it was considered to be a matter of international peace and security, worthy of debate in the Security Council itself.

No one diminishes the question of security. In this day and age it's a consuming obsession. But it does say something about the way we respond to the human condition. It's not enough to engage the world simply by having an incomparable human catastrophe; it has to have security implications to make it come alive.

Second, new figures contained in the National Intelligence Council's report are hallucinatory. They are simply more than the mind can absorb. And from only five countries, however large. The authors are at pains to point out that the estimates are by consensus rather than by science, and that they're rough, and there's a healthy margin of error. But the contemplation of more than a hundred million infections by the year 2010, when you take in all countries, is like the contents of Pandora's box gone mad.

Some experts are skeptical, challenge the basis for the figures, and think they are inflated. But some of the very experts who express concern are among those who informed us, ahead of the July 2002 International AIDS Conference in Barcelona, that 68 to 70 million people, in the 45 most-affected countries, would likely die by 2020. I make the point, not to challenge epidemiology, but simply to say that the numbers, from whatever source, have now reached levels where life imitates science fiction. Except that there's nothing fictional about it.

Third, the Next Wave study is a relentlessly disturbing document. What I found so depressing was how the analysis of each country leads to a coda of despair:

Nigeria: "...[T]he Obasanjo administration is beset by such other pressing problems as an approaching election and rising ethnic and religious tensions.

Moreover, Nigeria's government institutions have deteriorated so badly over the

last decade that Obasanjo has few functioning public sector assets left to mobilize even if he chose to engage fully on the issue.”

Ethiopia: “...[W]e expect 7 to 10 million Ethiopians probably will be infected by 2010 because of the current rate of adult prevalence, widespread poverty, low educational levels, and the government’s limited capacity to respond.”

Russia: “Driven by widespread drug use, inadequate infrastructure, and the government’s limited capability to respond, the number of HIV positive people probably will rise to 5 to 8 million by 2010.”

India: “The current trajectory of the disease, limited public awareness, and the lack of resources for a major anti-AIDS program will continue to drive the spread of the disease.”

China: “Despite growing concern over the disease among senior leaders, China’s sheer size, resource constraints, widespread ignorance of AIDS, cultural taboos about discussing sex, and coordination problems between levels of government will make it difficult to check the spread of the disease.”

It is unrelieved, punctuated only by trifling glimpses of hope. Indeed, there are even omnibus, gloomy comments covering all five countries: “It will be difficult for any of the five countries to check their epidemics by 2010 without dramatic shifts in priorities. The disease has built up significant momentum, health services are inadequate, and the cost of education and treatment programs will be overwhelming.” And later: “Even if effective programs could be implemented in the coming years, such practical concerns as cost, scale, and experience in health service delivery probably will result in the omission of services to a large number of infected individuals, and the burden of disease will continue to rise.”

This is an excellent, dispassionate, bracing report. No pretensions, no embroidery, no dissembling. But it leaves you raw and aching.

Allow me a disclaimer. My role is confined to Africa. I don’t pretend to know more than what I’ve read and heard about China and India and Russia. I have, however, spent considerable time examining the pandemic in Nigeria and Ethiopia, and I can speak more confidently about those countries. That’s not to deny that there’ll soon be more infections in Asia than anywhere in the world; it is simply to say that the lessons learned in Africa probably have a significant—albeit not universal—application to most other countries.

I’m no optimist about the virus. But I simply don’t believe, on the basis of personal observation, that we have to face Armageddon. In fact it enrages me the way in which we pile despair upon catastrophe, over and over again, rendering everyone paralyzed. You don’t have to be a bleeding heart to see the potential strength in these societies at the grass roots, and know that if we could galvanize the governments, indigenous and external, and equip civil society, and address capacity and infrastructure with external resources, then we could defeat this pandemic. It is not beyond our competence.

I met not long ago with a thousand high school students in Addis Ababa, during a question and answer session that lasted an entire afternoon, and the intelligence and understanding and sophistication of those kids gives nothing but hope. I’ve

met with the World Food Program truck drivers in Nazareth, south of Addis, as they tell their stories of the training they receive, and how they now always carry condoms on their routes. I've met at length with his Holiness, the Patriarch of the Ethiopian Orthodox Church as we discussed how the UN family could set in process training for his 350,000 priests so that they, in turn, can address their parishioners. I've sat over coffee with village women miles and miles from the Ethiopian capital, while neighbors gather to talk about how the virus is transmitted and how to protect themselves. They laugh self-consciously in the presence of a stranger, but they don't mince words.

I've attended the two-day sensitivity sessions in Abuja, Nigeria, for the establishment of mother-to-child-transmission clinics—a tremendously impressive undertaking. I've sat with the doctors and nurses in a leading hospital in Benue state as they decide how they'll choose those who should receive antiretroviral treatment when it begins, and how to handle counseling. I've met with groups of people living with HIV/AIDS out in the Eastern region, near Onitsha, as the mothers talk about the kids they'll leave behind, and then make their eloquent, moving, unanswerable plea for treatment. I've sat with President Obasanjo, as he, on the one hand, expresses fear at the spread of the pandemic, and on the other, his absolute determination to subdue it no matter what it takes. There is no doubt in my mind, that when he heard about these new estimates of prevalence, he would have summoned a council of war.

I know the task is Herculean. But I also know that the words of the study are right: the only way to check the next wave is through a dramatic shift in priorities.

There are four things I want to say about that shift in priorities, drawing on themes germane to all the countries under examination.

First, and most compelling, is the question of gender. At the UN Special Session on AIDS in June 2001, the Declaration of Commitment contained the toughest articles on the rights and protection of women that had yet appeared anywhere. It was truly memorable. Why then do I put it in the past tense? Because before the ink was dry, the words shriveled on the page. There is very little evidence, in the aftermath of the Special Session, of governments taking seriously the commitment to women. It was one thing to recognize, rhetorically, that women were overwhelmingly at risk, it was quite another to act on that rhetoric. And it would appear, that yet again, as ever, the women are betrayed. The women are always betrayed.

Just look at the figures that emerged from International AIDS Conference in Barcelona. Of the 28 million people in sub-Saharan Africa living with AIDS, ages 15 to 49, 15 million are women. That's 58 percent. Of the 8.6 million in the age group 15 to 24, 67 percent are young women and girls. How is that possible? We're just beginning to understand that where HIV/AIDS is concerned, gender inequality is lethal. It requires a campaign, across the continent and the world, to enshrine gender equality in the family, in the laws, in the institutions, and in the apparatus of the state. We've never faced anything like this. There's a passing comment in the Next Wave study, pointing out that in a country like China—but China is merely an example—“as AIDS moves more into the general population, past experiences in other countries suggests it will exacerbate an already existing gender imbalance because of the practice of female infanticide.”

What is happening is a Darwinian nightmare, where the survival of the fittest results in the annihilation of women. Down the road there will be, in many communities and in many countries, a demographic skewing of gender, such that the voices of women will no longer be heard in the land. The world has to be made to understand that HIV/AIDS has brought into brutal relief the predatory sexual behavior of adult males, and the terrible consequences of intergenerational sex, and the equally terrible vulnerability of women who have neither sexual power nor sexual autonomy. We are just beginning to understand that the levels of sexual violence, the levels of rape, inexorably transmit the virus. Whether it's the violence of conflict, or the violence of a domestic household, women are the targets. It's a part of the human condition that cries out for study and desperate, immediate response.

All my adult life I've believed that gender is the toughest issue to deal with. Tougher even than race. And I don't really know how we cope with what is happening except to reverse the pattern through a massive, international, single-minded initiative.

Second, for more than a decade now, those who have chronicled the sweep of the pandemic have warned of the excruciating consequences of societies falling apart. Now, more than ever, we have groups coming together to fashion scenarios of what will happen in the future. The Next Wave study repeats in several places: "The rise of HIV/AIDS in the next wave countries is likely to have significant economic, social, political and military implications." That seems to me to be unarguable.

But if the present teaches anything about the future, then just draw back and look at what is happening in southern Africa. It has been established that 14.4 million people are at risk of starvation in six countries: Zimbabwe, Zambia, Lesotho, Swaziland, Malawi and Mozambique. Now allow me to be personal for a moment. Last week, I met with Mr. James Morris, head of the World Food Program, who had just returned from a mission, as Special Envoy, to the six beleaguered countries. He was a man physically and emotionally reeling from what he'd seen. He had instantly recognized that food was only part of the problem; the heart of the problem was HIV/AIDS.

That should ring one of the most piercing alarm bells that we've yet heard during the course of the pandemic. If you read his mission report, it's a revelation: "What the mission team found was shocking. There is a dramatic and complex crisis unfolding in southern Africa. Erratic rainfall and drought can be identified as contributing factors to acute vulnerability, but in many cases the causes of the crisis can be linked to other sources ... Worst of all, southern Africa is being devastated by the HIV/AIDS pandemic. HIV/AIDS is a fundamental, underlying cause of vulnerability in the region, and represents the single largest threat to its people and societies."

And then, over and over again, in country after country, the report chronicles the way in which HIV/AIDS exacerbates the crisis. The language is startling: "The relationship between the HIV/AIDS pandemic and the reduced capacity of the people and governments of southern Africa to cope with the current crisis is striking. In every country of the region, HIV/AIDS is causing agricultural productivity to

decline, forcing children to drop out of school, and placing an extraordinary burden on families and health systems.”

I've read the report carefully. I've talked to numerous colleagues. I've discussed the matter with three people who were on the UN mission. I've consulted a notable academic who is the pre-eminent scholar on HIV/AIDS in southern Africa. Let me tell you what I think—I obviously cannot prove—but what I think has happened. It is reasonable to argue that HIV/AIDS has caused the famine; what we all feared one day would happen is happening. So many people, particularly women, have died, or are desperately ill, or whose immune systems are like shrinking parchment, that there simply aren't enough farmers left to plant the seeds, till the soil, harvest the crops, provide the food. We may be witness to one of those appalling, traumatic societal upheavals where the world shifts on its axis.

We've been predicting that you can't ravage the 15 to 49 year-old productive age group forever, without reaping the whirlwind. The whirlwind is in southern Africa. And surely that has huge implications for the next wave. If you watch while your educational systems are shattered, your health infrastructure is frayed, your agriculturalists are dying, your militaries and police have astronomic levels of infection, your private sector atrophies, then it becomes impossible to escape the economic and social, political, and military consequences. For the so-called next wave countries, there is no time left to contemplate. There is only time left to act: southern Africa is the canary in the pandemic.

Third is the question of orphans. As always, there are the hyperactive arithmetic calculations; 14 million orphans now, 25 million by 2010. But whatever the numbers, we have very few solutions. If there really will be, at the outer limits, 15 million HIV/AIDS cases in China by 2010, and 25 million in India, and 8 million in Russia, then reflect on the orphan problem down the road. We now rely primarily on grandmothers, and when they die we're often faced with what are now called “sibling families.” Communities and foster parents move heaven and earth to embrace these youngsters, but they all live in such extreme poverty, that another mouth to feed can push everyone over the edge.

We've been stymied by orphans, and now we're overwhelmed by orphans. In September, at a gathering in Johannesburg, hosted by UNICEF Executive Director Carol Bellamy and attended by Nelson Mandela, Graca Machel, and activists and experts from within and outside Africa, an urgent effort was made to articulate policies which could confront the orphan dilemma and take successful models to scale. Many of the recommendations focused on parliamentarians, religious leaders, national conclaves, and above all, the determination to launch a campaign to “Put Every Child in School.”

I cannot emphasize strongly enough that education was raised by practically everyone. All of the Next Wave countries, indeed, all of the countries in the world, save two, have ratified the Convention on the Rights of the Child, and the Convention says, unequivocally, that primary education shall be free and universal. The same objective is embraced by the Education For All initiative, launched in Jomtien, Thailand in 1990, and reaffirmed in 2000 in Dakar, Senegal. The idea of the school as the centerpiece of the child's' life—the anchor which gives a child the greatest sense of hope, confidence and self-worth—is now firmly entrenched in interna-

tional norms. And yet, HIV/AIDS is playing havoc with the fundamental right of the child, especially the girl child, to education. Yet, seized by some perverse, passive compliance, we watch the havoc unfold and stand inert. It's unbearable, and it's indefensible.

Progress was made at our meeting; I'm not sure how much progress. But of one thing I am certain: the Next Wave countries had better be concentrating now on how to address, nurture, and embrace the orphan population. If the vast numbers get out of hand, the best clairvoyant on the planet won't be able to predict the consequences.

Finally, I want to reemphasize my conviction that this pandemic, in all its multivarious forms in the countries with which we're dealing, can be turned around. There is tremendous knowledge and selflessness at the grassroots; it just has to be given a chance. We know a great deal, if only we can apply it. We know how to go about voluntary counseling and testing; we know ways in which to reduce, dramatically, vertical (mother-to-child) transmission; we know how to administer antiretroviral treatment; we know of excellent preventive interventions; we know about community-level care, provided by the women, and rooted in faith-based and community-based organizations; we know the knowledge and expertise that can be brought to bear by people living with HIV/AIDS. We know, as well, the huge challenges of mobilizing the political leadership, galvanizing the religious leadership, fighting the curse of stigma and strengthening advocacy on all fronts.

What we do not have is the means to do these things. We do not have the dollars. I've knocked this particular nail through the wall so many times that even I feel a certain *ad nauseam* quality merely to mention it. In fact, I feel like a minor clone of Jeffrey Sachs. But the truth is that what's literally killing the women and men and children of Africa is the lack of resources.

Just two weeks ago, I was meeting in Arusha, Tanzania, with a group of women living with HIV/AIDS. I asked them to tell me what they most needed and wanted, and as always the same replies came back: food, because everyone is hungry, especially the children; money for school fees, and some kind of guarantee to keep their kids in school, because when they die they want their children to be assured of an education. And drugs. Antiretroviral drugs to prolong life—so as not to leave their children so prematurely-orphaned. To be quite honest, I never know what to say in such a situation. I'm strangled by the double standard between developed and developing countries. I'm haunted by the monies available for the war on terrorism, and doubtless to be available for the war on Iraq, but somehow never available for the human imperative.

I believe that all the things those women asked for could be provided, or at least provided in large measure, if we had the money. Next weekend, the Global Fund will pronounce on its financial needs. There will then ensue a tenacious, indefatigable effort to round up the dollars. I have no idea what to expect.

I know only that if the Next Wave is to escape the wretched fate of the last wave, then the world and its governments will have to come to their senses.

U.S. Policy Response to the Second Wave

Panel Cochairs:

Mark Schneider

Senior Vice President, International Crisis Group

Michael Moodie

President, Chemical and Biological Arms Control Institute

Mark Schneider and Michael Moodie outlined policy challenges that the United States will confront as the second wave of the HIV/AIDS pandemic expands and intensifies. Does the administration have a strategic plan for dealing with the second wave over the course of the next several years, in the context of limited resources? Available funding is clearly insufficient, despite sizable U.S. contributions. Secretary General Kofi Annan has estimated that at least \$10 billion per year will be needed to support effective efforts against global HIV/AIDS. The United States contributes roughly \$1 billion. What is the plan and time frame to achieve what would be a normal U.S. share of funding for a global emergency—roughly 25 percent of the total?

Where does the administration stand on affordable, sustainable access to quality medicines and the creation of the necessary infrastructure to support its delivery?

Given the security implications of HIV/AIDS and its impact on military forces, how does the United States help ensure that international peacekeeping contingents do not become vectors for the disease either during deployment or when they return home? The United States supports international military education and training programs at a significant level. What are plans for mounting an integrated approach to expand massively technical and other military-to-military support for HIV/AIDS prevention, counseling and treatment? What are the plans to insure that there is a fully funded component for HIV/AIDS prevention and treatment in all U.S.-funded programs in conflict prevention, demobilization, and reinsertion?

HAROLD JAFFE, DIRECTOR OF THE NATIONAL CENTER FOR HIV, STD AND TB PREVENTION AT THE U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION, provided an overview of CDC's work.

CDC began working on HIV/AIDS more than 15 years ago when the late Dr. Jonathan Mann established Project SIDA in what was then Zaire. Subsequently the organization and collaborating health ministries established Project Retro-CI in Côte d'Ivoire, the HIV/AIDS Collaboration in Thailand, the BOTUSA Project in Botswana, as well as projects in Uganda and Kenya. In 1999, CDC's international work on HIV/AIDS increased exponentially with congressional funding for what was then called the Life Initiative, now the Global AIDS Program (GAP). In contrast to previous work, which was primarily research-oriented, the overriding intent of GAP is to assist developing countries in HIV/AIDS prevention efforts.

GAP's 2001 budget was \$144 million. GAP works in 25 countries, with over 70 CDC staff and close to 400 foreign nationals working in the field. GAP works directly with ministries of health, with U.S. agencies such as USAID, NIH, and the Department of Health and Human Service's Health Resources and Services Administration (HRSA), with international partners like WHO and UNAIDS, and with the private sector, including voluntary organizations, foundations, and for-profit businesses. The most common requests for assistance involve designing, improving, and implementing HIV/AIDS surveillance programs, voluntary counseling and testing, laboratory systems, programs for people living with HIV/AIDS—including the care and treatment of opportunistic infections, particularly tuberculosis—prevention of mother-to-child transmission, and training of both governmental and non-governmental staff.

GAP also supports operational research on the use of antiretroviral therapy—with programs in Kenya and Uganda, for example—but has neither the authority nor the resources to support national antiretroviral treatment programs. GAP views both prevention and treatment as necessary and does not pit the two against each other. It is not a static program, but works with host countries and governments to address priorities and requirements that they themselves identify. Programs evolve over time as national epidemics mature and national programs grow in capacity. The program is active in the five countries targeted in the NIC report, with the exception of Russia, where CDC has other important collaborations on sexually transmitted diseases and tuberculosis.

In Nigeria, GAP has worked with in-country teams to develop and promote HIV prevention messages through media, inter-personal communication, and counseling. It has assisted in plans for a national blood transfusion service. It has provided technical, material, and logistic support to the Ministry of Health to design and implement an HIV and syphilis sero-prevalence survey in pregnant women. GAP has also worked to improve the data management capacity of the Health Ministry and has supported operational research to determine the epidemiology and devise prevention options for HIV transmission in injecting drug users.

In Ethiopia, GAP has worked to strengthen surveillance systems, establish a national HIV/AIDS information resource center, develop model voluntary counseling and testing centers, and strengthen the national and regional laboratory system.

In India, GAP is working to provide infrastructure and support for HIV/AIDS prevention, care, and treatment in community health care facilities. It has established training centers for HIV/AIDS prevention and care in Tamil Nadu and other Indian states. And it has supported, through a cooperative agreement with the American Red Cross, prevention programs for youth.

GAP's work in China is relatively new. The program recently conducted several site visits to assess the country's needs and priorities. It has begun work with Chinese counterparts in public health to strengthen surveillance and will have CDC staff on the ground in Beijing by the end of 2002.

Each country faces major challenges in confronting the epidemic. What's true across the board is that, unchecked, HIV/AIDS threatens to overwhelm countries' health care systems, disrupt work forces, and destabilize production and economies. Intervention now is critical.

The challenges of addressing the epidemic in the second wave are daunting. Choices will need to be strategic. It will be important to determine how best to engage nongovernmental partners, and, in addition to providing financial assistance to these countries, provide technical assistance to develop long-term capacity. Further, at all points, CDC requires a clear understanding of host-country expectations and responsibilities.

PAULA DOBRIANSKY, UNDERSECRETARY OF STATE OF GLOBAL AFFAIRS, outlined challenges in combating HIV/AIDS and the implications for U.S. policy.

A first lesson has been that senior political leadership against HIV/AIDS is critical and has been a key variable in those countries that have been able to slow the virus's spread. Second, a premium must be placed on the continuum of prevention, treatment, care, and building a sound public health infrastructure. A third lesson is the importance of communicating success stories and best practices to other communities and countries where they have not yet taken root. Part of this process is pressing countries themselves to devote resources to confront the disease and to make strategic choices in the allocation of scarce resources. Russia, for example, has pledged more to the Global Fund than it has devoted to fighting tuberculosis and HIV/AIDS within its own borders. While Russia's contribution to the fund is commendable, it needs to make tough decisions to address its own domestic health crisis. Fourth, the world has learned that despite rising public awareness, discrimination and stigma remain formidable obstacles and will need to be addressed in confronting the next wave. And finally, forging successful public-private linkages to combat the disease is essential.

An immense challenge for the United States and the global community will be balancing the need to prevent a major spread of the disease in the five focal countries without impairing efforts to deal with the disease in countries where it already has exploded. Addressing HIV/AIDS in Russia, China, India, Nigeria, and Ethiopia will be a significant challenge in itself, and striking the right balance in the allocation and commitment of resources worldwide will not be easy.

The United States is strongly committed to the fight against HIV/AIDS. The administration has requested 1.1 billion in FY 2003 to fight HIV/AIDS, a 13.1 per-

cent increase over FY 2002, and a 53.9 percent increase over FY 2001. A contribution of \$500 million to the Global Fund complements U.S. bilateral efforts.

President Bush recently announced a \$500 million initiative to prevent mother-to-child transmission of HIV and to improve health care delivery in Africa and the Caribbean. Both Ethiopia and Nigeria are among the proposed partners in this endeavor.

Beyond financial resources, the State Department's Office of International Health Affairs has been engaged in a diplomatic strategy to elevate the importance of preventive action, complemented by treatment and care. U.S. diplomatic engagement emphasizes the importance of committed leadership and communicating best practices and success stories.

The State Department has held a series of high-level exchanges with the Chinese Ministry of Health. Health Minister Zhang not only met with Health Secretary Thompson on his trip to Washington in June 2002, but also with Secretary of State Colin Powell. High-ranking U.S. officials have visited China in the past year, with a strong emphasis on HIV/AIDS.

Dobriansky herself met with Indian officials and a range of communities on a recent visit to New Delhi and was impressed by emerging partnerships linking the business, NGO, and academic communities.

In Russia, U.S. State Department officials plan to meet government officials and health experts on HIV/AIDS in early 2003 to consider ways to raise awareness and maximize the effectiveness of assistance programs.

And Nigeria and Ethiopia continue to remain key countries in U.S. bilateral efforts, including the mother-to-child transmission program.

WILLIAM STEIGER, SPECIAL ASSISTANT TO THE HEALTH AND HUMAN SERVICE (HHS) SECRETARY TOMMY THOMPSON, discussed the involvement of HHS in the fight against global HIV/AIDS.

On entering office, said Steiger, Secretary Thompson immediately recognized the gravity of the challenge of HIV/AIDS in the second wave states. Either Secretary Thompson or Deputy Secretary Claude Allen has met with the ministers or vice-ministers of health of all the focal countries, receiving them in Washington or meeting them in Geneva at the World Health Assembly.

HHS has had significant involvement in all five of the focal countries. Along with USAID, it advocated that President Bush include Ethiopia in the \$500 million mother-to-child transmission plan. And through CDC, HHS is providing epidemiological assistance and training, particularly of medical personnel and laboratory personnel, to foster indigenous capacity to manage the epidemic there.

HHS has had staff in India for over 40 years, with its biggest presence currently in Chennai. India is one of the few countries in the world in which the United States has a health attaché posted at the U.S. embassy. Secretary Thompson met with Indian Minister of Health C.P. Thakur in Geneva in 2002 to discuss environmental health and HIV/AIDS. Along with USAID and a number of non-governmental partners, HHS is working with vulnerable populations in India and focusing on the intersection between HIV and tuberculosis.

In China, HHS has a longstanding relationship with both the Ministry of Health and other institutions, primarily on the research side, but increasingly on the programmatic side on HIV/AIDS. HHS plans to assign staff on the ground in Beijing to work directly with the ministry, focusing on blood safety, laboratory training, and epidemiological surveillance. The National Institutes of Health, part of HHS, awarded for the first time in 2002 a \$17 million grant to the Chinese Ministry of Health and other partners for research and training of researchers on HIV. It is among NIH's largest overseas grants ever. Minister Zhang and Secretary Thompson have met on three occasions, and the ties between their respective institutions are strong.

In Russia, HHS cochairs with USAID the U.S.-Russia Health Committee, which hosted Russian Health Minister Yuri Shevchenko in 2002. HHS's work in Russia has focused on the intersection of HIV and tuberculosis, injecting drug use, alcoholism, and mental health. HHS's Mental Health Administration has been providing assistance for substance abuse and mental wellness in Russia for a number of years. The relationship with Russia is complicated, however. The United States is engaged with Russia on many different fronts. The two countries share a common position at the World Health Organization on smallpox research; but there have been occasional difficulties in deploying personnel or in working with the Health Ministry, for example, on the World Bank loan for tuberculosis. The partnership is not without tensions, but is nevertheless an extremely important one.

HHS has had less contact with Nigeria, although CDC is working there, and the country will be part of the mother-to-child transmission initiative. Through USAID, HHS has established relationships with both Moslem and Christian institutions working on counseling, treatment, and care for HIV-positive people and is working on primary prevention activities throughout the country. It's a model that provides guidance for the future on how to bring faith-based community organizations into an effective HIV/AIDS response.

The Global Fund to Fight AIDS, TB, and Malaria will need to resolve how to respond to the very large second wave countries in the context of limited funding. For example, should there be caps on individual applications? Or should any one country in the course of a grant round only be able to gain in an application a certain percentage of the total funding available for that round? The fund's board has so far been unable for political reasons to reach these decisions. The board needs to muster the political will, as did the Global Alliance for Vaccines and Immunization several years ago, to suggest that certain countries belong in a special category. They are large and have the potential to exhaust the Global Fund's resources very quickly, and they also have substantial resources of their own. The Fund is not going to be the answer to all of the problems in the second wave countries but it clearly can be a part of the solution.

The Global Fund's technical review panel, an independent group of experts, will have difficult choices to make about the quality of applications, absorptive capacity, ability of countries to budget correctly, and other issues not limited to public health. This will be different from the fund's first round of grants and will have an enormous impact on how the fund deals with some of the larger next-wave countries.

ANNE PETERSON, ASSISTANT ADMINISTRATOR FOR GLOBAL HEALTH WITH THE U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT, gave an overview of USAID's role in the U.S. response to HIV/AIDS.

Given the magnitude of the pandemic and the scarcity of resources available, every dollar spent on HIV/AIDS must make a difference in stemming the epidemic. Having demonstrable impact will be key to increasing overall resources. Although many more resources are needed, it's important to note that the United States is already the world leader in contributions. It was the first and largest donor to the Global Fund and is the largest donor bilateral donor.

USAID's health budget has increased 500 percent since 1998. USAID initially concentrated on prevention, and as resources increased, so too did the scope of its interventions, from prevention to care, support, and now, treatment. USAID has certain comparative advantages. It is an implementing agency that does programs and provides services. Most of these programs are undertaken in partnership with NGOs and faith-based organizations. Another advantage is that USAID is a development agency, not just a health agency. It links programs on HIV/AIDS to other health programs, and to educational, agricultural, and economic development programs, to micro-enterprise efforts, and food support.

USAID has focused its resources for HIV/AIDS in 23 priority countries, basing its decision on where prevalence is already high and where potential crises are looming. Four of the five second wave states—India, Russia, Ethiopia, and Nigeria—are already among the priority states. In each, USAID resources have almost doubled in the last three years.

USAID has been active in India for over 10 years, focusing in Tamil Nadu and Maharashtra, two high-prevalence states. The total budget has nearly doubled within the last three years from \$8 million in fiscal year FY 2001 to \$15 million in FY 2003. In Ethiopia, USAID assistance began in 1992, and in the last three years the budget has more than doubled from \$8 million to \$18.5 million. In Nigeria the current budget is over \$20 million, and in Russia, where USAID activities began in 1998, it has doubled to over \$4 million. The threat of the pandemic's second wave has been clearly reflected in USAID's recent funding decisions. The NIC projections, although they are at the higher end of what USAID thinks might happen, are certainly possible. The agency's role is to prioritize the funding granted by Congress and to make sure that results are realized.

Currently, USAID does not work in China. It has, however, been in discussions with the State Department, the White House, and Congress about beginning work there. On the second day of the CSIS Second Wave conference, USAID received verbal assent from Congress to begin working in the two southern provinces in China through its regional program in the Mekong Delta.

Addressing HIV/AIDS in the second wave countries will involve many difficult questions regarding resources, programming, policy priorities, finances and accountability, and the balance between severity and magnitude of disease burdens, and between prevention, care, and treatment.

Discussion

It would be useful, said one delegate, to have the U.S. ambassador and the USAID mission director in each of the second wave countries meet with the respective delegations to the CSIS conference to get their reaction to the conference, and explore follow-on relationships that might help define areas of support and collaboration.

Undersecretary Dobriansky welcomed the idea.

The United States, suggested another delegate, is in a position to connect the five second wave countries with each other and with other countries at various stages of the epidemic, to foster networking and communication of best practices and lessons learned.

Undersecretary Dobriansky responded that to her knowledge, the CSIS conference was the first time that delegations from the five second wave countries have been brought together with other stakeholders and interested parties. The event was an important first step on which the U.S. State Department will build. Continued communication will be the responsibility of all involved.

What message, asked one participant, did Secretary Thompson take away for the 2002 International AIDS Conference in Barcelona, where he was the target of substantial protest?

Despite the protesters, said Steiger, Secretary Thompson took away from Barcelona the message that there are many very committed people who are willing to work with the United States in both the public and private sectors. The Secretary had a number of behind-the-scenes meetings and came away with renewed commitment, a positive sense of how U.S. programs are having an impact, and a better idea of the new and innovative best practices that taking place across the world.

Among the recurring themes of the CSIS conference has been the links between HIV/AIDS and poverty. How is the United States linking poverty reduction with HIV/AIDS?

At the 2002 Johannesburg World Summit on Sustainable Development, said Undersecretary Dobriansky, the United States sought to achieve a shared vision on the promotion of sustained development and poverty eradication. Health-related matters were discussed extensively. Prior to the summit, at the International Conference on Financing for Development in Monterrey, Mexico, President Bush announced the Millennium Challenge Account for sustained development and poverty eradication, increasing U.S. foreign assistance from \$10 billion annually to \$15 billion annually by 2006. But the administration has made clear that there has to be a commitment and co-responsibility between developing and developed countries. Developed countries need to come forward with assistance, and developing countries must manifest a commitment in three areas: in sound economic policies and economic freedom; in good governance; and, significantly, in investing in people, specifically education and health. Health is critical, and the administration has placed a premium on action in this regard. At the end of the Monterrey conference, both developed and developing countries embraced this new paradigm of foreign assistance.

USAID administrator Andrew Natsios clearly cares about food aid and agriculture, said Dr. Peterson. But, even he perhaps didn't realize the full impact that drought and food shortage in southern Africa would have on the HIV/AIDS pan-

demic. USAID is working very hard to mitigate the effects of the southern Africa drought. As for poverty reduction, the United States worked hard at the Johannesburg summit to promote health as an issue in sustainable development. But it encountered difficulty in getting health—and specifically HIV/AIDS—on the agenda. It would be a tremendous boost to have other countries join with the United States in arguing that disease hinders economic development and deepens poverty and that health interventions, carefully chosen, can make a difference in improving economic status and reducing poverty.

Conclusion

J. Stephen Morrison, director of the CSIS Africa Program and the CSIS Task force on HIV/AIDS, closed the conference, thanking the five delegations for the deep and abiding impressions they made in the course of the conference. Changes in U.S. bilateral relationships will not happen overnight, said Morrison, but the conference and the delegates' contributions are a significant advance in the dialogue around the kinds of partnerships that will be possible and effective.

Minister Teshome Toga of Ethiopia offered final remarks, saying that the conference offered a valuable opportunity to network and share experiences. But it will need to be followed up by continued communication and concrete actions. The delegates have presented their case, indicating their needs in terms of capacity-building, technical support, and resources

HIV/AIDS, said Minister Teshome, is truly a global challenge that requires a collective global response. As the conference made clear, the pandemic is not only a health issue, but also a social, economic and security issue, a threat to individuals, to families, and to societies at large. The war on the HIV/AIDS pandemic, both its first and second waves, can be won with good will, renewed commitment, partnership and human solidarity.