

Original Contribution

Curtailing the HIV Epidemic: The Power of Prevention

Michael H. Merson, MD

Michael H. Merson, MD, delivered a keynote address on global HIV prevention programs at Curtailing the HIV Epidemic: The Power of Prevention Leadership Forum, a meeting of international leaders, policymakers, and program planners held in New York City on June 22, 2001, immediately prior to the United Nations General Assembly Special Session on HIV/AIDS. The Henry J. Kaiser Family Foundation, the Ford Foundation, and the Bill and Melinda Gates Foundation were hosts of the forum. The meeting, like Dr Merson's speech, focused on the role of prevention in the global fight against HIV, and examined effective prevention strategies, the barriers to their implementation, and the relationship between prevention and care. The edited text of Dr Merson's speech is printed below.

I have been asked to present evidence to support the efforts for HIV prevention. I will do this by reviewing the context in which prevention must succeed, the essential elements of a successful HIV prevention strategy, and the actions required for prevention to work effectively. A most unfortunate and needless debate has emerged about the merits of HIV prevention as opposed to care. Both are crucial efforts and each must be greatly scaled up. Prevention and care are complimentary and synergistic, and efforts to prioritize one at the expense of the other are unethical, a denial of a fundamental human right, and just plain bad public health.

The Context

This is now the twentieth year of the most devastating pandemic in the history of modern civilization. The bubonic plague of the Middle Ages killed as many people, but its spread across the globe was not nearly as rapid and its acute impact thus not nearly as profound.

Since 1990, the total number of HIV infections has increased 10-fold—from 6 million to nearly 60 million—and it is nowhere near its peak. Those living in sub-Saharan Africa have suffered the most. Across the African continent, there are now 25 million persons living with HIV and AIDS, the health care system has become an AIDS care system, and more than 10 million children have been orphaned. In the countries of Southern Africa, 20% of the adult population is infected, and in less than a decade, life expectancy has dropped by 15 to 20 years.

During the past decade the pandemic has gradually extended throughout Asia, from Thailand and the countries in the Golden Triangle, to China, where the extent of its spread is not

fully known, to India, which has, or soon will have, more infections than any other country. In China injection drug use and contaminated blood have fueled HIV spread, whereas in India heterosexual transmission has been the prominent mode of transmission.

In the Ukraine, Russia, and the rest of Eastern Europe, where the social conditions could not be more ideal for the spread of the virus, the pandemic started slowly, but is now expanding at an exponential rate. Injection drug use has been the primary cause of infection, but rates of heterosexual transmission are rapidly rising.

In the Western Hemisphere, the Caribbean countries presently have the second highest rates of HIV infection globally, while in Central and South America the pandemic continues to surface in diverse and vulnerable populations. In the United States, the epidemic has “stabilized,” but at an appalling rate of

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40,000 new infections per year. The majority of these infections occur in populations of color, and rates of infection are increasing in men who have sex with men (as they are in Western Europe), due to complacency about prevention, enhanced by the availability and effectiveness of antiretroviral therapy.

In some countries, prevention programs have achieved considerable success, but for the most part, the response to the pandemic has been delayed, inappropriate, or insufficient. As an infection transmitted primarily by sex or by illicit drug use and associated with stigmatized and marginalized groups, HIV has all too often engendered moralistic or repressive responses rather than sound public health actions. In addition, the response of the international community has been grossly insufficient. As just one example, development assistance for anti-AIDS efforts in the least developed and other low-income countries reached a maximum of a paltry \$144 million a year during most of the 1990s, and was a mere \$70 million a year in Africa between 1996 and 1998.

The good news is that the context is changing, and as UNAIDS Executive Director Peter Piot said at the recent World Health Assembly, we are witnessing a “sea change” in the international response to the pandemic. This can be seen, for exam-

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ple, in the World Bank's heightened commitment, particularly for Africa, where by next year it projects the approval of 1 billion new dollars in credits to scale up prevention and care efforts in 25 countries. The major international foundations, such as those hosting this Power of Prevention Leadership Forum—the

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Henry J. Kaiser Family Foundation, the Ford Foundation, and the Bill and Melinda Gates Foundation—have also dramatically increased their support to HIV/AIDS activities.

Some of this “sea change” is due to increased awareness about the pandemic's severity, much of it a result of the convening of the XIII International AIDS Conference in Durban in July, 2000. Some of it is related to the new and exciting developments in the search for an HIV vaccine and the serious efforts underway—after years of little more than neglect—to find a safe and effective microbicide.

But probably the greatest impetus for this turning point in the international response has been global concern about equity in access to antiretroviral drugs in low- and middle-income countries. This concern originated with the use of these drugs, given to pregnant women near or at delivery, to successfully interrupt mother-to-child transmission. Greater equity in access to antiretroviral drugs was made a reality by the substantial reduction in price in these countries during the past 6 months, and by the remarkable success reported by Brazil in reducing AIDS-related mortality, hospitalizations, and opportunistic infections, as well as the overall costs of AIDS care, achieved in part through the widespread use of these drugs.

For the first time in the pandemic's history, comprehensive AIDS care is now a reality for everyone.

Elements of Prevention

If this is the context in which HIV prevention now operates, what should be the main elements of an effective prevention strategy?

The success of behavioral HIV prevention interventions—whether directed toward individuals, couples, families, communities, or society at large—in reducing sexual transmission and transmission through injection drug use has been well documented. In fact, social and behavioral scientists have been able to provide more scientific evidence of their effectiveness than exists for prevention of most other behavior-related diseases.

In addition, a growing number of countries have documented the success of their prevention efforts through careful program evaluations and well-designed surveys. There should be no doubt in our minds that prevention programs can reverse a major epidemic, as has been seen in Uganda and Zambia; can contain an emerging epidemic, as has occurred in Thailand and

Brazil; and can avoid an epidemic all together, as has been well documented in Senegal.

There are elements of successful prevention programs worth emphasizing (see summary in Table 1):

- They are tailored to the social and economic conditions and to the social and cultural norms of the populations that need to be reached. Effective HIV prevention messages are based on knowledge and understanding of local attitudes, behaviors, and practices.
- They present information that empowers those who are vulnerable to understand their risk and to know how to protect themselves from infection. This means talking frankly about comprehensive sexual education and harm reduction, especially with youth. In populations where sex during adolescence is the norm, abstinence-only messages place youth at great risk of infection and are equivalent to teenage genocide.
- They involve those who are infected by the virus, as well as members of civil society, ranging from women's groups to gay men's AIDS service organizations to families caring for orphans.
- They take place within a supportive legal and policy framework, which protects HIV-infected persons and those vulnerable to infection from discrimination in all its ugly forms, and assures them the right to liberty and security before the law, as well as the right to marry, find a family, and have equal access to education and employment. This entails the elimination of forced HIV testing and the repealing of laws that criminalize homosexuality and commercial sex work.
- They are multifaceted and multisectoral; there is no single magic bullet.
- They are sustained over time, as populations at risk change. Prevention must be reinvented over and over to keep reaching the next audience and to be heard and believed.
- And last, and some would say most importantly, they require

Table 1. Elements of Successful HIV Prevention Programs

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1. Programs are tailored to the social and economic conditions and social and cultural norms of the target populations
 2. Information is presented that empowers those who are vulnerable to understand their risk and know how to protect themselves
 3. Programs involve HIV-infected persons and members of civil society
 4. A supportive legal and policy framework protects HIV-infected and at-risk persons from discrimination and infringements of their human rights
 5. Programs are multifaceted and multisectoral
 6. Programs are sustained and reinvented as populations at risk change
 7. Strong and committed political leadership mobilizes the entire country toward HIV prevention goals
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strong political leadership that is committed to HIV prevention goals and mobilizes all government ministries, civil society, and the private sector toward this common goal.

There are two other important points to make about HIV prevention. First, HIV prevention strategies—including condom promotion, voluntary counseling and testing, treatment of sexually transmitted diseases, and harm reduction interventions in injection drug users—are highly cost-effective and have the greatest benefit when HIV prevalence is low and they are targeted to high-risk groups. Political leaders should not doubt their effectiveness, nor be concerned about their cost.

Second, in a number of ways, the increasing availability of antiretroviral drugs should benefit prevention efforts. Persons who believe they may be infected, no longer fearing a death sentence, are more likely to seek voluntary counseling and testing. If they are found to be HIV-seronegative, this offers a prime opportunity to deliver prevention messages. If they are found to be infected, the treatment setting provides an ideal time to repeatedly reinforce these messages. This is particularly important, since it has been shown that those receiving antiretroviral therapy can have demonstrable increases in high-risk behavior and sexually transmitted diseases.

The availability of antiretroviral therapy for pregnant mothers encourages them to come for testing as a means of preventing infection in their newborn. Continuing this treatment in mothers after delivery will allow them to breast-feed more safely, which is important for preventing diarrhea and malnutrition in their infants.

Also, at a societal level, the removal of the death sentence from AIDS will no doubt reduce the stigma around HIV infection. In turn, this should decrease discrimination against HIV-infected persons.

Finally, it is possible that antiretroviral therapy—if provided to most of those in need—may have the added prevention benefit of lessening the likelihood of sexual transmission by decreasing the viral load in genital secretions.

Comprehensive care has other types of prevention benefits. It keeps families together longer by prolonging the lives of HIV-infected parents, so that children do not have to leave school, and parents do not have to stop working in the field or factory and can save money for the orphan years of their children. Also, by keeping young adults alive longer, it can lessen the impact of the epidemic on a nation's economic development and help to maintain national security.

For all these reasons, there should be no doubt that prevention and care are natural allies and each is equally paramount in the global and national efforts to control the pandemic. Efforts to pit one against another are morally indefensible and scientifically incorrect.

The safe and effective administration of antiretroviral drugs will require training of health care providers, strengthening of counseling and laboratory services, improvement of logistics systems, and small- and large-scale operational research trials to determine the best treatment regimens and operational strategies for monitoring patients. These efforts should always include prevention components, so they can simultaneously strengthen the primary prevention infrastructure and identify novel and innovative ways to deliver prevention strategies.

One of the best ways to stimulate development of the care and prevention infrastructure is to have drugs and condoms to deliver. Everywhere a beginning can be made.

Required Actions

In conclusion, HIV prevention can be elevated to the scale required to curtail the spread of the pandemic through the following measures.

- First and foremost, what has been learned over the past 2 decades about prevention must be applied at dramatically increased levels. We may not know everything we would like to know about HIV prevention, but we know much more than we are doing. Truth must overcome denial. Urgency must replace complacency. Prejudices must be overcome, and erroneous and unfounded assumptions abandoned, such as the belief that those living in low-income countries are unable to take antiretroviral drugs because of dosing schedules, treatment adherence, or drug-resistant superviruses. Cynicism about the effectiveness of HIV prevention must stop. By careful monitoring and vigorous evaluation of programs, their impact can be documented and their deficiencies identified so they can improve as they move forward.
- Research efforts to develop new prevention tools—particularly an HIV vaccine and microbicides—need to be greatly expanded. More incentives and innovative mechanisms are needed to ensure that products that are developed are effective, affordable, and accessible for those who need them the most. Their availability will not remove the need for behavioral interventions. On the contrary, most experts believe that at least for the foreseeable future, available vaccines will provide only modest protection and reduction of transmission of the virus.
- Greater attention must be given to the importance of reducing the social and economic vulnerability of those susceptible to HIV infection. Creating a true power balance between women and men, and providing all women the freedom to exercise control over their own sexuality, as well as education and access to the cash economy, are good places to

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start. Laws and customs that protect the rights of those infected with HIV should also be vigorously promoted and barriers to them, which allow discrimination to thrive, should be removed. We also need to better understand how to integrate HIV prevention into anti-poverty programs and strategies.

- For prevention to succeed as it must, resources of an unparalleled scale are going to be needed. UNAIDS estimates that at least \$4 to 5 billion is required annually for global pre-

vention efforts. This is less than 1% of the world's yearly military spending. Some of this money can be obtained through debt relief. Today, African countries pay \$15 billion yearly in debt to international creditors, while owing them a staggering \$230 billion. This means that they are transferring 4 times more to their creditors than they are spending on national health and education programs. Progress has slowly been made in this area—some \$20 million were added to AIDS programs in African countries last year—but this is far short of what is required. A massive escalation of resources is needed.

During the past few months, through the efforts of United Nations Secretary General Kofi Annan and others, a consensus has developed around the establishment of an international global fund to attract the resources needed for HIV prevention and care. Such a fund can make a difference if it attracts new resources; strikes a balance between prevention and care; keeps policy- and decision-making at the national level; supports existing national programs and priorities, including the purchase of antiretroviral drugs; fully involves civil society and the private sector; has a streamlined and transparent secretariat that utilizes highly qualified technical advice and ensures accountability; and respects the principles of ethics and equity. It should not seek to address all the world's health problems, but rather focus on the devastating pandemic and its consequences, such as an exponential increase in tuberculosis.

Are 25 million deaths, the near devastation of the social fabric of many nations, and the real threat that this may happen elsewhere enough to rally world leaders to truly confront this pandemic?

It will take unprecedented cooperation among governments, foundations, civil society, and industry to agree on priorities, strategies, and specific goals and targets, for which all are accountable. It will require governments to forego national and sexual politics and blame, and to acknowledge that vulnerable populations exist everywhere and are equally deserving of their human rights to prevention, care, and social support. When it comes to prevention, the gap between science and policy must close. And it will require high-level leadership in all nations, not yet seen in the history of this pandemic. Leadership means commitment to a moral and humane approach to prevention, ownership of plans and programs, and above all else, courage—courage to talk frankly about human behavior without prejudice; courage to take on controversial issues no matter the political risk; and courage to generate a vision of new responses and understandings that, once and for all, bring an end to this pandemic.

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For perspectives on HIV global treatment strategies, see the June, 2001, issue of *Topics in HIV Medicine*, available online at www.iasusa.org/pub/June_Journal.pdf.
