



**Background Paper
of the
Task Force on Major Diseases and Access to Medicine,
Subgroup on HIV/AIDS**

April 18, 2003

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Note to the reader

The Background Paper provides a preliminary overview of existing knowledge and scopes out the questions addressed by this Task Force. The analysis, conclusions and recommendations contained herein should be considered as very preliminary as they are likely to evolve as the Task Force works toward its final report at the end of 2004. Comments and suggestions are welcome. Please cite this paper as "Background Paper of the Millennium Project Task Force on Major Diseases and Access to Medicine, Subgroup on HIV/AIDS".

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1. Introduction

In the little more than two decades since it was recognized as a distinct disease, HIV/AIDS has grown into one of the greatest epidemics in human history, spreading to every corner of the globe and wreaking enormous devastation. The overwhelming suffering already caused by AIDS and the threat it now poses to prospects for human and economic development were recognized by hundreds of national leaders at the Millennium Summit in 2000 in New York City, when they included combating AIDS among the Millennium Development Goals.

1.1 Overview of the epidemic

A comprehensive overview of the state of the epidemic can be found in recent reports from the Joint United Nations Program on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) – no detailed survey will be attempted here.¹ AIDS took about 3.1 million lives in 2002, surpassing malaria and tuberculosis as the greatest killer among communicable diseases; perhaps 42 million people are infected with HIV, the virus that causes AIDS². The geographic distribution of infection and death remains highly uneven: 70% of deaths so far have occurred in sub-Saharan Africa. HIV prevalence rates among adults may reach 20% and higher in some countries in southern Africa. In other parts of the continent seroprevalence varies considerably, from below 1% and apparently stable in Senegal to 12% and rising in Cameroon. Nigeria and Ethiopia, with large populations and prevalence rates above 5%, are facing potentially catastrophic epidemics. Parts of Southeast Asia, the Caribbean and Latin America are next hardest hit, while rates of infection in Western Europe and North America are generally below 1% and relatively stable. China, India, and the countries of the former Soviet Union, together home to a large share of the world's population, are currently the focus of increasing concern.³ Although in these regions prevalence in the general population is thought to be low – data are poor – rates are increasing rapidly in vulnerable populations, prevention efforts and political leadership have been inadequate, and the stage is set for full-blown epidemics.

National epidemics vary greatly not only in their scale but in their nature. In Russia, for example, most infections have occurred among injecting drug users, while men who have sex with men and commercial sex workers are most affected in some other regions. Moreover, nations differ enormously in the financial and institutional resources they can bring to combating the epidemic. These differences, which imply differing priorities for action and differing constraints, must inform any discussion of the AIDS crisis. This report will not attempt an explicit taxonomy of local conditions, but distinctions between high and low prevalence regions, concentrated and generalized epidemics, and low- and middle-income countries should be kept in mind throughout.

As no cure for AIDS is likely soon, only prevention can slow the spread of the epidemic, while treatment and care can mitigate its impact. The general picture is bleak: most of the world's population has no access to reliable information or prevention services, let alone treatment; in much of the world political commitment is still lacking; and resources in the developing world are woefully inadequate. There are, however, a growing number of successes on a local and even national level. Some countries – the Philippines and Senegal among them – appear to have succeeded in arresting the epidemic at an early stage, while others – Uganda, Thailand - have managed to slow and even reverse its growth after it has taken hold⁴. These examples demonstrate the importance of coherent strategy and committed leadership, the viability of specific approaches, and the possibility of progress on a far greater scale. Crucially,

there is now a considerable body of knowledge on what works in HIV prevention, allowing the focus to switch to overcoming the obstacles to implementing these proven approaches worldwide⁵. This consensus is outlined in Section 2.1.

The development of anti-retroviral drugs (ARVs) has brought almost miraculous benefits in the developed world, cutting AIDS deaths dramatically and allowing many people with HIV to resume normal lives. These drugs can prolong life but pose many complex problems, including serious side effects, the difficulty of adhering to complex regimes, and the development of resistance. Yet the most pressing issue in AIDS treatment is that of unequal access, resulting from the high cost of ARV drugs and the weakness of health systems in many developing countries. At present these drugs reach only a tiny fraction of those who could benefit from them, perhaps 1% in sub-Saharan Africa and 5% in the developing world as a whole, according to recent estimates.⁶ Three recent developments give hope for change. First, the price of ARV drugs in the developing world has fallen dramatically as a result of the growth of generic manufacturers, pressure from activists, groundbreaking legal rulings, and agreements between pharmaceutical companies and developing countries. Nonetheless, the cost remains far too high for almost all people in the poorest countries. Second, the feasibility of ARV treatment in developing countries has been demonstrated by pilot projects such as those undertaken by Partners in Health in Haiti and by Medecins Sans Frontieres in Africa and elsewhere, as well as by Brazil's remarkably successful nationwide program. Finally, there appears to be growing consensus, stemming both from compelling moral necessity and from recognition of the value of treatment to prevention, that treatment must be made available far more broadly, and more equitably. Debate persists over how rapidly access can be expanded, and this undertaking faces both complex technical challenges and even more daunting obstacles of finance and health system capacity.

1.2 The UNGASS declaration

The last few years have seen a number of encouraging signs of greater political engagement in the fight against HIV/AIDS at the national, regional, and international level. The most significant international manifestation of this growing commitment was the 2001 United Nations General Assembly Special Session on HIV/AIDS (UNGASS). The resolution adopted by this assembly not only represented an unambiguous declaration of the gravity of the epidemic and the importance of decisive action, but affirmed some fundamental principles that should govern the response and committed member states and the UN system to a number of concrete measures⁷. The declaration recognized the role of poverty, illiteracy, and conflict in exacerbating the spread of HIV, and warned of the impact of AIDS on development and stability. It asserted that while prevention must be the "mainstay" of the response, access to treatment must be expanded and integrated with prevention efforts. It acknowledged the importance of empowering women and girls, combating stigma and discrimination, effective collaboration between the international community, national governments, NGOs, and the private sector, and involvement of people living with HIV/AIDS. It committed governments to producing detailed plans for attaining a series of intermediate goals. Although the UNGASS resolution is not in itself a plan, it is a coherent declaration of goals and principles, and should serve as the guiding framework for international action on HIV/AIDS, including that of the MDG task force.

Although the UN Special Session was a milestone in international commitment to combating AIDS, progress in implementing its resolutions has been mixed. As the Secretary-General noted in a summer progress report, the scale of most efforts is still far too small.⁸

1.3 The role of the MDG task force

The Millennium Development Goals (MDGs), which began as a statement of shared aims, have evolved into a multifaceted process that seeks to reorganize and coordinate UN activities around the goals, as well as to provide a common framework for both donor and developing nations. Alongside political and monitoring activities, this process includes the so-called MDG project, under which teams of recognized authorities and leaders, from the developed as well as the developing world, have been assembled to seek the best approaches to achieving the MDG goals and targets.⁹ This work will emphasize developing strategies for implementing the most effective interventions. Millennium Goal #6 is to “combat HIV/AIDS, malaria, and other diseases”; the corresponding task force includes teams on malaria, tuberculosis, and access to essential medicines as well as AIDS. The Millennium Declaration set a target of halting and beginning to reverse the spread of HIV/AIDS by 2015. Progress is to be monitored using three indicators – prevalence among 15-24 year old pregnant women, condom use, and number of children orphaned – although the task force has leeway to consider adopting others.

The MDG project, although a UN initiative, is intended to enjoy substantial independence, as well as freedom from the political and institutional constraints that sometimes restrict UN action. In fact, recommendations for how the UN system could work more effectively toward the Millennium Goals could be an important contribution of the task forces. At the same time, the MDG process should not be construed as superceding but as reinforcing and advancing other UN initiatives.

While the UN system itself is obviously an important audience for the recommendations coming from the MDG task forces, the project’s influence is potentially much broader. Clearly, if the task force on HIV/AIDS is to contribute to achieving the millennium target, it must strive to involve and address the entire spectrum of individuals and institutions concerned with the epidemic, from donor nations to developing country governments to activists and NGOs.

The MDG mandate suggests that the task force’s attention should be focused on identifying successful approaches and on overcoming obstacles to their implementation and expansion, rather than on devising new approaches or technical means. While improved prevention and treatment methods are of vital importance, there is at the same time an enormous imperative to deploy more broadly and effectively those that we already possess. This will be the central focus of the task force. The UNGASS resolutions lay out the general principles of a global response to AIDS and commit member states to a series of steps. The task force’s responsibility will be to complete the work of identifying the most effective measures and to consider the institutional and technical arrangements for implementing them. It must also estimate the cost of these actions and suggest how these resources can be found. Since the task force’s focus will be on ensuring that resolutions are translated into action, it must anticipate the obstacles that will impede, and are already impeding action, and devise approaches to overcome them.

1.4 Approach to the preliminary report

This report will not attempt a general overview of the current status of the epidemic and its devastating consequences. Instead it will concentrate on the issues that must be resolved if the millennium target of bringing it under control by 2015 is to be met. A general theme of the report will be that much is known about what works in combating HIV/AIDS. We have in hand effective, if imperfect, approaches to treating those who are living with the virus and to preventing its further spread. Thus the report will focus much of its attention on how to ensure that these measures reach far more of the world’s population.

The report will first discuss the three basic components of a comprehensive response to the epidemic: prevention, treatment, and research.¹⁰ Parts 3 and 4 will address implementation and the major obstacles to success, including governance, health system capacity, stigma, and gender inequality. Part 5 will examine how the cost of a comprehensive effort against AIDS might be estimated, while Part 6 will address some of the links between HIV/AIDS and the issues facing the other MDG task forces. A final section will propose some tentative and rather general conclusions.

2. Elements of a comprehensive response

2.1 Prevention

The UNGASS resolution calls for HIV prevalence to be reduced in young people by 25%, by 2005 in the most affected countries and by 2010 globally.¹¹ Fortunately, there is now substantial agreement on a set of prevention measures that can stem the spread of HIV infection when carried out as part of a comprehensive plan backed by committed leadership¹². National programs based on these approaches have achieved considerable success, and a recent modeling study estimated that making basic prevention measures available worldwide by 2005 would prevent 29 million new infections by 2010.¹³ Although cultural, epidemiological and economic differences among regions and countries must be taken into account, the general principles of a successful response apply broadly. This emerging consensus is outlined in the 2002 UNAIDS report and elsewhere¹⁴ and endorsed by UNGASS. The necessary measures include:

- Population-wide communication campaigns conveying basic facts about HIV/AIDS and its transmission, promoting behavior change, and combating harmful myths and stigma
- Programs focussed on vulnerable groups, including sex workers, men who have sex with men, injecting drug users, migrant workers, and, more broadly, young people
- Legal and other measures countering discrimination against people living with AIDS
- Access to the technical means of prevention: male and female condoms, disposable needles and syringes
- Access to voluntary testing and counseling
- Control of sexually transmitted infections (STIs)
- Prevention of mother-to-child transmission by antiretroviral prophylaxis
- Precautions to prevent transmission in health care settings
- Blood screening and control

Much has been learned over the past two decades about the best approaches to each of these components of prevention. Technical guidance can be found elsewhere, and only a few key points will be made here.

2.1.1 Population-wide information campaigns

The mass media – radio, TV, print – are powerful tools for promoting behavior change. Media campaigns can impart information about HIV and its transmission, combat stigma and discrimination, and improve the milieu for more targeted efforts. Programs must be designed to reach all sectors of society, as many studies have shown great disparities in knowledge about HIV between men and women, between rural and urban areas, and across education levels.¹⁵

Moreover, experience shows clearly that information alone is not enough: campaigns must also provide emotional and social motivation for change¹⁶. Successful programs have often conveyed AIDS messages through entertainment and exploited the techniques of advertising¹⁷. The involvement of the private media sector is critical and can make extended campaigns affordable. These efforts may be coordinated through ministries of health, but ideally should involve a broad range of government institutions, community groups and the private sector.

2.1.2 Programs focused on vulnerable groups

Targeted programs are among the most important prevention measures, and can have an especially powerful effect at early stages of the epidemic¹⁸. Two keys to success are good information on groups at risk and behavior patterns, specific to each country and even region, and strong involvement of the affected groups themselves. This in turn depends on building trust through cultural and gender sensitivity and assurance of basic rights. Success will require:

1. An appropriate legal environment, including protection against discrimination and revision of laws constraining delivery of services to vulnerable groups
2. Campaigns to reduce stigma and support participation of vulnerable groups in planning and implementation
3. Use of a variety of channels to promote safer behavior, including peer education
4. Adequate supply of prevention tools (male and female condoms, sterile injecting equipment, and drugs to treat STIs)

As with campaigns aimed at the general population, these programs should involve a broad range of government and non-government institutions. Organizations representing the vulnerable populations themselves have a particularly important role to play.

Injecting drug users

Some of these principles can be illustrated by considering briefly the case of injecting drug users (IDU). Worldwide, about 10% of HIV infections occur among IDU, who acquire the virus by sharing contaminated needles and syringes¹⁹. In some regions, notably the countries of the former Soviet Union and Eastern Europe, this is the dominant channel of transmission. In Russia, site of the world's fastest growing epidemic, 90% of registered HIV cases are among IDU²⁰. Outbreaks among drug users are also driving the epidemic in certain parts of China, India, and Southeast Asia, and are important in Western Europe and both Latin and North America.

There are well-demonstrated approaches to combating HIV/AIDS among injecting drug users²¹. Needle exchange programs have been shown repeatedly to reduce incidence of HIV and other blood-borne diseases, without increasing drug use. Methadone substitution therapy is also effective, and can give addicts access to other medical services and to voluntary testing and counseling. Despite the proven effectiveness of these interventions, they are not available to most of those who need them. As with measures targeted at other marginalized groups, stigma is an important obstacle to reaching IDUs. However, efforts to reach drug users face a particularly strong impediment in the form of punitive drug policies, which drive users farther underground, increase stigma, and in many places, make the best prevention measures themselves illegal. Furthermore, imposing harsh prison sentences on addicts greatly exacerbates the problem, since injecting drug use and needle sharing are rampant in many prisons. Controlling the AIDS

epidemic among drug users, in Russia and elsewhere, will require moving away from failed punitive policies towards an approach based on harm reduction.

2.1.3 Programs focused on youth

Young people are especially vulnerable to HIV/AIDS infection for many reasons, and it is estimated that half of new infections are occurring among 15-24 year-olds.²² In some regions, intergenerational sex (relations between older men and younger women) has been identified as an important driver of the epidemic.²³ A comprehensive approach should involve school-based prevention programs offering practical training in relevant life skills as well as information; peer programs; condom distribution; community-based projects for young people not in school; and programs to reach young men in the army, in the workplace, and in prisons²⁴. There is some evidence that prevention efforts among young people are bearing fruit, as prevalence rates among young women are falling in some parts of Africa²⁵. In the case of Uganda, where the decline has been the most pronounced, it seems to result from both a delay in the start of sexual activity and greater use of condoms. It is difficult to know to what extent these promising changes can be attributed to specific programs, however, and we still know too little about what works in protecting young people²⁶.

2.1.4 Voluntary counseling and testing

Voluntary testing and counseling acts as a gateway to other AIDS services, providing access to psychological support, care and treatment (if available). Moreover, counseling brings people into contact with programs for harm reduction, for preventing mother-to-child transmission, and for diagnosing and treating tuberculosis and sexually transmitted infections. Finally, people who know their HIV status are more likely to change their behavior and respond to counseling on preventive practices. One practical obstacle to counseling can be a medical culture focused on diagnosis and treatment rather than health promotion and prevention. This difficulty can be overcome by sensitizing health professionals and by working with community groups and other non-medically trained partners.

2.1.5 Control of sexually transmitted infections

Sexually transmitted infections can contribute significantly to the spread of HIV, enhancing transmission several-fold.²⁷ Rapid detection and treatment of these conditions, together with prevention campaigns promoting awareness, behavior change and condom use, are therefore crucial to reducing HIV incidence. Counseling in conjunction with HIV testing, as well as broader communication campaigns, offer opportunities to promote STI awareness and prevention. The primary obstacles to better STI management are stigma and inadequate health systems.

2.1.6 Prevention of mother-to-child transmission (PMTCT)

In the absence of any intervention, babies born to HIV-positive mothers have a 15-35% chance of becoming infected in the womb, during birth, or through breastfeeding. WHO estimates that 800,000 infants became infected in 2001²⁸. However, there are now simple and effective methods for preventing mother-to-child transmission. In the developed world transmission rates as low as 1-2% are achieved with a combination of antiretrovirals and substitution of formula for breastfeeding. In the developing world it is possible to decrease

transmission by 50% with a single dose of one medicine administered to the mother at the onset of labor and another given to the infant within the first 3 days of life.²⁹ This intervention, which can be incorporated into routine antenatal care along with voluntary testing and counseling, is becoming increasingly available in the developing world. Yet the great majority of HIV-positive women in the poorest countries do not have access to this effective (and highly cost-effective) intervention. The main barriers to providing this service to all who need it are lack of resources and, in the poorest countries, lack of health system capacity, both to deliver these services and to provide universal prenatal care. Stigma, which can deter pregnant women from being tested and treated, is an additional barrier in some areas. On the other hand, a survey of antenatal clinics offering PMTCT services in 11 African countries found that, on the average, 80% of women accepted voluntary testing and counseling.³⁰ PMTCT is also a promising entry point for ARV therapy, providing an opportunity for treatment of the family. The new MTCT-Plus Initiative is providing life-long ARV treatment as well as PMTCT services to mothers, their children and other family members in eight African and Asian countries.³¹

An additional challenge in protecting infants from HIV is to find ways to prevent transmission during breastfeeding, since breastfeeding is vital to ensuring adequate nutrition and protecting against infectious diarrheas and respiratory diseases. At present no proven strategies exist, but studies of providing ARVs to either the mother or the infant throughout breastfeeding are under way.³²

2.1.7 Health system precautions and blood safety

Although blood contamination and faulty medical practices have not been the major routes of HIV transmission in most countries, they have played important roles in certain cases, such as the recent outbreak in China's Henan province resulting from unsafe practices during blood donation³³. Moreover, some workers have suggested that unsafe injections and transfusions might be more important to the spread of HIV in Africa than is generally assumed.³⁴ Lack of health system capacity and proper control over blood banks are the major challenges to eliminating these sources of transmission, since the necessary technical steps are well understood.³⁵

Although comprehensive national prevention programs have apparently succeeded in reducing HIV incidence, it is in general difficult to gauge the effect of particular measures. A recent survey found that while some interventions, particularly those directed at vulnerable groups, were clearly effective, the evidence is still quite weak for many others.³⁶ Moreover, tailoring the specific mix of interventions to local conditions requires epidemiological and behavioral data that are often not available. Both analysis of program effectiveness and improved data to use in designing prevention programs are important areas for further work.

The UNGASS resolution calls for programs addressing each of these components of prevention to be in place by 2005, and in some cases, sets specific targets for access. It also requires that all nations develop comprehensive AIDS plans by 2003. The latter goal may well be met, at least in the narrowest sense: according to UNAIDS, some 90% of surveyed countries had national strategic plans already by January 2001.³⁷ Yet when more exacting measures of national readiness were considered, such as plans for monitoring and evaluation, less than half passed the test. The UNGASS targets for access to specific services and for reductions in prevalence rates by 2005 are unlikely to be reached in many countries without a major increase in international resources and considerable strengthening of health systems.

There is also need for additional prevention tools. Microbicides are receiving much attention, as they could offer a way for women to protect themselves without obtaining the consent of their partners, as well as an alternative for women who wish to become pregnant. As yet no microbicide has been approved for use, but many products are being explored and 11 are now in clinical trials.³⁸ The ideal prevention tool would be a vaccine, but this is almost certainly at least a decade away.³⁹

Finally, the advent of ARV treatment poses both important challenges and new opportunities for prevention (see below).

2.2 Treatment

2.2.1 General considerations

Comprehensive AIDS treatment involves palliative care, prophylaxis and treatment of opportunistic infections, and treatment of the disease itself using anti-retroviral drugs, each of which poses complex challenges. This report will focus largely on ARV treatment, not because the other components of care are not equally important, but because it is here that the most difficult issues arise.

Over the last decade a number of effective anti-retroviral drugs targeting different steps in viral replication have been developed and approved. Therapies employing combinations of drugs, introduced in 1996, have proven remarkably successful for many patients, reducing viral numbers many-fold, restoring immune system function, and prolonging life. These drugs are far from an ideal solution, however. They must be taken indefinitely, and they can have serious side effects, including anemia and liver damage. Viral resistance often develops, especially when patients fail to adhere to the complex regimens that combination therapy demands, requiring that drugs be changed and sometimes leading to transmission of resistant strains. Because of toxicity and resistance, patients must be monitored closely using sophisticated tests. Most importantly, ARV combination therapy has until recently been extremely expensive, costing around \$10,000-15,000 per year in the US.

In countries where anti-retroviral therapy and appropriate clinical management are broadly available – primarily the developed world and Brazil – they have brought about marked falls in HIV-related mortality and morbidity. In Brazil, for example, AIDS deaths have fallen by 73%⁴⁰. Several other Latin American countries are planning to follow Brazil's example and offer universal access to ARV therapy. In most of the developing world, however, the cost and medical challenges of ARV therapy have so far prevented this life-saving treatment from reaching all but a few – fewer than 5% of those who need them, according to the WHO.⁴¹ The extension of ARV therapy to developing countries has been contentious, pitting those who see expanding treatment as rapidly as possible as the highest priority against those who fear diversion of scarce resources and energy from prevention. But, especially since the AIDS Conference in Durban in 2000 and the General Assembly Special Session on HIV/AIDS (UNGASS) in 2001, there is now broad support for scaling up treatment programs in developing countries. WHO has placed several ARVs on its list of essential medicines, an important endorsement.⁴² Debate continues over how fast treatment can be expanded, however. The UNGASS resolution reflects this uncertainty, acknowledging ARV treatment as a goal, but couching its appeal in cautious language and setting no targets for the expansion of access.⁴³ Grappling with the complex challenges posed by extending ARV therapy to the poorest countries is a central focus of the MDG AIDS task force.

2.2.2 How fast to expand access

Universal access to treatment must be the ultimate goal. However it is clear that this cannot be achieved immediately, even if sufficient resources become available. Timetables for expansion of access must be both ambitious and realistic, taking into account widely differing national circumstances. Trying to expand too fast could lead to treatment failure and accelerated viral drug resistance, diversion of resources from prevention, and cruel disappointment, while excessive caution will cost lives. WHO has set a goal of ensuring the provision of ARVs to at least 3 million people with HIV/AIDS by 2005, or an estimated 50 percent of all who will need them.⁴⁴ Reaching this target will require overcoming the daunting obstacles of financing and distributing the drugs, training clinical staff to monitor and manage these complex cases, and expanding health infrastructure to reach new populations and accommodate this vast new responsibility. Moreover, both the availability and demand for testing and counseling will have to be increased substantially. Given that universal access can not be attained right away, developing countries face the difficult question of how to phase in ARV treatment. Clinical guidelines based on international consensus can be used to define patients in the greatest need,⁴⁵ but other criteria may also be considered. For instance, in high-prevalence countries sustaining treatment programs may require giving health care workers priority. It may also make sense to extend treatment to family members, as drugs intended for a single patient may otherwise be shared within households, diminishing their effectiveness.

2.2.3 Technical issues

Using ARVs in resource-poor settings, where even basic medical interventions are often beyond the capacity of health systems, will require simplified diagnostic methods, simpler regimens, and cheaper, easier ways to monitor treatment success and side effects. WHO has recently issued guidelines for drug treatment in resource-poor environments that begin to address many of these issues.⁴⁶ The development of resistance is a particular concern, and strategies for ensuring patient compliance and for monitoring resistance will have to be developed. The experience of Brazil has shown that ARV therapy can work well in middle-income countries with relatively low prevalence rates, while a growing number of pilot programs have demonstrated feasibility on a small scale in more challenging environments⁴⁷

2.2.4 Drug cost and supply

In the poorest countries, cost remains the greatest obstacle to widespread use of ARVs. Acceptance by pharmaceutical companies of the concept of differential pricing and competitive pressure from generic manufacturers have cut the price of combination therapy to as little as \$300 a year in some countries.⁴⁸ Two agreements played particularly important parts in this achievement. The Doha declaration of the World Trade Organization acknowledged that patent protection for essential drugs could be relaxed in the face of public health emergencies.⁴⁹ In addition, the Accelerating Access Initiative, bringing together five major pharmaceutical companies and several UN agencies, has allowed a number of low-income countries to negotiate dramatically reduced prices for ARVs.⁵⁰

Unfortunately, even the lowest current prices are beyond the means of the poorest high-prevalence countries, whose health budgets can be as little as a few dollars per person per year.⁵¹ Reducing the price further will require both technological advances and further legal and diplomatic negotiation. Although the basic principle of differential pricing has been accepted by

the major pharmaceutical companies, the question remains how best to balance the imperative of providing drugs at the lowest possible price now against the need to ensure the continued development of new drugs. There seems to be growing recognition that the solution must involve cooperation and compromise between the pharmaceutical industry, donor nations, and developing countries. These issues, which apply as well to drugs for tuberculosis, malaria, and other diseases of the developing world, will be considered at greater length by the MDG team on Access to Essential Medicines.

Another set of challenges involves the procurement, distribution, storage, and rational use of the new drugs. These problems too are not specific to ARVs, and effective approaches are available, if difficult to implement.⁵²

2.2.5 Health system capacity

For the reasons outlined above, extending the benefits of ARVs to those who need them in Africa and elsewhere in the poorest parts of the developing world will pose enormous challenges to disorganized, overwhelmed and grievously underfunded health systems. The greatest obstacles will be the lack of trained doctors, nurses and other medical personnel, and deficiencies in management and record keeping. It will be important to develop strategies for making the best use of all kinds of health personnel, including community health workers, in providing HIV treatment and care. A number of initiatives have been launched to begin to deal with these challenges. These issues will be discussed in Section 4.

Together these obstacles are daunting. However, they must not serve as an excuse for further delay in beginning treatment programs, even in the most difficult environments. As Paul Farmer of Partners in Health has pointed out, it is only from experience on the ground that we will learn how to solve these problems.⁵³

2.2.6 Tuberculosis and HIV

In many parts of the world, and particularly in Africa, tuberculosis is the opportunistic infection responsible for the greatest number of AIDS deaths. In fact, the AIDS and tuberculosis epidemics are mutually reinforcing. TB devastates populations weakened by HIV, while the spread of tuberculosis itself is greatly enhanced by the resulting increase in infectious cases.⁵⁴ The preferred strategy for controlling tuberculosis, DOTS, can cure TB even in HIV-positive patients,⁵⁵ yet existing efforts are failing to control TB in many areas where HIV is epidemic, in large part because so many cases go undiagnosed. For example, while 90% of diagnosed TB patients are cured by DOTS in Botswana, 40% of AIDS-related deaths are due to undiagnosed TB. On the other hand, treatment of HIV infection with antiretroviral therapy has been shown to reduce TB risk by 80-90% in both developed and developing countries. Thus, expanding ARV therapy can both extend the lives of people living with HIV and play an important role in controlling the equally devastating tuberculosis epidemic.

There is another compelling argument for integrating AIDS and TB programs. Treatment of both diseases requires extended drug therapy, lasting months in the case of TB, indefinitely for AIDS. In both cases patient adherence to drug regimens is an important concern. For TB this consideration has led to the concept of “directly observed” therapy, in which health workers or community volunteers monitor patients to make sure they continue to take their medication. An attractive idea is that these same monitors could oversee adherence to ARV regimens. By combining forces in this way, TB and AIDS treatment programs could reap substantial savings.

Several pilot programs have demonstrated that integrating TB and AIDS care can work well.⁵⁶ The AIDS and TB task forces will work together to develop institutional strategies for joint management of the two diseases.

2.3 Integrating prevention and treatment

It is sometimes suggested that the success of ARV therapy will encourage the perception that AIDS is no longer a life-threatening disease, leading to increases in risky behavior. There are some indications of such changes in developed countries, but it is difficult to know if the advent of treatment is the cause. On the other hand, there is growing recognition, reflected in the UNGASS declaration, of the ways in which prevention and treatment can be mutually reinforcing. Prevention supports efforts to provide treatment for all by limiting the increase in those who require it. Similarly, availability of treatment helps promote prevention by encouraging early knowledge of serostatus. By implicitly valuing the health and well being of people living with HIV/AIDS, expanded treatment programs also help reduce the stigma associated with the disease and enhance the credibility of prevention messages. Finally, since ARV treatment can greatly reduce viral loads, it may lower infectiousness itself. For these reasons treatment can support prevention in important ways, reinforcing the desirability of delivering comprehensive treatment and care to all.

There has also been much discussion about whether treatment will divert scarce resources from prevention, especially in high-prevalence countries where universal treatment would be an enormous commitment. The concern is real. Prevention is indisputably more cost-effective in the narrow sense⁵⁷ - but the international community is increasingly committed to reducing the glaring inequities in access to treatment. The question then is not whether to treat, but how to design treatment programs so that they strengthen rather than hinder prevention efforts.

2.4 Research

2.4.1 Priorities

AIDS research includes basic research on the virus and the immune system; clinical research on the disease and opportunistic infections; social and behavioral research; development of drugs, vaccines, and other technologies; and operational research investigating the effectiveness of prevention and treatment approaches in particular environments. All will be important. Basic research is currently conducted mostly in the developed world - political conditions will probably guarantee continued funding for this work. The rich country market also provides adequate incentives for private sector drug development. Areas of particular concern to developing countries, as noted by UNGASS, are research on vaccines specific to viral strains prevalent there, the development of microbicides and other female-controlled prevention technologies, progress on simplified treatment regimens, and operational research on prevention and treatment in resource-poor settings. A further priority is to develop research capacity itself in the developing world, especially in those countries where trials and other studies are to be conducted.

A promising recent development has been the establishment of innovative public-private partnerships to support research into diseases of the developing world where financial and political incentives in the developed world are not sufficient. Examples in the area of HIV/AIDS are the International AIDS Vaccine Initiative and the newly established International Partnership for Microbicides.

2.4.2 Ethical issues in clinical and vaccine research

Carrying out clinical research in developing countries in the throes of an epidemic raises difficult ethical issues. The urgency of testing new treatments and vaccines must be balanced against the importance of safeguarding the rights of participants. What principles should govern this research, and how can they be enforced? For example, what long-term obligations do researchers incur toward participants in a study or trial? Can funding mechanisms be developed to prevent these obligations from limiting vital research? How can the special needs of children as research subjects be taken into account? Ultimately these are choices that must be made by each country for its own people, but international standards have a role to play as well. These questions were discussed at the Third Global Forum on Bioethics in Research, convened by the WHO in February 2002.⁵⁸

3. Implementation

Although national AIDS programs will remain the cornerstone of prevention and treatment efforts, there will be roles as well for international organizations, donor nations, NGOs, community groups, and the private sector, both locally and internationally. Successful implementing a greatly scaled-up global response will require coordination and clear division of responsibilities at the local, national, and international levels.

3.1 International coordination and oversight

Among the roles for international organizations in the battle against HIV/AIDS are technical assistance, planning and coordination of national and international efforts, and management of donor funds. In the case of HIV/AIDS, institutions with these mandates already exist, in particular the UNAIDS secretariat for coordination and planning; WHO, UNICEF, UNDP, and other agencies for technical assistance; and the Global Fund and World Bank for managing and allocating funds. Thus the need is not for new institutions but for strategies to strengthen existing bodies, particularly UNAIDS, WHO, and the Global Fund, for reducing duplication of effort, and for correcting deficiencies. These organizations may also have to assume new functions, for example in drug procurement; this would entail finding additional resources

Similar roles can also be played by regional organizations and by South-South collaboration. There are a number of successful examples of this kind of cooperation in combating HIV/AIDS, including notably the efforts of the Caribbean Community, or CARICOM. The Economic Community of West African States (ECOWAS) has recently begun a regional treatment initiative. Nations with successful programs have also worked with their neighbors. Brazil has shared its expertise with the rest of Latin America and has begun a cooperation project with the Portuguese-speaking countries of Africa. Thailand has also provided considerable assistance to Cambodian AIDS control efforts. The provision of low-price antiretrovirals to Africa by Indian generic drug manufacturers can be considered another example of South-South collaboration.

3.2 The Global Fund for AIDS, Tuberculosis, and Malaria

As the AIDS crisis mounted, straining the budgets of the existing bilateral and multilateral aid agencies, and as awareness grew of the importance of controlling disease to development, a consensus emerged that a new vehicle for donor funds distribution was needed to scale-up efforts against AIDS and the other endemic diseases of the developing world. This idea was endorsed by the UN Special Session in June 2001.⁵⁹ Principally as a result of Secretary General Kofi Annan's leadership, the Global Fund to Fight AIDS, Tuberculosis and Malaria was born in January

2002.⁶⁰ The Fund set up a independent board, composed of representatives of donor nations, developing countries, and NGOs, and established an innovative application process. Countries (or in some cases subnational governments) that wish to submit proposals are required to establish Country Coordinating Mechanisms, bodies intended to foster partnership among government ministries, NGOs, the private sector, people living with HIV/AIDS, and other constituencies. The Global Fund has received pledges totaling about \$2.1 billion, mostly from the traditional donor nations but also from developing countries and private foundations, and announced its first round of commitments in June 2002.

The Global Fund has set out to be one of the principal financing vehicles for paying for proven AIDS prevention and treatment strategies. Significantly, it is the first international, donor-financed organization to provide financing for ARV therapy. Despite the fanfare that accompanied its founding, however, the Fund is already at a crossroads. If it is to achieve its ambitions, it must quickly gain the confidence of the international community, coordinate effectively with existing aid organizations, follow through with monitoring and evaluation of funded projects, recruit the private sector, and attract enough new resources to close the gap between what is being spent and what needs to be spent to defeat AIDS. The Commission on Macroeconomics and Health estimated that an additional \$36 billion would be required by 2007 to meet the basic health needs of the poorest countries, of which \$14 billion would have to come from international donors.⁶¹ In order to make major headway towards that goal, the Global Fund should attempt to disburse, during the course of 2003, 1/5th of that total – nearly \$3 billion.

Such a rapid influx of aid will not produce the desired results unless the health systems of poor nations are also expanded and strengthened (see Section 4.2). This will require a wide range of interconnected investments - in physical plant and equipment, training, personnel, drug supply, logistics, management services, information technology, oversight and monitoring. Investments of this kind must be a major focus of the Global Fund (and of other international aid efforts) and low income countries should be strongly encouraged to emphasize these needs in their applications. Thus the central argument *against* aid - limited “absorptive capacity” – must be viewed as a fundamental argument *for* aid. . Moreover, devising more effective strategies for using donor funds and technical assistance to build capacity should be a central priority of developing and donor nations alike.

3.3 National division of responsibilities

Although national governments can be expected to retain ultimate control over AIDS activities within their borders, there has been much interest in involving groups outside national health ministries in both planning and implementation. This is especially important in the areas of prevention, counseling and hospice care, where NGO networks are well developed. There is growing consensus that comprehensive national plans should encompass public sector, private sector, and community based groups.

3.3.1 National coordination

For a national response to the epidemic to succeed, HIV/AIDS must be embraced as a priority by many sectors of society. Institutions such as national AIDS councils and the Country Coordinating Mechanisms required by the Global Fund are ways to give voice to the full range of groups affected by the epidemic, including people living with HIV, as well as a means of increasing transparency and perhaps circumventing problems of corruption and inefficiency. Some nations, including Brazil, Thailand, Uganda, and those of the Caribbean Community, have

been very successful in fostering wide consultation and ensuring the involvement of diverse groups.⁶² Within the government sphere, it is critical to involve sectors outside the health ministry in prevention efforts while ensuring integration with treatment programs.

A related problem is that of coordinating the activities of foreign NGOs and bilateral aid organizations, whose programs can create an inconsistent and overlapping patchwork of programs. In-country Theme Groups established by UNAIDS have proven useful in coordinating and minimizing overlap, especially in some countries of Latin America and Eastern Europe.

3.3.2 Whom to fund

Should international funds be targeted directly to local and international NGOs as well as to ministries of health and other public sector agencies? Some large scale efforts taken this approach: the World Bank's Multi-Country AIDS Program (MAP) distributes money to both ministries of health and National AIDS Control Councils, which are expected to channel money in turn to NGOs and community groups.⁶³ The application process for the Global Fund also emphasizes consultation with all stakeholders, and provides for direct funding of subnational governments and, in extreme circumstances, non-governmental entities.⁶⁴ Although these mechanisms offer the promise of getting resources more quickly and efficiently to those who can use them effectively, they have not been easy to implement, encountering both administrative confusion and government resistance. Partly for these reasons, the Bank has been able to disburse only a small fraction of the \$550 million it has committed through MAP. Much will be learned from the Global Fund and Bank experiences over the next year or two.

3.4 Roles for the private sector

The private sector includes in its broadest sense international and local NGOs as well as for-profit firms. Involvement of these elements of society is critical to fighting AIDS, both in providing specific services and as part of general social mobilization. This section will focus primarily on the special responsibilities and strengths of the for-profit sector.

The most basic responsibility of private firms is to provide prevention and treatment programs to employees and their dependents. The private sector can also make use of its skills in a number of areas, including marketing and communications, to contribute to the design and implementation of programs. The private health system can be expected to participate in those regions where it is well developed. Pharmaceutical companies have a special and critical role; this will be considered by the Access to Medicines team.

3.4.1 AIDS prevention and treatment in the workplace

The workplace has important advantages as a site for AIDS prevention and treatment, bringing people into regular contact with an existing organizational structure.⁶⁵ This is particularly useful where public institutions are poorly developed. Moreover, large employers, particularly multinational corporations, may have more resources than local governments. There are now many examples of successful workplace programs, and according to a recent survey, 40% of companies in several southern African countries provided free condoms to their workers, while a similar number provided free counseling services. Both the International Labor Organization, one of the agencies sponsoring UNAIDS, and the Global Business Coalition on HIV/AIDS are actively promoting and supporting workplace programs.⁶⁶

3.4.2 Encouraging corporate involvement

Why should employers provide AIDS services to their employees or to the broader community? Where firms already offer health benefits, there is an obvious incentive to invest in prevention as a way of curtailing future costs for care. In the hardest-hit regions, notably Southern Africa, the desire to limit absenteeism, lost productivity and turnover of key employees may be a compelling motivation: some multinationals in South Africa report needing to hire three new employees to replace one lost skilled employee.⁶⁷ AIDS work in the community can also build stronger customer loyalty. More broadly, firms may be sensitive to their image, in the case of multinational corporations including their image in their home countries. Larger firms with a long-term perspective may recognize the threat that the epidemic poses to the stability and growth of the local market and take action on this basis. Some of these considerations fall under the rubric of “corporate social responsibility”.

Where these motivations are insufficient, national or international subsidies for workplace programs may be a more efficient way of reaching certain populations than public health services.

3.4.3 The private health sector

In some regions, such as Latin America, private health services already serve substantial parts of the population, and will be important in the delivery of AIDS services. In areas such as sub-Saharan Africa, where the for-profit private health sector is not as well-developed, NGOs, including international groups, may be able to reach certain populations more efficiently than public health services. Faith-based organizations, in particular, have been played a crucial role across the continent, and already provide vital services to many. The advantages of using outside groups must be balanced against the need to build local capacity.

3.4.4 Other roles for the private sector

More generally, the particular skills of the business sector should be brought to bear whenever possible on the design and implementation of prevention and treatment programs.⁶⁸ Among the most promising areas are the use of consumer research techniques in the planning of prevention programs and the use of social marketing strategies to promote condoms and behavior change. For example, a non-profit group, Population Services International, has employed techniques from the business world in a number of successful prevention programs.⁶⁹ Other areas of useful business expertise might include management, logistics, distribution, and information technology.

3.4.5 Structuring the collaboration

The relationship between private firms, NGOs, national governments, and international donors is likely to take a variety of forms. Employers themselves will in general fund workplace programs, but subsidy by governments or donors may be a way to expand coverage of the workforce, and companies will need technical assistance in designing programs. Private health providers can be expected to serve those who can pay, but could also be subsidized to expand their coverage. Assistance in other areas, such as social marketing, could be provided by large firms as a manifestation of corporate social responsibility, or purchased on a contract basis by national governments or donors.

3.5 Scaling up and transferring successful programs

The AIDS crisis of today differs from that of ten years ago in a very basic respect: in every area of prevention and treatment one can now point to examples of successful responses. Some of these successful programs are small – a condom promotion initiative among sex workers in Kolkata, India⁷⁰, a clinic treating HIV and TB co-infection in Haiti⁷¹ – others are national in scope. But the existence of approaches that work means that the challenge of a truly global response to the epidemic is fundamentally that of scaling up and replicating successful programs. Scaling up can mean increasing the number of people with access to a service, broadening geographic coverage, or deepening the range of services provided through a particular program.

3.5.1 General considerations in scaling up

The foremost barrier to expansion is of course money: without a great increase in resources the response is doomed to remain small and scattered. There are other obstacles, however. Some of the characteristics that contribute to the success of small programs – exceptional leadership and staff commitment, focussed attention from donors or governments – cannot always be replicated on a large scale. Moreover, many successful prevention and treatment programs are operated by NGOs, community groups, and religious organizations. But if their success is to be replicated on a national scale, in most cases this will be done through government. How can the essential qualities of the small programs be preserved in this very different institutional environment? One increasingly popular solution to this dilemma is to achieve national coverage by funneling national or donor funds to an expanded network of local groups (See sections 3.3.2 and 3.4). This approach has its own risks, among them the creation of an uneven patchwork of poorly coordinated efforts, especially in regions where civil society may be as poorly developed as the public sector.

Once a model has been chosen for a scaled-up, national effort, new considerations become paramount. In large scale programs, good management, transparency, and efficient flow of information become critical determinants of success and sustainability. Here the private sector may have much to teach, although it should be noted that there are examples of socialist governments that have achieved great successes in public health as well, among them those of Cuba, Vietnam, China, and the Indian state of Kerala.

How fast should expansion proceed? There are obvious dangers in going too fast. But the notion that scaling up in health delivery must be a gradual process beginning with small investments must be revised. Some investments need to occur up front, such as urgently needed new staffing, salary increases, supply and distribution systems. Moreover, only by starting quickly and adapting along the way can a successful larger-scale program be established. Rigorous monitoring can allow programs to be continuously improved as they are expanded.

3.5.2 Transferring success

Building a global response to the epidemic will also require transferring approaches that have proven successful in one country to others. It is essential that nations planning comprehensive prevention and treatment efforts make maximum use of the experience gained in regions where the epidemic is further advanced. There is no time to make the same mistakes again. There are of course risks in transferring approaches without appropriate adaptation to distinct cultural and epidemiological environments, and sound knowledge of local conditions is crucial to detailed planning. Yet the risk of supposing that these differences are so large that nothing can be learned from the successes and failures of others is surely much larger. Much has

been learned, in Africa, in Southeast Asia, in Brazil, and basic principles distilled from this experience should guide future efforts.

3.6 Monitoring and evaluation

Monitoring of the epidemic and of efforts to combat it is essential to a comprehensive assault on HIV/AIDS. First, good, detailed information about the epidemic, its sources and its evolution, are indispensable to setting priorities and designing prevention and treatment programs. Second, monitoring of national and international actions indicates whether programs are being carried out and whom they are reaching. Finally, monitoring is required to know whether programs are working.

UNAIDS has established a process for monitoring progress towards the goals set by the General Assembly, founded on a list of 18 core indicators, and has published a set of guidelines for measuring and interpreting these numbers.⁷² The core indicators fall into several classes, illustrating the basic types of data required for comprehensive monitoring. Some are basic estimates of disease prevalence or incidence, for example the percentage of young people who are HIV-infected. Other indicators attempt to measure aspects of behavior relevant to disease transmission, for example use of condoms. A third set, such as the fraction of people with advanced infections receiving ARV treatment, address how many people are reached by particular services. Finally, the list includes measures of national or international commitment and action, including estimates of spending on HIV/AIDS and indices of policy or advocacy. The UNGASS monitoring plan calls for information on these variables to be assembled by national governments using standard procedures and submitted to UNAIDS, and for all countries to be reporting by 2004.

The 18 UNGASS indicators are of course only a small subset of the kinds of information which would be useful to AIDS planning, and which are already available in many countries. Information on disease prevalence in particular high-risk populations and in particular regions is essential to well-targeted prevention campaigns. More detailed and sophisticated information on sexual behavior and injection drug use, as well as on the interests, beliefs, and concerns of particular groups, can contribute enormously to the design of more effective behavior change programs. The addition of behavioral data and the focus on key populations constitutes what has been called “second generation” HIV surveillance and reflects a departure from traditional epidemiological surveillance based on prevalence data and case reporting alone⁷³. Both better coverage with standard indicators and innovative new types of data are needed. A promising approach, made possible by cheaper and simpler HIV tests, involves linking behavioral and demographic data to serostatus in large, representative samples such as the Demographic and Health Surveys already conducted in many countries. Surveys of this kind have been carried out in Mali and South Africa and are planned in the Dominican Republic, Zambia, and Zimbabwe⁷⁴.

Reliable information on the epidemic is important not only to setting priorities and to planning interventions, but to deciding whether efforts to combat it are succeeding. This point was well illustrated by the recent controversy over the interpretation of Uganda’s reports of dramatic declines in HIV prevalence⁷⁵. Although the course of the epidemic in a particular country will be influenced by many factors, comparisons in such gross measures as national prevalence rates will inevitably be used to evaluate the relative success or failure of national AIDS control programs. Such conclusions will in turn influence the approaches taken by other countries. While there are risks in assessing the impact of national AIDS efforts taken as a whole, it is even more difficult to attribute changes in rates of transmission or underlying

behavior to particular prevention programs. Nonetheless, methods exist for disentangling the roles of multiple factors, and should be employed whenever possible.

The obstacles to effective monitoring and evaluation in developing countries are similar to those impeding implementation of prevention and treatment programs: commitment, resources, and technical capacity. Lack of expertise is perhaps the more important obstacle, since data collection and interpretation are more labor-intensive and require less infrastructure and equipment than expansion of medical services. Technical assistance in monitoring and evaluation is available from UNAIDS and elsewhere.⁷⁶

Finally, it is important to stress the importance of balancing the importance of good monitoring and the urgency of action. Monitoring requirements should not be so complex and burdensome that they seriously delay implementation of vital programs.

4. Obstacles to implementation

4.1 Political leadership and governance

The benefits of committed and focused leadership are clear. Similarly, the challenges posed by weak or corrupt governments and by civil strife are obvious. Although a general discussion of governance and development is well beyond the scope of this paper, a few issues of particular importance to the battle against AIDS are worth raising.

4.1.1 Making AIDS a priority

Developing countries and their leaders face a daunting array of urgent problems, from hunger to environment degradation to political instability. In this context HIV/AIDS can sometimes seem a secondary concern, especially where the epidemic is still in its early stages. How can leaders be encouraged to make fighting AIDS a higher priority? Perhaps the most compelling argument is that the epidemic, if unchecked, is certain to exacerbate the other crises, and ultimately threaten development itself. This was clearly recognized by UNGASS (see, in particular resolutions 5, 8, and 11) and by Africa's leaders meeting at Abuja in 2001, who declared HIV/AIDS a "State of Emergency in the continent", and set a goal of devoting 15% of national budgets to health.⁷⁷ While these are important advances, in some other regions political commitment still lags. The examples provided by committed states, such as Uganda⁷⁸, Thailand⁷⁹ and Senegal⁸⁰ are crucial, offering models of effective high-level political action. The cases of Uganda and Thailand also demonstrate that even where an HIV epidemic is already well entrenched, it is never too late to begin comprehensive efforts to combat it. It is critical as well to recognize the validity of competing priorities. On one hand the growing international focus on AIDS must not be allowed to divert resources from the battle against the other great diseases of the developing world, or from the struggles for food security and universal education. On the other hand, the attention to AIDS is bringing new resources to the problems of the developing world; and if these are employed wisely other essential needs will be served as well.

4.1.2 Strategies for coping with inadequate leadership

What can be done when national leaders either neglect or actively impede the fight against AIDS? The ideal solution, of course, is pressure from citizens themselves: South Africa's well-organized AIDS activists have succeeded in winning important changes in government policy. International commitments such as the UNGASS resolution can play an important role in helping

citizens to hold governments accountable. In some cases other forms of international leverage may be available, although their use raises difficult questions. Should external funding for AIDS programs, other forms of aid, or debt relief ever be made conditional on changes in AIDS policy? An alternative or complementary approach is to direct funds and assistance to local governments, community groups, or the private sector as a way of circumventing ineffective or obstructive national leadership. The Global Fund attempted to employ this strategy in supporting the South African province of KwaZulu Natal⁸¹, and this is one of the motivations underlying the Fund's funding strategy generally. This approach could also be used in states that lack effective government.

4.1.3 Strategies for conflict and disaster zones

A significant number of developing countries and countries with high or escalating prevalence rates are currently in conflict or recovering from conflict. Wars can fuel the spread of HIV/AIDS, both by provoking the movement of people (soldiers, refugees, and IDPs) and by disrupting health care, education, and prevention efforts. This problem is greatly exacerbated by the very high HIV prevalence rates found in some militaries, apparently reaching 40-60% in some African countries.⁸² Natural disasters, droughts, and famines can create similar difficulties. As part of a solution, use should be made of the often considerable UN (peacekeepers, UNHRC, UNICEF, WHO etc) and NGO (Red Cross, Oxfam, MSF etc) presence in these areas. These organizations may provide the best platform for the coordination of prevention and treatment of HIV/AIDS in extreme circumstances. Both the command structure of armies and peacekeepers and the concentrated populations found in refugee camps afford opportunities for targeted prevention and education efforts, although peacekeepers can also contribute to the problem.⁸³ UNAIDS is already working with peacekeepers and armed forces and has a joint initiative with the UN Department of Peacekeeping Operations.⁸⁴ Thus conflict and disaster areas represent a considerable challenge to HIV/AIDS prevention as well as a potential opportunity. Their importance to a comprehensive plan was recognized by UNGASS (see resolutions 12, 75-79), which called for incorporation of HIV/AIDS programs into disaster relief efforts and for national strategies to combat the spread of HIV within the armed services.

4.1.4 Strategies for tackling corruption

Corruption remains a serious obstacle to development and to the effective use of development aid in many countries.⁸⁵ Transparency and robust monitoring will thus be essential to ensuring both the success of AIDS assistance programs and the continued goodwill of donors. Two recent agreements, the New Partnership for Africa's Development (NEPAD)⁸⁶ and the "Monterrey consensus" resulting from the International Conference on Financing for Development held in 2002,⁸⁷ reflect a growing recognition of the importance of good governance to building an environment of trust between donors and developing countries. The innovative distribution models of the Global Fund and organizations such as the African Development Bank may provide useful models for financial monitoring mechanisms.⁸⁸

4.2 Health system capacity

While political leadership may be the key to successful prevention, in many of the hardest hit countries the biggest obstacle to expanding treatment, beyond of course limited resources, will be health system capacity. For the reasons outlined in Section 2.2, providing ARV therapy to large numbers of people in the poorest countries will be an unprecedented challenge. Health

systems will have to be strengthened in several ways. New clinics and laboratories will have to be built to reach more of the population and to meet the new demand for tests. Many new doctors, nurses, laboratory technicians and other health workers, including community treatment monitors, will have to be trained. Drug distribution and storage systems will have to be enlarged and improved; management, communication, and record keeping will have to be strengthened. People will be the key, and training will probably be the most important element of this many-sided response, especially in countries where health workers are already being lost to emigration and, in some places, to the disease itself.

Although the importance of building up health systems is broadly acknowledged, there seems to be little consensus on the most effective approaches, and little clear idea what such efforts will cost. Training people in the numbers that will be needed will require not only financial help but technical assistance from the developed world or from countries with more developed responses, almost certainly including the participation of a substantial number of advisors and trainers. Several ways of organizing such a training scheme have been proposed, including gradual expansion of existing pilot programs under the supervision of Western aid agencies or NGOs and the creation of a health corps that would send large numbers of people to assist in training and other improvements.⁸⁹ An intriguing idea is the “hospital solidarity” initiative launched by France and four other European Union countries. Under this scheme hospitals in the North and in developing countries are paired to facilitate training and technical assistance⁹⁰. Another example to draw from is the process of horizontal or South-South technical cooperation initiated in 1997 within Latin America, when more experienced countries, especially Brazil, helped countries that were less prepared to fight against the AIDS epidemic. This cooperation has ranged from capacity building through technical training of health professionals, multidisciplinary teams, and NGO representatives in many areas of HIV prevention, treatment and health system logistics. This experience was so successful that it received both technical and financial support from international and national funding agencies.

One of the most promising approaches is to establish regional training centers, if necessary with international financing. Examples are the Academic Alliance in Kampala, Uganda, funded by Pfizer Pharmaceuticals; and a program to train trainers in prevention of MTCT at the Witwatersrand University in Johannesburg. The Regional AIDS Training Network has been set up to assist such institutions in East and Southern Africa.⁹¹

Perhaps any of the approaches could work. The bottom line, however, is that the critical importance of training must be recognized and effective measures developed to target resources and technical assistance to building health systems. The Global Fund has been criticized for failing to link its grants to this kind of assistance: the task force will consider ways to overcome this deficiency.

4.3 Stigma and discrimination

Stigma and discrimination against people living with HIV or AIDS is pervasive; numerous studies have documented both negative attitudes and active discrimination, ranging from social ostracism to employment discrimination to violence, in the developed as well as the developing world. HIV/AIDS stigma is increasingly recognized not only as an important human rights issue but also as a central impediment to prevention and treatment. Stigma and discrimination not only hamper specific interventions, but also threaten the social solidarity and mobilization essential to an inclusive and sustainable response.⁹² Thus measures to combat stigma and discrimination

must be a central component of AIDS programs. Unfortunately, too little is known about the causes of stigma and the best ways to combat it.

4.3.1 Sources of stigma

In the broadest terms, stigma has three sources. First, fear of contagion through casual contact can lead people to avoid those thought to carry the virus; this can lead in turn to discrimination in employment and schooling and social ostracism. Although this cause of stigma would appear to rest on misconceptions about HIV transmission, studies have shown that fear of contagion can persist in spite of accurate information.⁹³

Second, stigma can result from association with already stigmatized social groups or with behaviors considered immoral. In particular, where the disease is strongly associated with prostitutes, IV drug users, or men who have sex with men, people with AIDS can inherit the strong burden of stigma often borne by these populations. Association with AIDS can then in turn reinforce the despised status of these groups. Similarly, people are sometimes assumed to have acquired HIV through promiscuity or extramarital sex, resulting in stigma where these behaviors are considered immoral. These beliefs can result in the notion that people with AIDS “deserve” their fate, or that the disease is a punishment for sinful behavior. Sexual double standards common to many cultures mean that women suffer disproportionately from these assumptions, and are often blamed for the deaths of their partners from AIDS.

Finally, AIDS, as an incurable, fatal disease, evokes fear and shame through association with illness, incapacity and imminent death. This source of stigma is exacerbated by the misconception that HIV infection inevitably progresses rapidly to AIDS and death.

HIV/AIDS is not of course the first or only disease to be strongly stigmatized: people suffering from leprosy, TB, and mental illness, among other conditions, have long been feared, shunned, and denied equal treatment. However, the taboos and gender inequalities surrounding sex add powerful new stigmatizing forces in the case of sexually transmitted diseases such as HIV/AIDS.

4.3.2 Consequences of stigma

Stigma can greatly increase the suffering of people with HIV or AIDS, resulting in rejection by family or community, loss of employment or access to education and social services, and violence. Moreover, children and other family members can also be discriminated against, suffering what is sometimes called secondary stigma. At the same time, AIDS stigma impedes prevention and treatment in several important ways. Fear of discrimination makes people reluctant to be tested, receive counseling, accept treatment, and reveal their status to their partners or others. This is particularly true where confidentiality cannot be effectively guaranteed.⁹⁴ Moreover, a mistaken belief that only certain social groups are vulnerable to HIV can lead people to believe they are not at risk and thus engage in risky behavior.

4.3.3 Measures to combat stigma

Several approaches have been taken to reducing stigma and its impact. Most concretely, some but not all countries have taken steps to outlaw discrimination against people with HIV or AIDS in employment, housing, education, access to medical care and elsewhere. Although the existence of statutes does not guarantee enforcement and cannot eliminate discrimination in private life, creating the right legal climate is an indispensable first step and an important indication of political commitment. The UNGASS resolution specifically calls for the enactment

of laws against discrimination by 2003. Serious consideration should also be given to revising or eliminating laws criminalizing IV drug use and prostitution. Other interventions against stigma can be divided into those that aim to change stigmatizing attitudes and behaviors and those that aim to help the potential targets of stigma cope with and combat discrimination. Among the former are HIV/AIDS education campaigns that seek to dispel harmful myths and misinformation and urge tolerance and compassion toward people living with the disease. A recurring theme in studies of stigma, however, is that information alone is generally not sufficient to alter discriminatory or stigmatizing behavior. Among interventions targeted at victims of stigma are programs teaching coping skills and efforts to encouraging organization and activism among people living with HIV/AIDS. Very little is known about the effectiveness of measures to fight stigma and discrimination, and some studies suggest that stigmatizing attitudes can persist in spite of significant efforts to combat them.

Finally, one of the most effective ways to combat stigma may actually be to provide the services that HIV-positive people need, such as prevention of mother-to-child transmission, care and treatment. Not only do such programs send the message that people living with HIV/AIDS are valued, but they provide a concrete incentive for PLWHA to come forward, breaking down the culture of silence.

4.4 Gender and HIV/AIDS

The proportion of people living with HIV/AIDS who are women is rising steadily, from 41% in 1997 to 50% at the end of 2002⁹⁵. Gender attitudes, as well as the relative powerlessness of women and girls, render women more vulnerable to the epidemic in a variety of ways. First, lower levels of education, coupled with cultural attitudes surrounding women and sex, make it more difficult for women to obtain information about HIV. Second, the inability of women in many contexts to refuse sex or to demand the use of condoms is a crucial barrier to prevention. Third, lack of economic opportunities can oblige them to enter into and remain in dangerous relationships. These forces put young women at particular risk: in sub-Saharan Africa, rates of HIV infection are twice as high among girls aged 15-19 than among boys of the same age.⁹⁶ These figures suggest that intergenerational sex, between girls and older men, is playing an important role in driving the epidemic in these countries. Finally, women living with HIV and AIDS often suffer more than men from the economic and social consequences of the disease. For example, women are often blamed for the spread of HIV and for its introduction into families.

As Geeta Rao Gupta of the International Center for Research on Women has pointed out, gender roles and expectations can also increase men's vulnerability to HIV/AIDS, sanctioning promiscuity and encouraging risk-taking.⁹⁷ Thus the relationship of the AIDS epidemic to gender is complex.

What does gender inequality mean for the fight against HIV/AIDS? At a minimum, prevention and treatment programs should avoid reinforcing harmful attitudes.⁹⁸ Beyond this, programs must take into account the constraints that women and girls face. For example, developing an affordable and effective microbicide would meet such a need. Finally, success in the long run will require actively combating gender inequality by changing attitudes, reducing discrimination, and empowering women. This effort can begin within HIV/AIDS programs: offering women the services they need can be a first step to giving them greater control. The MTCT-Plus initiative, by structuring ARV treatment around women, may serve as an important test of this concept (see section 2.2.6).

5. Estimating the cost

There have been only two major attempts to estimate how much a comprehensive effort to combat HIV/AIDS might cost.⁹⁹ First, a team from UNAIDS and several other organizations concluded that total spending in low- and middle-income countries would have to rise to \$9.2 billion annually by 2005¹⁰⁰. About half of this amount would be spent on care and treatment, including \$2.4 billion for ARV therapy. Second, the WHO's Commission on Macroeconomics and Health (CMH) estimated that expenditures on AIDS in a smaller number of mostly low-income countries would have to rise to \$14 billion per year over current levels by 2007, and to \$22 billion annually by 2015¹⁰¹. In this case, antiretroviral treatment was assumed to consume \$5 billion in 2007, \$8 billion in 2015. To put these numbers in perspective, current expenditures from all sources are thought to be between \$1.5-3.0 billion.¹⁰²

Since antiretroviral treatment is expected to make up a large share of total HIV/AIDS costs, and since the cost of drugs accounts for most of the cost of ARV therapy, the total estimates are particularly sensitive to assumptions about ARV prices. The UNAIDS group assumed that ARV drugs would cost \$450 per person per year in the poorest countries and up to \$4500 in the richest middle income countries. It is possible, although by no means certain, that these costs could fall considerably in the poorest countries, where much of the demand lies.

Calculations of this kind involve enormous uncertainties. Both the cost of each prevention or treatment service and the number of people requiring it must be estimated. The latter figure relies on complex and uncertain epidemiological projections, which in turn depend on the scale and effectiveness of the interventions themselves. Moreover, both teams had to make assumptions about the rate at which access to these services could be increased, given that health systems would not be able to reach all of those in need immediately. In this sense the final figures are not precisely estimates of need, but of how much developing country health systems will be able to absorb. An important difference between the two studies is that the CMH estimate explicitly included the cost of building health system capacity. Given the highly speculative nature of some of these assumptions, the fact that the two groups arrived at such similar conclusions must be considered more a stroke of good fortune than an indication of meaningful consensus.

The task force will have to arrive at its own estimate of what it will cost to achieve the MDG target of reversing the growth of the epidemic by 2015. This can be accomplished most economically by revising the inputs to one or both of the existing models in light of more recent data, and perhaps more importantly, new scenarios for the expansion of services derived from the task force's work.

6. HIV/AIDS and the other Millennium Development Goals

The AIDS epidemic cannot be analyzed, or confronted, in isolation from the other great challenges of development recognized in the Millennium Development Goals. The HIV/AIDS emergency is linked to the others in three ways. First, AIDS, where it has hit hardest, both exacerbates the other crises and complicates efforts to overcome them. Conversely, the problems of poverty, hunger, lack of education, the oppression of women, and so on assist the spread of HIV/AIDS and impede the response to it. Finally, there are important practical ways in which efforts to combat AIDS and the other challenges can help each other.

It is now widely acknowledged that in the most affected regions of Sub-Saharan Africa AIDS constitutes a grave threat to the economy as well as to social and political stability, and thus to achievement of any of the other development goals. Illness and death from AIDS threaten development directly by disrupting economic production, creating enormous financial hardship for families, and orphaning children in unprecedented numbers. Moreover, the great effort required to respond to the crisis diverts attention and scarce resources from the struggle for development. Finally, AIDS robs nations of many of the very people, the young and vigorous, that it needs for the work of development.

The other great problems of underdevelopment in turn worsen the AIDS crisis. Poverty means that individuals and nations cannot afford medicines and prevention tools; inadequate education makes prevention more difficult; lack of prenatal care and clean water encourage HIV transmission from mother to child; hunger makes people more vulnerable to opportunistic infections. And the unequal status of women in most parts of the world plays a critical role in spreading the virus, leaving women unable to protect themselves in elementary ways and vulnerable to predatory sexual practices. It is for these reasons that HIV/AIDS has become in large part a disease of the poor.

AIDS and the other problems of the developing world thus reinforce one another in powerful ways. But so can the efforts to combat these problems. This is so both in the general sense that success on one front helps on the others to the extent the problems are linked – empowering women would assist AIDS prevention - and in more specific ways where the actual responses are related. This is of course particularly clear in the case of the battles against the other great health problems of the poorest countries. The advantages of integrating AIDS and tuberculosis prevention and treatment have already been discussed. But the comprehensive improvements in health care systems necessary to control HIV/AIDS would certainly have benefits as well for maternal and child health and for malaria control. It will be very important for the HIV/AIDS team to coordinate its efforts on this crucial issue with the others.

7. Conclusions

1. The AIDS epidemic has reached catastrophic proportions in parts of sub-Saharan Africa and is now threatening vast new regions of the world. The global community must find ways to cope with the impact of the epidemic in the hardest hit areas while moving forcefully to forestall disaster elsewhere.
2. Prevention must remain the mainstay of the response, as recognized by the UN General Assembly. There is now considerable consensus on a set of effective prevention measures; the challenge now is to implement these agreed-upon steps globally.
3. Access to antiretroviral treatment must be rapidly expanded, especially in the poorest countries. Accomplishing this will require substantial new resources and greatly strengthened and expanded health systems. The urgency of the task must be balanced against the need to ensure that treatment programs are well designed and implemented. A critical challenge will be ensure that treatment is well integrated with prevention.

4. Institutional structures should be sought that ensure the participation of the private sector, NGOs, and community groups while maintaining effective national and international coordination.
5. The Global Fund should be the principal vehicle for channeling donor funds to prevention and treatment efforts in the developing world. It should explicitly provide for the financing of health systems expansion.
6. The greatest challenges to expanding access to prevention and treatment – other than increasing resources – are building political leadership and strengthening health care systems. Especially in the poorest countries, enhancing health care systems will require training large numbers of people, building new infrastructure, and purchasing and distributing essential medicines. Devising strategies for accomplishing this will be a central priority of the task force.
7. The relative powerlessness of women and girls in many countries, together with pervasive HIV/AIDS stigma and discrimination, are major obstacles to AIDS prevention and treatment. The HIV/AIDS task force, in collaboration with the task force on education and gender, will consider practical strategies for addressing these problems.

Endnotes

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- ² UNAIDS/WHO update.
- ³ US Central Intelligence Agency, 2002. The Next Wave of HIV/AIDS: Nigeria, Ethiopia, Russia, India, and China. Available at http://www.cia.gov/nic/pubs/other_products/ICA%20HIV-AIDS%20unclassified%20092302POSTGERBER.pdf
- ⁴ UNAIDS 2002 report.
- ⁵ Not all Task Force members and other readers of the draft report agree that the standard set of prevention methods have proven their effectiveness. Some argue that the failure to date of prevention efforts in many countries must reflect not only inadequate implementation efforts but also flaws in the existing approaches. Moreover, some members point out that while behavior changes such as partner reduction and the use of condoms and clean needles are effective, we still understand poorly how to influence these choices, especially among young people.
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- ⁷ United Nations General Assembly 26th Special Session (UNGASS), 2001. Declaration of Commitment on HIV/AIDS Available at http://www.unaids.org/UNGASS/docs/AIDSDeclaration_en.pdf (“UNGASS”)
- ⁸ UN, 2002. Report of the Secretary-General on progress towards implementation of the Declaration of Commitment on HIV/AIDS. Available at <http://ods-dds-ny.un.org/doc/UNDOC/GEN/N02/490/70/PDF/N0249070.pdf?OpenElement>
- ⁹ See goals and targets and access Millennium Declaration at <http://www.un.org/millenniumgoals/>
- ¹⁰ It is now clear that AIDS is in many important ways a human rights issue, and that defeating the epidemic will require combating the many forms of stigma and discrimination. Thus promoting human rights could be considered a fourth basic component of a general response. Some critical human rights issues are discussed in Section 4, which considers obstacles to success.
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Strategic Framework. See also other publication by FMI, available at <http://www.fhi.org/en/topics/listings/bcclist.html>

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¹⁹ United Nations, 2001. Drug Use and HIV/AIDS. UN Special Session on HIV/AIDS Fact Sheet. Available at http://www.un.org/ga/aids/ungassfactsheets/html/fsdruguse_en.htm

²⁰ UNAIDS/WHO update, p 12.

²¹ See Open Society Institute, 2001. Drugs, AIDS, and Harm Reduction: How to Slow the HIV Epidemic in Eastern Europe and the Former Soviet Union., and references therein. See also K. Malinowska-Sempruch, 2002. From Concern to Action: Harm reduction as the key to HIV prevention and treatment efforts in Eastern Europe and the former Soviet Union. Speech to Barcelona AIDS conference. Both available at <http://www.soros.org/harm-reduction/>.

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²³ UNAIDS 2002 report; MAP 2002. For an example of a specific study, see van der Staten, A. et al., 2002. Early age of coital debut and intergenerational sex are risk factors for HIV among Zimbabwean women. Abstract of talk submitted to Barcelona Conference (Code ThOrC1489.)

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²⁶ For examples of this kind of research, see “Youth and HIV/AIDS”, a summary of work in this area by the Horizons Project of the Population Council. Available at http://www.popcouncil.org/pdfs/horizons/rs/re_youth.pdf.

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