Chapter 1 showed the magnitude of the threat posed by HIV/AIDS. This chapter describes the magnitude of the task of responding to it and explains how WHO and its partners are supporting countries in one of the most ambitious endeavours in the history of public health. A comprehensive approach to HIV/AIDS links prevention, treatment and long-term care and support. In much of the developing world, however, treatment has until very recently been the most neglected component. It now needs to be rapidly expanded, along with accelerated prevention efforts, in the countries hardest hit by the pandemic.

Since 1986, more than 20 million people in the developing world have died of AIDS. If antiretroviral therapy had been rapidly deployed, most of these people would probably be alive today. Despite mounting political pressure and evidence that AIDS treatment works in resource-poor settings, by late 2003 less than 7% of people in developing countries in urgent need of antiretroviral drugs were receiving them (see Figure 2.1). In September 2003, LEE Jong-wook, Director-General of WHO, joined Peter Piot, Executive Director of UNAIDS, and Richard Feachem, Director of the Global Fund to Fight AIDS, Tuberculosis and Malaria, to declare the lack of access to antiretroviral therapy a global health emergency. In response, WHO, UNAIDS and a wide range of partners launched the “Treat 3 million by 2005” initiative – known as 3 by 5. Treating 3 million people by the end of 2005 is a necessary target on the way to the goal of universal access to antiretroviral therapy for everyone who needs it.

To reach this goal, major obstacles must be overcome. With few exceptions, HIV/AIDS has struck hardest in countries whose health systems were already weak. Many countries working to expand HIV/AIDS treatment face significant deficits in areas such as health sector human resources, HIV counselling and testing, drug procurement and supply management, health information systems, and laboratory capacity (including the ability to monitor drug resistance).

Delivering the results called for under 3 by 5 will challenge countries’ capacities and test the will of the global health community. But it is an essential task whose implications go far beyond the immediate aim of saving millions of lives in the coming years. It may also be the key to saving some of the world’s most fragile health
systems from further decline, and thereby offering whole societies a healthier future. Seen in this context, the 3 by 5 initiative is a vital opportunity to ensure that the new global resources flowing into HIV/AIDS are invested in ways that strengthen health systems for the long-term benefit of everyone.

This chapter examines public health, economic and social arguments for scaling up antiretroviral treatment in resource-poor settings. It then presents WHO’s strategy for working with countries and partners, and provides an estimate of the global investment required. The opportunities and challenges facing countries are explored, highlighting the need to ensure that antiretroviral treatment reaches the poorest and most marginalized people. Finally, the chapter considers the wider importance of 3 by 5 as a new way of working across the global health community for improved health outcomes and equity.

WHO’s commitment to support countries is guided by a broad assessment of resources and needs in global public health. Global investment in health has risen in recent years while many other sectors of international development assistance have stagnated, but the bulk of the new health investment is in HIV/AIDS. As the international agency charged with seeking the highest possible level of health for all people, WHO has the responsibility both to support expanded access to antiretroviral therapy and to work with countries and international partners to ensure that the new resources flowing into HIV/AIDS are invested so as to build sustainable health system capacities. Only an international public health agency can fulfil this technical cooperation and stewardship function. Health systems strengthening is the key both to sustainable provision of antiretroviral treatment and to reaching other public health objectives, including the health-related Millennium Development Goals and containment of the expanding epidemics of chronic diseases in the developing world.

**TREATMENT SCALE-UP: PUBLIC HEALTH ARGUMENTS**

Two considerations stand out among the public health arguments for emergency treatment scale-up. First is the sharp reduction in HIV/AIDS-related morbidity and mortality associated with treatment. This has been documented in high-income countries, in Brazil’s national treatment programme (see Box 2.1) and in pioneering projects in resource-poor settings (1–3). Second is the synergistic effect that treatment can have on prevention efforts. The availability of treatment can enhance prevention in several ways:

- **Increased demand for voluntary counselling and testing:** providing opportunities for voluntary counselling and testing is crucial to effective prevention. As many as 9 out of 10 HIV-infected people in sub-Saharan Africa do not know their serostatus; and when treatment is unavailable, people may see little reason to find out. But the availability of treatment has been shown in numerous settings to increase voluntary counselling and testing — for example, it rose by 300% at a clinic in Haiti after antiretroviral therapy was introduced (4).

- **Enhanced opportunities for secondary prevention:** coming to health centres for treatment lowers the likelihood of sexual transmission (1–3).

- **Strengthening health systems:** providing opportunities for health professionals to receive ongoing training, and when treatment is unavailable, people may see little reason to find out. But the availability of treatment has been shown in numerous settings to increase voluntary counselling and testing — for example, it rose by 300% at a clinic in Haiti after antiretroviral therapy was introduced (4).

- **Lower risk of transmission:** treatment lowers the likelihood of sexual transmission of HIV in the case of unprotected sexual intercourse. It must be recognized, however, that the longer life expectancy of patients on treatment will probably lead to an increase in sexual relations between people of different serostatus.

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**Box 2.1 Checking the spread of HIV/AIDS in Brazil**

Brazil is one of the few countries that has successfully checked the spread of HIV/AIDS. The country’s first HIV/AIDS Programme was established in the State of São Paulo in 1983 when only four cases of HIV/AIDS had been reported. Since then the Brazilian response has evolved rapidly, influenced in particular by the structure and role of the public health system. By December 2002, almost 260 000 cases had been reported to the Ministry of Health, with approximately 145 000 deaths. Brazil’s prevalence in the year 2000, which the World Bank had estimated in 1992 would reach 1.1%, was in fact 0.4%.

Brazil was the first developing country to implement a large-scale universal antiretroviral distribution programme. Initiated in the early 1990s with the distribution of AZT, the programme was signed into federal law in 1996. The programme now provides free drugs for opportunistic infections to about 130 000 people — a coverage of almost all those people living with HIV/AIDS in the country.

As a result, morbidity and mortality rates have fallen by 50–70%. From 1996 to 2002, more than 60 000 HIV/AIDS cases, 90 000 deaths and 358 000 HIV/AIDS-related hospital admissions were averted, and the savings in outpatient and hospital costs have outweighed the costs of implementation by more than US$ 200 million in four years. These results demonstrate the feasibility of antiretroviral therapy even in a resource-poor setting, where the health infrastructure is often lacking. Among the factors which have contributed to the Brazilian success are: the concerted early government response; the strong and effective participa-

the treatment initiative 23
There is little evidence from developing countries of how treatment availability affects risk behaviours. Planning and careful measurement are needed to make treatment and prevention efforts work effectively together. As treatment is scaled up, programmes will continuously have to measure the impact on prevention and be able to adapt and respond promptly to any weakening of preventive behaviours.

TREATMENT SCALE-UP: ECONOMIC AND SOCIAL ARGUMENTS

Economic and social analyses provide a clear rationale for emergency action on treatment scale-up. While a number of early studies suggested that the use of antiretroviral drugs was not cost-effective in poor countries, more recent analyses have indicated the contrary (8). The World Health Report 2002 suggested that some types of treatment would be cost-effective even in resource-poor settings (7). Since then, prices of the drugs have fallen by more than 50%. Meanwhile, protocols developed for the 3 by 5 initiative should help make them even more cost-effective, particularly in countries where people with opportunistic infections are hospitalized. The use of antiretrovirals should reduce these infections for several years at least. This should in turn help cut health costs specific to HIV/AIDS, as has been documented in Brazil (8).

As Chapter 1 showed, many early studies seriously underestimated the cumulative economic and social damage of HIV/AIDS in high-burden countries. Antiretroviral treatment can help stem the loss of human capital and productivity if it restores the health of millions of people and enables them to earn an income, raise their children and contribute to society. Under Brazil’s universal access antiretroviral treatment programme, the average survival time of people with AIDS seeking care at government facilities has risen from less than six months to at least five years (9). Patients’ quality of life has also improved significantly: they go on working, sustaining their families, educating their children and interacting with their friends.

THE 3 BY 5 STRATEGY

Countries are driving the process of treatment scale-up, supported by WHO, UNAIDS, the Global Fund to Fight AIDS, Tuberculosis and Malaria, the United States President’s Emergency Plan for AIDS Relief, and other partners. On 1 December 2003, WHO published its global strategy, outlining how the Organization will contribute to the 3 by 5 target (10). The strategy outlines key areas of activity in a framework of five pillars.

Pillar One: Global leadership, strong partnership and advocacy

WHO is working closely with UNAIDS, the World Bank, and other multilateral organizations and international partners to ensure that the effort is integrated into the broader global development agenda. International resources committed to 3 by 5 should be additional to the support for countries’ efforts to achieve targets such as the Millennium Development Goals.

A haven for HIV-positive children

At the Incarnation Children’s Center in New York, USA, a girl called May shows her fancy dress costume to Dr Steve Nicholas. May comes from two generations of people with HIV/AIDS and is one of the children who, along with their families, receive care designed to minimize the impact of HIV/AIDS on their quality of life.
PARTNERSHIPS: VITAL FOR SUCCESS

The 3 by 5 initiative will only succeed if it is supported by the many partners engaged in expanding treatment availability throughout the developing world. The initiative is above all a call for partnership – one whose strength lies in the different skills and comparative advantages of numerous organizations and communities (see Box 2.2).

The alliances and partnerships necessary for success involve national and local governments, civil society, bilateral donors, multilateral organizations, foundations, the private sector (including employers and pharmaceutical companies), trade unions, traditional authorities, faith-based organizations, nongovernmental organizations (international and national) and community-based organizations. People living with HIV/AIDS and the activist community are indispensable partners at all levels of WHO’s activities. The full potential of the initiative will only be realized if it is linked to the work of the UNAIDS secretariat and other UNAIDS cosponsors.

Pillar Two: Urgent, sustained country support

WHO is providing essential policy advice and tools, and will cooperate with countries at every stage of the design and implementation of national plans.

Pillar Three: Simplified, standardized tools for delivering antiretroviral therapy

Rapidly scaling up antiretroviral therapy requires user-friendly guidelines and tools to help health workers identify and enrol people living with HIV/AIDS, deliver therapy and monitor results, including drug resistance. WHO is developing these tools.

Pillar Four: Effective, reliable supply of medicines and diagnostics

The AIDS Medicines and Diagnostics Service has been established to help coordinate the many ongoing efforts to improve access to HIV/AIDS medicines. It provides a range of support services tailored to country needs (see Box 2.2).

Pillar Five: Rapid identification and reaplication of new knowledge and successes

WHO is documenting experiences and lessons from successful national antiretroviral therapy programmes and pilot projects in resource-limited areas and is coordinating an agenda for operational research relevant to the needs of antiretroviral therapy programmes (see Chapter 5).

As a financing mechanism, the Global Fund to Fight AIDS, Tuberculosis and Malaria actively seeks to complement the financing of other donors and to use its own grants to catalyze additional investments by donors and by recipients themselves. Since its inception in January 2002, it has designed and implemented systems for the technical review of grant proposals, efficient fund disbursement and the monitoring and evaluation of programme performance and financial ac-

countability. In December 2002, the first grant agreement was signed and disbursement made. A year later, the Global Fund had awarded a total of US$ 2.1 billion over two years to 224 programmes in 121 countries and 3 territories.

Specific goals include increasing the supply of antiretroviral drugs and supporting voluntary counselling and testing services to prevent the spread of HIV. The Global Fund is also supporting orphaned and affected children and orphans, and strengthening primary health care systems in general. By the end of 2003, the Global Fund was supporting programmes in 121 countries and supporting numerous US$ 1 billion over two years to 224 programmes. In its new streamlined treatment guidelines, WHO has cut the number of recommended first-line treatment regimens from 35 to four. All four regimens are widely used in high-income countries and are highly effective. /1/. They use two different classes of antiretrovirals, retaining the protease inhibitor class for second-line therapy, and can be given to children, an important advantage for family therapy.

Box 2.3 The Global Fund to Fight AIDS, Tuberculosis and Malaria

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The partnerships and collaboration assume even greater importance as major programmes enter the implementation phase, including efforts financed by the Global Fund to Fight AIDS, Tuberculosis and Malaria and the World Bank’s Multi-Country HIV/AIDS Program (see Boxes 2.3 and 2.4). At least US$ 4.5 billion has been committed by the Global Fund and the World Bank to the fight against HIV/AIDS. This figure is expected to rise substantially as the United States President’s Emergency Plan for AIDS Relief takes off. However, the current lack of technical capacity in a large number of recipient countries is a major obstacle to the effective use of these resources. One of the greatest collective tasks will be to work with countries and recipients to ensure that the money achieves its intended results. Success depends on close collaboration between funders and technical agencies.

DELIVERING TREATMENT: A PRACTICAL NEW APPROACH

Despite resource constraints and technical obstacles, health care planners and treat-

ment providers are working in many settings to scale up treatment as rapidly as possible, expanding from small pilot projects to national programmes. To enable this to succeed, the 3 by 5 initiative incorporates a practical “engineering” or “system design” approach. The plan is to develop innovative system designs and treatment protocols that can be scaled up even when the usual medical resources are in very short supply. This depends on streamlining and simplification of programme logistics, delivery of treatment and monitoring. The simplified strategies should allow nurses or clinical officers to treat patients within a physician-supervised treatment team, with community health workers providing follow-up support and adherence monitoring. Pilot projects have shown that, with proper supervision and streamlined treatment models, community health workers can shoulder much of the daily burden of deliver-

ing and supporting treatment (see Chapter 3).

Reducing complexity is necessary in order to accelerate the roll-out of treatment in areas with weak health care systems and a severe shortage of trained health professionals. Simplification applies to drug regimens and biological monitoring procedures recommended in WHO guidelines. It also covers protocols for treatment delivery, pa-

tient monitoring and support, and drug procurement and supply management. Such simplification does not imply poorer outcomes for patients than would be the case in wealthier countries. Many aspects of delivery, programme logistics and monitoring can be streamlined while still providing patients with excellent care.

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mended first-line treatment regimens from 35 to four. All four regimens are widely used in high-income countries and are highly effective. /1/. They use two different classes of antiretrovirals, retaining the protease inhibitor class for second-line therapy, and can be given to children, an important advantage for family therapy.

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countability. In December 2002, the first grant agreement was signed and disbursement made. A year later, the Global Fund had awarded a total of US$ 2.1 billion over two years to 224 programmes in 121 countries and 3 territories.

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These four regimens do not require a cold chain, are widely available and cost less than regimens based on protease inhibitors. They use few pills, and the four combinations cover a variety of circumstances including tuberculosis coinfection and potential pregnancy. Other important advantages concern laboratory requirements and toxicity profile. Fixed-dose combinations are single pills containing all three antiretroviral drugs belonging to a triple therapy. Availability in a fixed-dose combination is an important criterion for preferred simplified first-line regimens. Weighing all these factors, the use of nevirapine-based regimens, particularly the d4T/3TC/NVP combination, is most suitable for initial therapy in resource-poor settings.

In addition to their logistic advantages, simplified treatment regimens, fixed-dose combinations and reduced pill count are much preferred by patients. They help ensure that patients adhere to treatment and that regimens work longer. Thus they can be expected to reduce the risks of drug resistance (17).

Laboratory testing and diagnostic tools for monitoring the health of people living with HIV/AIDS must also be simplified and made more readily available to the poorest populations. Evidence shows that tests such as total lymphocyte count and haemoglobin colour-scale blood tests can be used where more sophisticated tests for viral load and CD4 cell count are not yet available. The simpler tests, combined with clinical evaluations by adequately trained health workers, can be effective in monitoring the progress of AIDS, the effectiveness of treatment and side-effects, even in settings with weak health infrastructure (17–18).

Building on the simplified drug regimens, WHO has developed streamlined protocols for treatment delivery which aim to facilitate treatment scale-up, above all in the many areas where physician shortages are a major constraining factor. With simplified treatment models, it should become possible to decentralize antiretroviral delivery progressively to the health centre level; this is vital to reach the people most in need. Treatment can be initiated in facilities at all levels of the formal health care system, wherever the following are in place: HIV counselling and testing; personnel who are trained and certified to prescribe treatment and follow up patients clinically; an uninterrupted antiretroviral supply; and a secure, confidential patient record system. Rolling out treatment under this model will pose many complex challenges. It will require high standards of operational research to help identify what works and what does not, and why, and to provide rapid feedback and dissemination of that knowledge.

Drug supply management is a significant challenge in many regions hit hard by HIV/AIDS, but focusing on a small number of simplified drug regimens and using fixed-dose combinations should make it easier. Drugs are also a major part of the overall cost of 3 by 5 (see below), and minimizing these expenses is important to programme sustainability. WHO will work with countries and implementers to obtain the lowest possible prices on antiretrovirals of assured quality.

Antiretroviral drug resistance: acting now to prevent a major problem

Although the benefits of antiretroviral drugs are universally recognized, there is concern that their widespread and inappropriate use could cause the virus to develop resistance to them, thus creating a major new public health problem. The question arises as to whether such resistance might be accelerated by treatment expansion. Virus strains with reduced sensitivity to zidovudine, the first drug used to treat HIV infection, were first observed in 1989, three years after it was introduced. Subsequently, resistance to currently licensed antiretroviral drug has been observed (15). WHO regards a surveillance system that enables monitoring of HIV drug resistance as an essential component of treatment scale-up. In this work, WHO and its partners are seeking the full support of the global HIV/AIDS scientific and public health community. WHO has established a coalition of 50 of the world’s experts in policy, clinical management, and the science of HIV drug resistance (HIVResNet) to develop guidelines on how to conduct resistance surveillance in different settings and population groups.

Gathering reliable global data on the level of HIV drug resistance and its transmission has so far been extremely difficult. The prevalence of resistance in countries where antiretrovirals have been available for some years ranges from 5% to 27%. Recent data from 17 European countries showed that 10% of untreated patients carry drug-resistant virus. Very little data are available from the developing countries that will implement antiretroviral programmes, and much more information is required (16).

The threat of increased levels of resistance cannot be an excuse for not delivering life-prolonging therapy: it has not been a reason to delay universal access in developed countries. Instead, monitoring HIV drug resistance and developing approaches to reduce its emergence and spread are required.

WHO and its partners have established the following objectives:

- to track HIV drug resistance and assess its geographical and temporal trend;
- to understand more completely the determinants of resistance, especially adherence to treatment and factors that undermine it;
- to identify ways to minimize its appearance, evolution and spread;
- to provide information to international and country-level policy-makers through a rapid and easily accessible dissemination system.

WHO has identified the need to give strong support to global surveillance of antiretroviral resistance. Since December 2003, WHO’s Guidelines for HIV drug resistance surveillance have been available on the WHO web site (17). These cover important aspects of a high-quality surveillance system such as sampling, data collection, laboratory testing, data management and analysis, quality control and ethical issues. The development and implementation of the HIV-resistance surveillance system will be
primarily supported in high-burden countries where antiretrovirals are currently not widely available. Gathering data on HIV drug resistance prevalence in those areas will allow a baseline picture that can be compared with data obtained over time.

WHO and its partners are developing and implementing systems to measure HIV drug resistance in treatment-naïve people (those who have not taken antiretroviral medicines before) in 20 countries and to monitor HIV drug resistance among treated people in five countries. By 2005, 40 countries will have implemented surveillance systems and 15 countries will have monitoring systems.

**THE COSTS OF ACHIEVING 3 BY 5**

The exact cost of reaching the 3 by 5 target will depend on how quickly care is scaled up in participating countries. It is likely to total at least US$ 5.5 billion by the end of 2005 in the set of high-burden countries that together account for 90% of the target (18). This estimate assumes that 25% of the target is reached in 2004 and the remaining 75% the following year. It assumes that the prices of medicines remain at currently lowest available levels reported by the WHO Essential Drugs and Medicines Department (first-line treatment of US$ 304 per person per year). Total programme costs could be significantly reduced if drug prices for all countries approached those negotiated by the William J. Clinton Foundation for the 14 countries it supports (first-line treatment at less than US$ 140 per person per year).

Cost projections are based on the treatment regimens required for three different entry points: tuberculosis patients, antenatal clinics and health facilities. They include:

- **at the patient level:**
  - counselling and condom distribution for the people tested as part of the programme;
  - antiretroviral drugs (first-line drugs for all people identified in late-stage disease and second-line drugs for treatment failures);
  - antiretroviral drugs to prevent mother-to-child transmission for women testing positive in antenatal care clinics and who are in early clinical stages of disease;
  - treatment and prophylaxis of opportunistic infections;
  - palliative care;
  - laboratory tests for toxicity for those showing signs of toxicity and switches of individual drugs in case of confirmed toxicity.

At the programme level, costs include training for doctors, nurses, clinical officers, community health workers and lay volunteers, supervision and monitoring, increasing the capacity of the medicines distribution and storage system, recruiting community health workers, universal precautions, and post-exposure prophylaxis. They also include purchasing an appropriate number of CD4 machines, automated blood counters and blood chemistry machines in low-income countries, beginning in 2005.

Figure 2.2 shows the breakdown of estimated costs of 3 by 5 over the two-year period 2004–2005. Not surprisingly, antiretroviral drugs account for the greatest proportion, while treatment of opportunistic infections, palliative care and universal precautions are also major contributors.

These estimates include preventive activities required to support the 3 by 5 strategy directly. They also assume that other preventive interventions for HIV/AIDS will continue at the current rate. They do not include major changes to the health system infrastructure, which are not possible given the short time frame of 3 by 5. If other interventions are scaled up at the same time – perhaps for malaria and/or tuberculosis with financing from the Global Fund to Fight AIDS, Tuberculosis and Malaria – short-term constraints might be encountered in terms of shortages of personnel, health facilities or laboratory testing facilities. To achieve the Millennium Development Goals by 2015, including those related to HIV/AIDS, immediate investment in infrastructure and in health systems strengthening will be needed in many of the countries implementing 3 by 5. These issues are discussed further in Chapter 4.
The figure of US$ 5.5 billion concerns the countries with the highest burden from HIV/AIDS. Earlier, higher estimates have been superseded in other ways. For example, the model of care assumed in earlier calculations was more intensive in testing and staff time than that adopted by WHO to confront the AIDS treatment emergency. In addition, drug prices have fallen considerably.

THE FRONT LINES: WORKING IN COUNTRIES

Countries are driving the rapid expansion of HIV/AIDS treatment under 3 by 5. Those countries already severely affected by HIV/AIDS and those with small but expanding epidemics have committed themselves to the emergency initiative. Solving the emergency requires innovation backed by experience and expertise. It implies streamlining or suspending familiar but unsuitable procedures and devising effective new ones at short notice as events unfold. Key elements of the emergency response at country level include:

- adequate political and financial commitment to scaling up treatment;
- high-level national mechanisms for planning, coordinating and leading treatment efforts;
- ensuring continuous availability of drugs and diagnostics;
- moving quickly to build capacity in health services and communities;
- establishing appropriate systems for monitoring and evaluation and operational research as programmes are rolled out.

When a WHO 3 by 5 emergency mission is invited to a country, it can help stimulate work in all the above areas. Within days of the declaration of the global HIV/AIDS treatment emergency, the first WHO country mission was on the ground in Kenya. The mission began work with national health officials and political leaders, community and nongovernmental organization representatives, private-sector health care providers, international agencies, and other stakeholders to build consensus and catalyze action for rapid scale-up of treatment. Similar WHO emergency assessment teams have been sent out as countries request them. By mid-February 2004, 15 emergency planning missions had been completed and several more were planned in response to country requests.

Countries approach the 3 by 5 challenge from very different departure points, and with varying strengths and weaknesses. Yet important areas common to all have emerged. Announcements in late 2003 of national commitment to significant scale-up from China, India, Kenya, Malawi, South Africa, Zambia and others strengthened the growing, shared momentum. Now countries, communities and international partners are working to translate political commitments into action that saves lives. The following case-studies describe the range of situations countries face and some emerging common themes.

China

More than 800 000 people in China are estimated to be living with HIV/AIDS. Injecting drug use has been the predominant mode of transmission, but heterosexual transmission related to sex work is on the increase. With new commitment from its political leaders, China has embraced the 3 by 5 initiative, which means aiming to provide treatment to 100 000 patients by the end of 2005. Big problems must be tackled quickly. Epidemiological surveillance of HIV/AIDS needs further reinforcement. Implementation mechanisms for treatment are incomplete. Capacities need to be strengthened in many areas of work. Currently, despite provision of free antiretrovirals, patients must pay for HIV testing, symptomatic care, transportation costs and other expenses. These costs are serious obstacles to treatment access and adherence. Fortunately, China’s strengths include a burgeoning domestic pharmaceutical industry which is now producing generic antiretroviral drugs. High-level commitment to intensified action on HIV/AIDS was underlined on World AIDS Day 2003, when Premier Wen Jiabao and Vice Premier Madam Wuyi visited people living with HIV/AIDS at Beijing’s Youan Hospital.

India

Official estimates in India for 2003 put the number of HIV-positive people at 3.8–4.6 million, with 600 000 in urgent need of treatment. India’s national HIV prevalence rate is below 1%, but some regions and population groups are much more heavily affected. For example, more than 50% of commercial sex workers in the state of Goa and the city of Mumbai are HIV-positive. Effects to scale up treatment will focus initially on six states – Andhra Pradesh, Karnataka, Maharashtra, Manipur, Nagaland, and Tamil Nadu – but there are immense difficulties. For example, the city of Mumbai alone has a larger population than Botswana and Zambia combined.

India’s health system has significant strengths, including a large pool of skilled doctors and other health professionals. Training in HIV care is now part of all medical and nursing curricula, though few students yet receive adequate practical experience in clinical management. The country has numerous medical centres of excellence and an array of high-level research institutions. Without doubt, antiretroviral procurement and distribution will pose major challenges, but on the other hand successful models of drug supply management do exist, such as that in Delhi State. India has a robust domestic pharmaceutical industry, which is also a major source of generic antiretrovirals (see Box 2.5).

Box 2.5 How Asian drugs help African patients

The success of the 3 by 5 initiative relies on the availability of affordable and high-quality antiretroviral drugs. Some of the world’s leading manufacturers of affordable generic antiretrovirals are found in the WHO South-East Asia Region. In India and Thailand export to African countries such as Ethiopia, Kenya, Nigeria, Senegal and Zambia.

India in particular has emerged as a major manufacturer of affordable antiretroviral drugs. Several Indian pharmaceutical companies are taking the lead in pushing down global prices. The steep reduction in prices that has taken place in recent years was triggered by a breakthrough announcement that Indian generic drugs would be offered to patients in Africa for only US$ 350 per patient per year, through Médecins Sans Frontières. At that time, the price of the drugs provided by multinational companies ranged from US$ 10 000 to US$ 15 000 per patient per year. Thanks partly to the competition in generic drug production, the price of antiretrovirals has dropped to one-thirtieth of its former level.

By December 2003, antiretroviral drugs manufactured by Indian pharmaceutical companies were available for as little as US$ 140 per patient per year, after a deal negotiated by the William J. Clinton Foundation. The Indian Government is working with the pharmaceutical companies to offer drugs to HIV/AIDS patients in India through a public-private partnership model at even lower prices. Low-cost drugs have already prequalified as “quality” drugs. Twelve antiretroviral drugs are presently in India’s national essential drugs list. The fixed-dose combination lamivudine + stavudine + nevirapine, manufactured generically in India, was also recently prequalified by WHO and is expected to simplify the treatment regimen, allowing patients to take only one tablet twice a day. Prequalification would allow the procurement of fixed-dose combinations from Indian generic manufacturers by the United Nations for use worldwide. However, some of the newer generic drugs will fall under patent protection from 2005, when the World Trade Organization Agreement on Trade-Related Aspects of Intellectual Property (TRIPS) takes effect in India. After this date, Indian generic manufacturers will have to wait until patents expire before they can begin production of new drugs, or the country may face trade sanctions. One option would be for the Indian pharmaceutical industry, as well as importers of generic drugs, to invoke the public health considerations of the Doha Declaration. It was agreed in a separate declaration at Doha that the TRIPS Agreement should not prevent members from taking measures to protect public health. Thus, the Doha Declaration will form a crucial element in expanding access to treatment.
The World Health Report 2004

On the eve of World AIDS Day in December 2003, as WHO released its 3 by 5 strategy, the Government of India announced a commitment to begin providing antiretroviral treatment free of charge to selected groups of patients in April 2004 and to place 100,000 people on treatment within a year. A WHO exploratory mission was invited to India within days of the government’s announcement. WHO HIV/AIDS specialists are being deployed to each of the six high-burden states, with other initiatives aimed at supporting the country on issues such as clinical management, drug procurement, laboratory support and monitoring and evaluation.

By mid-February 2004, training of key staff in 16 institutions selected to initiate the treatment programme was advancing under the leadership of the National AIDS Control Organization. WHO worked with this organization on finalizing training curricula and materials, and a capacity-building plan.

Kenya

About 1.8 million Kenyans are living with HIV/AIDS. Of the 280,000 Kenyans who urgently require antiretroviral therapy, about 11,000, or 4%, are currently on treatment. The majority of these patients are treated in the private sector or by nongovernmental and faith-based organizations.

Kenya has shown high-level political commitment to scaling up treatment and care, alongside prevention efforts. State health officials have set the following target: “Progressively deliver effective antiretroviral therapy, reaching 50% (140,000 patients) by 2005 and 75% (200,000 patients) by 2008, so as to increase the quality of life and survival by 10 years; reduce HIV-related hospital admissions by 60% and enhance significantly national prevention efforts”. Major obstacles to this objective include a large financing gap, understaffed health facilities and high unemployment among trained health care workers. Treatment literacy – the understanding of what treatment is and how to manage it – is low. This is associated with very high levels of stigma among both health workers and the general population.

The government has declared HIV/AIDS a national disaster and is finalizing the legal provisions to enhance HIV/AIDS control, including provision of care and treatment on an emergency basis. Kenya has already made significant progress in preparation for institutionalization of care and treatment. The Ministry of Health has advanced plans for the phased opening of 30 comprehensive HIV/AIDS care centres, selected on the basis of geographical coverage, HIV prevalence, and the level of preparedness for antiretroviral treatment. Training of health care workers has begun. Legal barriers to the importation and local manufacture of generic antiretrovirals have been removed.

Thailand

Around 100,000 people are currently in need of treatment in Thailand, but there are hopes that the country will reach the 3 by 5 objective of 50,000 patients by the end of 2005. Thailand has had a national, comprehensive HIV/AIDS control programme since the 1990s, integrating prevention, care and treatment (see Box 1.4).

By September 2003 the national antiretroviral treatment programme covered more than 13,000 patients. The government has allocated US$ 25 million to reach the 2004 target. The programme is continuing to strengthen infrastructures and capacity at management and service delivery level. Antiretroviral medicines will soon be covered by the universal health insurance plan. The biggest challenges are ensuring adherence and strengthening programme monitoring as well as drug resistance surveillance.

Zambia

In Zambia, which has an adult HIV prevalence of 16%, about 1 million people are living with HIV/AIDS, and around 200,000 are in urgent need of antiretrovirals. The government has shown firm commitment to scaling up treatment, although progress has been slowed by limited resources and health system capacity. Only about 1000 patients were on antiretrovirals in the public sector at the end of 2003; an unknown number receive private-sector treatment. A national target of 100,000 people on treatment by the end of 2005 was adopted in 2003 after discussions between government health officials and a WHO delegation.

Obstacles to reaching this target are of similar scale and complexity to those encountered in many countries in sub-Saharan Africa. They include lack of funding to cover the projected costs of drugs, a significant health sector human resource shortage, weak laboratory capacity, weak monitoring and evaluation systems, and inadequate dissemination of information among stakeholders and communities. HIV/AIDS remains heavily stigmatized, limiting the number of people who seek testing and care in both the private and public sectors. Poverty and patients’ inability to pay for medicines constitute major challenges for national treatment scale-up, given that 73% of Zambians are classified as poor (20).

In his State of the Nation address to Parliament in January 2004, Zambian President Levy Mwanawasa affirmed commitment to 3 by 5. WHO has worked closely with health ministry officials in preparing an implementation plan, which includes an ambitious programme to train thousands of health workers, community workers and volunteers in aspects of treatment provision during 2004–2005. WHO is also providing policy and technical cooperation in Zambia’s development of a proposal for funding from the Global Fund to Fight AIDS, Tuberculosis and Malaria. Funding from the United States President’s Emergency Plan for AIDS Relief will further accelerate the national response.

ETHICAL POLICIES FOR TREATMENT

The 3 by 5 initiative is an opportunity for countries not only to increase significantly access to antiretroviral therapy, but also to accelerate the drive to achieve Health for All. The principles of primary health care – health systems equity, greater community participation, and multisectoral approaches – are essential to the ethics of HIV treatment as well. Special attention must be paid to questions of fairness as programmes get under way, since more people need treatment than will receive it. Yet the risk that programmes will not be perfectly fair should not delay action. Making them transparent, accountable, and inclusive of all affected communities and stakeholders, and demonstrably taking account of people’s views, not only makes it more likely that these programmes will be ethically defensible and sustainable in the long term but should help countries reach other important health goals as well.

A key challenge facing policy-makers is to decide whether there are any morally significant differences among people that would make it right to draw distinctions among them as recipients of treatment. For example, should a consciously “pro-poor” approach be followed on the basis that health systems often bypass their needs? Among the issues to consider are the following:

- To what extent should considerations of fairness constrain the usual objective of public health intervention, namely maximizing the benefits produced? The most efficient way to scale up treatment programmes may be to start with people

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already on waiting lists, or those already in the health system. If such lists now exist predominantly at elite hospitals with specialized clinics, then poor, rural, and otherwise marginalized or affected groups would be underrepresented. On the other hand, waiting until outreach programmes are able to serve such groups will result in a much smaller number of lives being saved in the first few years.

Should benefit be measured solely in terms of health effects? Some people have urged that antiretroviral therapy should be provided as a matter of priority to health workers on the assumption that if physicians and nurses are not saved, the health system will deteriorate further or collapse. Should the same apply to teachers, civil servants, police officers, soldiers, employees generally, family members, caregivers or others?

“Vertical” approaches to providing health care—such as setting up specialized HIV/AIDS clinics—may maximize the number of people treated in the short term, but are unlikely to be sustainable in many settings over the longer term, and could draw resources away from primary health care and the public system in general. This would disadvantage other groups of patients, especially the poorest and most vulnerable who are most dependent on such care. Likewise, the decision to start with existing waiting lists, which are predominantly at urban hospitals, may or may not affect the development of programmes for hard-to-reach groups.

Should people receiving antiretroviral therapy have to pay for it? The argument for “vertical” approaches to providing health care—such as setting up specialized HIV/AIDS clinics—may maximize the number of people treated in the short term, but are unlikely to be sustainable in many settings over the longer term, and could draw resources away from primary health care and the public system in general. This would disadvantage other groups of patients, especially the poorest and most vulnerable who are most dependent on such care. Likewise, the decision to start with existing waiting lists, which are predominantly at urban hospitals, may or may not affect the development of programmes for hard-to-reach groups.

WHO and UNAIDS have taken the lead in developing guidance on these and other ethical aspects of policy through consultation with countries, implementers, advocates for the underserved, people living with HIV/AIDS and ethicists. Although WHO recognizes that Member States have legally binding obligations under the right to health, WHO’s guidance will be framed as non-binding, policy-oriented, ethical principles. The guidance shows how a commitment to the principles of ethics, human rights, primary health care, and fair processes can assist in the resolution of the difficult choices that countries face.

Making 3 by 5 work for the poor and marginalized

The AIDS treatment gap mirrors widening polarization in health and well-being between the world’s haves and have-nots. The treatment initiative is an opportunity for the global community to unite in a bold effort to tackle health disparities through concrete, goal-driven action. Yet national authorities and implementers will face difficult political and ethical choices as they work to expand treatment.

Deep social and economic inequalities and disparities in access to health services characterize many areas in which 3 by 5 must work. HIV/AIDS treatment programmes alone cannot overcome these inequalities. However, programme planners and implementers, working with communities, can take steps to reduce the impact of existing inequalities on access, for example, by making it easier for women and children to receive treatment (see Box 2.6). Ensuring a fair chance for the poorest people in society, as well as for socially marginalized and stigmatized groups such as commercial sex workers and injecting drug users, will demand focused planning and ongoing vigilance in the design, financing and implementation of treatment programmes. The active involvement of groups representing poor and marginalized communities is crucial, as experience in the city of Rio de Janeiro, for example, has shown (see Box 2.7).

There are no simple answers to many of the ethical questions raised in connection with HIV treatment. WHO and UNAIDS have launched a consultative process on equitable access to HIV/AIDS treatment and care, involving many stakeholders. This will produce guidance for countries, treatment providers and communities. WHO and UNAIDS cannot impose uniform prescriptions, but can identify the relevant questions and procedural options.

The choices countries make on assigning priority for treatment may differ while respecting procedural fairness. Fundamental procedural requirements are that a clear, rule-governed mechanism be in place to determine priority in access and that this mechanism be designed and monitored through an inclusive, participatory process in which all stakeholder groups take part. Relevant stakeholders include people living with HIV/AIDS, health care workers, governments, medical associations, drug regulatory authorities, the private sector, donors, academic institutions and nongovernmental community-based and faith-based organizations. Involvement of communities is indispensable.

Box 2.6 Ensuring equal access for women and men

In most countries, gender relations are characterized by an unequal balance of power between women and men, with women having fewer legal rights and less access to education, training, income-generating activities, property and health services. These factors affect their ability to protect themselves from HIV as well as their access to health knowledge, treatment and care. Ideally, health interventions will not only recognize and respond to the existing situation, but promote transformative approaches which challenge unequal gender roles and relations.

The following are crucial considerations in the design of treatment programmes.

Access to information: Providing information about the availability and benefits of antiretroviral treatment (“treatment literacy”) is vital to generating and sustaining demand. The avenues (such as radio, drama and peer groups) used to reach people with information, and the messages given, may be different for women and men.

Access to services: Services need to tackle the gender-specific barriers that women face: economic, cultural, opportunity cost (distance, timing of services and waiting time may make the service inaccessible to women), stigma and discrimination, and quality of care. Involving people in the design of services can help identify these barriers, enhance the design of services and involve communities in providing support.

Entry points for antiretroviral treatment: While antiretroviral care is an obvious entry point for identifying women in need of treatment, it is necessary to go beyond this to reach out to women with HIV who are not pregnant, particularly young women.

Barriers to testing and counselling: The decision to seek testing is influenced by risk perception. Many married women who are monogamous and faithful may not feel themselves to be at risk. Women often fear the negative outcomes of testing.

Barriers to disclosure: Women’s justifiable fears of the consequences of disclosure, such as violence and rejection, need to be tackled. These appear to be more common when a woman is tested before her partner. Couple counselling and testing, mediated disclosure by a trusted counsellor, and education of communities and family members can all help to reduce stigma and discrimination against women who test positive. Women’s right to confidentiality should be respected.

Monitoring and follow-up: Monitoring should be ongoing in order to identify who is being reached and who is not, and to make the necessary adjustments. Countries should be encouraged to set targets for women, based on local epidemiology.

Training of providers: Integrating gender considerations into treatment initiatives is an opportunity to focus on gender-based violence and other barriers.
The 3 by 5 initiative has set a time-bound target, which is useful for the purposes of motivating performance and measuring results. But the initiative will not end in 2005, partly because people will need to remain on treatment for the rest of their lives. Moreover, beyond the immediate target stands the goal of universal access. The target covers only half the global HIV/AIDS treatment gap. Another 3 million people will remain in urgent need of antiretroviral therapy. Eventually, almost all of the 40 million people now infected with HIV worldwide will require access to therapy. Progress achieved in scaling up access by 2005 must rapidly be extended to people who are still deprived.

The immediate target and the wider goal of universal coverage will challenge communities, countries and global institutions concerned with health. But the challenge must be faced. The expansion of treatment is no longer a question of if, but how. The use of antiretroviral medicines in developing countries will expand rapidly in the coming years. Many people with HIV/AIDS, even very poor people, will find ways to obtain medicines that promise to extend their lives. Will this take place efficiently through rational programmes able to set high standards for drug quality, patient care and support, treatment adherence and monitoring? Will principles of equity and fair access be respected? Or will the inevitable increase in the use of antiretrovirals in resource-poor settings take place in a piecemeal and anarchic way, with access largely determined by geography, social status and the ability to pay? Will this involve only limited support for treatment adherence and scant oversight of drug quality and resistance monitoring?

Without serious commitment to treatment access, the latter scenario is the more likely, and will inevitably result in the exclusion of large numbers of patients in need, poorer outcomes for numerous patients who do obtain some form of treatment, and rapid spread of resistance to drugs. Shared commitment to treatment access across the global health community can ensure that the process of expanding access to antiretroviral therapy unfolds quickly and fairly, maximizing benefits while limiting public health risks.

Such shared commitment will also strengthen partnerships that are vital to the future of global public health. Previous successful global campaigns – including smallpox eradication, the worldwide battle against tuberculosis, massive mobilization against polio and the response to SARS – provide important lessons for treatment scale-up. All of these efforts surmounted great obstacles and most ran into unforeseen difficulties. Yet none of them matches the HIV/AIDS treatment challenge in scope and complexity. The 3 by 5 initiative is catalysing new ways of working within WHO and across the global health community based on results-oriented teamwork among many partners, strong linkages between communities, national authorities and international institutions, and an overarching commitment to health equity.

Looking beyond 2005, WHO, UNAIDS and their partners will be developing a new strategic approach to maintain the gains of 3 by 5 and to extend them, using sustainable financing and delivery mechanisms, so that antiretroviral therapy becomes part of the primary health care package provided at every health centre and clinic. Mobilizing the resources and building the clinical care infrastructure needed to deliver lifelong treatment in primary care settings at the periphery will make lasting changes to health systems. As the next chapter explains, moving forward successfully in these directions will also depend on the close partnerships being forged between the formal health sector and many communities and groups, especially people living with HIV/AIDS.

The story of Anna Vincent

Like Joseph Jeune (see Overview), 36-year-old Anna Vincent had been very ill before being brought to the Lascahobas clinic in central Haiti, where she was diagnosed with HIV/AIDS and tuberculosis. She was hospitalized for three weeks and put on antiretroviral therapy. Since then, Anna has recovered very well and gained over 16 kg in weight.

“Without antiretroviral therapy, I would not be here for my children. I would not be here at all. My family has always been there for me, but without treatment they could only arrange my funeral. Now I can create a future for my children,” says Anna.

She plans to resume her seamstress classes and in the meantime has been awarded a grant by the Lascahobas clinic to become a market vendor. She can now be seen daily in the local market with a smile on her face.

Rio de Janeiro is the second largest city in Brazil with 5.8 million inhabitants, including more than a million people living in the city’s slums. The first HIV/AIDS case was registered there in 1982; since then, the municipal HIV/AIDS programme has notified 24,000 cases, an epidemic that is concentrated in the poorest neighbourhoods. Despite the large number of hospitals and clinics in the city, providing access to care has been very difficult. Since 1992, following the national government’s example, a comprehensive package of prevention activities and care services has been implemented. Universal free access to triple antiretroviral treatment began in 1996. To overcome the problem of lack of access to services, a continuously updated training programme of health care workers was launched. Today, staff at 51 health facilities, including university hospitals and primary care units, provide antiretroviral drugs to more than 19,000 HIV/AIDS patients in all areas of the city. More than half of all patients are followed in primary care units where tuberculosis treatment, antenatal care and other health programmes are also in place. At the same time as the training programme began, several projects directed at vulnerable populations were started by nongovernmental organizations in partnership with the municipal programme, and with financial support from the Ministry of Health. A total of 120 health units carry out prevention activities, including condom distribution, and nongovernmental organizations run more than 50 projects tackling the epidemic in specific populations.

A community health workers’ programme has also been initiated and partnerships with community-based organizations have been established to disseminate prevention measures, bring those unaware of their infection to where they can receive help, and reduce stigma. Training and support groups to promote adherence were started in clinics, with active contribution by nongovernmental organizations. So far, the evaluation of adherence and resistance in Brazil has shown results similar to those in developed countries.

Locally, partnership with civil society fosters the innovation required to tackle the epidemic. Political support at the local and national levels has been vital to the recognition of HIV/AIDS as a public health problem and hence the fast-scale-up of activities through the entire health system. As a result of this multilevel effort, AIDS-related deaths decreased by around 70% in Rio de Janeiro. A drop in hospital admissions and a rise in outpatient clinic visits demonstrate that there has been a widespread improvement in the treatment of AIDS-related illness (21–22).
References


