



chapter four

## health systems: finding new strength

The treatment initiative presents a tremendous challenge to the health systems of countries heavily burdened by HIV/AIDS. Ideally, those systems should function effectively, efficiently and serve the entire population. In most cases, however, they are poorly run, underfunded and sometimes barely able to function at all. This chapter examines what is necessary to strengthen them in order to implement the initiative, while also improving and expanding many other health interventions related to both communicable and chronic noncommunicable diseases. It shows that a major effort is urgently needed, requiring a massive increase in resource transfers from rich to poor countries.

Far from being a drain on resources, the 3 by 5 initiative has the potential to strengthen health systems in a number of ways. It can attract resources to the health system over and above those required for HIV/AIDS. It can spur investment in physical infrastructure, help develop procurement and distribution systems of generic products, and foster interaction with communities across a wide range of health interventions. Any possible adverse effects of the initiative on the wider health system must be anticipated so that they can be minimized.

Current levels of health expenditure in many poor countries are far below those needed to provide the bare minimum of services to their populations. In the years ahead, the financing gap will have to be filled largely by external donors. National governments and their economies are incapable of generating much more funding than they do al-

ready, while donors have still to live up to past collective undertakings.

The expansion of treatment should not divert resources and attention away from prevention and other forms of care. Indeed, the aim is for the initiative to become profoundly synergistic with those interventions <sup>(1)</sup> (see Chapter 2).

Antiretroviral therapy calls for a pattern of chronic care in which individual patients receive continuous follow-up treatment for the remainder of their lives, rather than the occasional acute interventions that characterize the response to most infectious diseases. If health systems can be strengthened to accommodate this new pattern,



the management practices developed for antiretroviral therapy (appointment systems, integrated medical records, drug supply systems, and adherence support) can also be applied to the management of other common, chronic conditions such as diabetes and hypertension.

This chapter shows how both public and private providers within health systems have helped to combat HIV/AIDS in some developing countries. It then uses the conceptual framework of four principles of health systems – leadership, service delivery, resource provision and financing – to examine how health systems, and especially publicly funded systems, can be strengthened to implement the 3 by 5 initiative while continuing to improve and expand many other health interventions.

### INVESTING IN CHANGE

With only a few exceptions, HIV/AIDS epidemics have hit hardest the countries whose health systems are least able to cope. Chronic underfunding and poor management largely explain their precarious position. Efforts to reform the public health sector have tended to focus on underfunding, centralized decision-making, and inefficient delivery of services. Responses have included the introduction of user fees, decentralization and contracting with the private sector. The limited successes – and frequent unintended adverse effects – of these reform initiatives have left public health providers in great need of capacity strengthening. Two broad strategies have been proposed: increased spending to overcome deficiencies of inputs and strengthen management systems; and the use of alternative delivery systems and health service providers from outside government (2).

New investments in capacity building, especially in human resources, need considerable time to mature. The alternative strategy of bypassing the public sector provider network offers the possibility of quicker benefits. This strategy has already been widely employed in a series of interventions, particularly in prevention efforts such as peer educator programmes, school education, social marketing of condoms, and mass media campaigns.

Most of the early experience with HIV/AIDS treatment in developing countries has been gained in private practice and in sites managed by nongovernmental organizations and research institutions, which are free of the bureaucracy and severe resource limitations that constrain the public system. Such providers have been prominent in demonstrating the feasibility of the treatment in resource-limited settings. However, scale-up will inevitably require a large number of treatment sites and therefore much larger participation by the public sector, which has the largest network of service delivery points. This is already apparent in many national plans, and it is inevitable that expanding treatment will entail the strengthening of public provider systems.

However, the treatment initiative will benefit from the experience of earlier disease programmes that have led to improved health system practice: collaboration between international, national and local authorities in the context of poliomyelitis eradication and SARS control; the value of monitoring systems based on outcome measures in the case of the DOTS strategy for tuberculosis control; and effective partnerships with parties outside government, also in the context of tuberculosis control. There are fewer examples of specific programmes enhancing the capacity to deliver other services, but improved disease surveillance and infection control measures for SARS (3) have wider application, and it has been possible to add the distribution of vitamin A supplements to polio eradication activities. There is little evidence that categorical programmes have undermined wider systems capacity. Synergistic benefits will occur

if they are planned in advance and, equally, any adverse effects need to be anticipated so that their impact can be mitigated (4).

It is therefore important that treatment scale-up is designed not to undermine the capacity of health systems to reach broader health goals by, for example, avoiding disproportionate diversion of existing resources into antiretroviral therapy, or refraining from the use of incentives only for staff directly engaged in HIV programmes. While the public sector will be the largest single provider of antiretroviral therapy in future, various other providers have pioneered treatment delivery and will continue to have an expanding role. The following sections indicate their potential.

### BEYOND THE PUBLIC SECTOR

Since antiretroviral drugs became available, small numbers of patients in developing countries have been able to obtain treatment from private practitioners on a fee-for-service basis, financed either directly out of pocket or by third-party payers such as insurance schemes or employers. Even if governments begin to offer free treatment, the demand for private practitioner services is likely to increase as the price of drugs continues to fall.

Faith-based organizations (see Box 3.2) have also been pioneers in offering antiretroviral therapy on a fee-for-service basis. In Kenya, for example, the founders of a pilot programme at the Nazareth Hospital, near Nairobi, have proposed a scheme to embrace 20 other faith-based hospitals in western and central Kenya (5).

International nongovernmental organizations, notably Family Health International and Médecins Sans Frontières, have been associated with some of the most innovative programmes delivering antiretroviral therapy. Médecins Sans Frontières projects in Kenya and Malawi have provided free services to very poor rural populations, and in South Africa the organization has supported a community-based programme (see Box 4.1).

### The business sector contribution

Many large private firms have been providing antiretroviral therapy to their employees, either directly as part of occupational health services or indirectly by financing access

## Box 4.1 Antiretroviral therapy in the Western Cape Province, South Africa

South Africa's first public sector project offering antiretroviral therapy was established at community health centres in the Cape Town township of Khayelitsha, where clinics began treatment in May 2001. By June 2003, over 5000 patients had enrolled and over 600 children and adults had started treatment. The costs of drugs, viral load tests and the wages of half the clinical staff have been met by Médecins Sans Frontières; the remaining costs have been covered by the provincial government.

Adherence, survival and virological success in this project are comparable to if not better than those in many settings in wealthier countries. The primary care setting has contributed

greatly to a very high retention of patients. The potential to treat families in one setting, to connect with community-based support groups and nongovernmental organizations, and proximity to referring services all contribute to impressive clinical outcomes.

The province is attempting to bolster the entire primary care system in tandem with the delivery of antiretroviral therapy. To do this, management responsibility for primary care and HIV/AIDS has been located within one directorate, and aggressive staff recruitment and retention strategies try to fill posts in HIV/AIDS services and in other primary care services simultaneously.

Primary care services are benefiting from the strengthening of referral systems with hospitals, the provision of clinical support by specialists, and the increased emphasis on drug availability. Nurses with no formal training in diagnostics and curative care have rapidly become competent primary care clinicians through training and mentoring in HIV/AIDS care. Increased resources (both human and financial) have been directed at primary care as a result of the work of these projects. There has been a reinvigoration of clinical support networks, increased uptake of a range of services including voluntary counselling and testing, and more openness about HIV/AIDS (6, 7).

## The health truck comes to town



Gideon Mende/Network

Children excitedly chase the truck delivering medicines to their village. The truck also brings health care workers from a distant hospital into this rural Zambian community where they help provide treatment.

"In Zambia it is difficult to afford aspirin. Our government spends US\$ 10 per head on health per year and several hundred thousand people live with HIV/AIDS, so it is impossible to look after everyone in hospitals or hospices," says Daphetone Siame from Chikankata Hospital's AIDS Management and Training Services. "The HIV/AIDS team at our hospital decided to visit people in their own homes in order to monitor their condition and to teach their families how to care for them: it works!"

There are many benefits in caring for people at home – it can be cheaper, many patients

prefer not to be in hospital, and community care can be a powerful means to break down prejudices and to educate people about HIV/AIDS.

Zambia's first home-based care programmes started in 1987, when nearly 90% of HIV/AIDS patients at the Chikankata Hospital said they would prefer to be at home. The hospital arranged for teams of health workers to visit them once a month, covering an area within an 80-km radius. In addition to delivering health care to patients, the teams counselled families and educated communities about HIV/AIDS. A key goal is to encourage acceptance of HIV/AIDS patients in the community and to stress that infection is not transmitted by ordinary household contact.

to other schemes. Very often, treatment is a logical extension of long-standing commitments to respond to HIV/AIDS in the workplace, with health education activities, condom distribution, counselling and testing, as well as long-term care and social support. In some cases, benefits extend to family members and the wider communities. However, there are two severe limitations on the contribution of the business sector. First, only a minority of businesses are implementing these enlightened policies. Second, most people who would benefit are not employed by the kind of multinational firms that can provide treatment.

The strengthening of health systems that the treatment initiative hopes to galvanize will therefore involve nongovernmental organizations and businesses, but this will not be enough. The key factor will be the leadership of governments.

### LEADERSHIP FOR CHANGE

Providing wider access to antiretroviral therapy creates a set of challenges and opportunities that will require strong government leadership and guidance, while still involving local innovation and participation. Among the essential ingredients of good leadership are the ability to mobilize institutions and individuals around common goals and give a clear sense of direction, enlisting public and political support for health actions, as well as ensuring the application of common standards. Good leadership also means facilitating communication, brokering knowledge, identifying gaps and taking steps to fill them. It means promoting partnerships where appropriate, arbitrating in conflict, actively promoting accountability, and, crucially, making sure that vulnerable groups are protected.

Four aspects of leadership are particularly relevant. The first is to define a clear **national strategic framework** for prevention, care and treatment that gives the vision and direction needed by all actors across the health system. This has to be set in the context of a broader framework for responding to threats to population health, and needs to take a long-term view. The second element is the ability to build **coalitions** and maintain stakeholders' commitment to the agreed objectives and strategies. The third is the formulation and enforcement of a **system of rules and incentives** for all providers to ensure quality care, whether in the public or the private sector. The fourth element, **oversight**, involves maintaining a strategic overview of what is happening across the health system. It also means determining whether policies are being carried out, what is on course and what is not, and responding as needed. Designing a health information system and managing a monitoring process are critical to ensuring the factual basis on which sound leadership decisions can be made.

### HEALTH INFORMATION SYSTEMS

Timely and accurate health information is the essential foundation for policy-making, and for the planning, implementation and evaluation of all health programmes. The 3 by 5 initiative needs careful and ongoing assessment of treatment requirements, programme access, coverage, quality of services and health outcomes, and operations research. Initially, health information may have to be collected as a vertical programme activity. The system will require the introduction of new technologies for patient identification and a continuous medical record, from which data can be extracted for the cohort analyses essential to the accurate measurement of treatment outcomes. Appointment systems and patient tracing are essential elements of chronic care management. The necessary investments and innovations in health information systems will assist the strengthening and reform of country health information systems towards

which WHO is working, partly in the context of the Health Metrics Network (8). WHO will also link the health information component to activities related to strengthening the capacity of national health research, aligning national health research production, knowledge sharing and applications, and other activities in countries.

### MONITORING 3 BY 5

A sound strategy for 3 by 5 will involve monitoring indicators such as the number of patients receiving different services, treatment adherence, quality of care and availability of drugs. It will also require monitoring indicators that assess whether the goal of strengthening the wider health system is being achieved; these indicators include overall trends in inputs, processes, outputs and outcomes.

Although much information is already being produced, some critical gaps remain: these include details of the activities of the private sector and estimates of service requirements relative to those actually delivered. Making monitoring manageable will require selectivity and creativity in the information to be collected, in the ways information flows are managed, and in the ways information is synthesized and presented.

The ability to monitor resource flows is an essential element of monitoring, evaluation and policy development. It is important to know how much is spent on health, the sources of funds, through whom they are channelled, what goods and services are purchased, and who ultimately benefits. Tracking health expenditure using the national health accounts framework is the starting point for assessing the level of domestic and international commitment to supporting health, and can be adapted to show the commitment to particular activities such as HIV/AIDS prevention and care. It is also critically important to develop ways of tracking additional external resources to make sure that they do not replace normal expenditures on health or HIV/AIDS, and that they are used efficiently and equitably. Innovative processes will be required to collect and analyse new knowledge and disseminate the findings both nationally and internationally.

### SERVICE DELIVERY

The majority of patients starting to receive antiretroviral therapy will be recruited from settings where opportunistic infections are already apparent: tuberculosis treatment services, acute medical care in outpatient departments and hospital wards, and home-based care programmes. Increasingly, patients will be identified as HIV-positive in other settings where testing is offered, such as free-standing voluntary counselling and testing centres, maternal and child health clinics where prevention of mother-to-child transmission programmes are in place, and clinics dealing with sexually transmitted infections. Patients identified at these entry points, even though asymptomatic and not eligible immediately for antiretroviral therapy, need to be inducted into a continuing review process. This will enable their opportunistic infections to be correctly diagnosed and treated. It will also ensure that they are prepared psychologically and socially for the time when they will receive treatment and that it is initiated at the right time. This continuing care might be provided in dedicated HIV clinics, in clinics specializing in tuberculosis or sexually transmitted infections, in general medical clinics, or in home care programmes. Making this continuum of services available to every community will be a tremendous challenge, and one for which all countries will need considerable assistance.

There are also geographical and institutional dimensions to the challenge of scaling up provision of antiretroviral therapy. Previously, the locations in which treatment has

been provided have been predominantly urban and the facilities have been mostly hospitals. This was natural during the pilot phase, which demonstrated the feasibility of the therapy in resource-poor settings, and it remains rational to expand the service delivery network by working downwards through the hierarchy of facilities from the better-endowed to the more basic. Population coverage on the scale envisaged, however, requires a dramatic expansion in the number of service delivery points, and that inevitably means expanding into the geographical periphery of each country and district and into lower-tier facilities which lack the staff and resources of the pilot sites. This dissemination of service delivery points is also important for geographical equity of access to services. Fortunately, some pilot sites have developed services on a district-wide basis and demonstrated the feasibility of delegating tasks to mid-level health workers in primary care facilities (9). The antiretroviral therapy treatment guidelines developed by WHO assume a pattern of services at district level whereby there is a central facility (hospital or major health centre) connected to a network of ambulatory care facilities by cross-referral of patients and specimens, and supportive supervision of the less skilled staff customarily found at lower-tier facilities (10).

## Waiting for treatment



Gideon Mendel/Network

Health systems in many developing countries are as frail and vulnerable as the HIV/AIDS patients they try to help. The systems themselves are also in desperate need of treatment. As this man quietly waits for attention in hospital, chronically underfunded health services must also

hope that their turn will come soon. For him, antiretroviral treatment is the answer. For health systems that are already overwhelmed, the future depends on injections of new resources.

Dissemination of service provision into primary care facilities may increase the distance to laboratories and skilled diagnosticians, but it reduces the distance (geographical and social) to the communities from which the patients come, which are themselves a crucial resource for care and treatment. Since a high level of adherence to treatment is a condition for viral load suppression, the proximity of drug re-supply and the support of community members in adherence and other tasks (as discussed in Chapter 3) are important for programme success.

### HEALTH SYSTEM RESOURCES

The capacity of health providers to deliver services is determined by the resources they can deploy. These can be divided into tangible resources such as buildings, equipment, staff and supplies, and intangible ones – the management systems that control their deployment. These are all often severely defective in high-burden countries, and will need substantial investments. It can be argued that deficiencies in human resources most severely constrain the capacity for effective service delivery.

#### The human resource crisis

It is widely recognized that there now exists a health workforce crisis throughout the developing world (11–13). It is characterized by a shortage and maldistribution of trained health workers caused by elevated attrition rates from, among other things, voluntary changes of occupation and emigration from poor to richer countries, a short-fall in the production of trained health workers (in part attributable to a shortage of candidates qualified by general education attainment to enter pre-service training), and a tendency to focus training efforts on the higher-level, internationally recognized cadres.

This has been a crisis in the making for several decades, and certainly existed well before the advent of HIV/AIDS, but it has been exacerbated by the epidemic (14). There has been a dramatic increase in deaths within the health workforce, attrib-

utable to AIDS (see, for example, Figure 4.1). In Malawi, 44 deaths occurring in 1997–1998 among nurses represented 40% of the annual output from training; in Zambia, 185 deaths in 1999 represented 38% of the annual output from government training schools (16). Absence because of ill-health has also dramatically increased. One study of laboratory workers in Malawi found that nearly half of total working time was lost to sickness and related causes. A secondary effect is increased absenteeism as health workers need time to care for sick relatives and to attend funerals.

#### Systemic solutions to the workforce crisis

Human resource specialists now agree that the crisis will only yield to systemic solutions such as substantial improve-

ment in the basic package of pay and benefits, an expansion in the volume of pre-service training, decentralization of some aspects of personnel management, a programme of management training focused on supportive supervision, and adequate protection of the workforce against the risk of occupational exposure to HIV infection (17–19).

Systemic solutions need to link improved rewards to improved productivity. One way to do this is to make payment conditional on the meeting of performance criteria. A good example is Médecins Sans Frontières' incentive payment scheme in Thyolo District, Malawi. The incentives are given to all health workers, not just those directly involved in activities supported by Médecins Sans Frontières; payment of the incentives is discretionary and dependent on performance criteria; and the scheme is administered by local managers, thus empowering their supervision of the workforce (see Box 4.2). This isolated example illustrates reform principles of system-wide relevance.

Given the prevailing shortages, massive expansion of human resources is needed to permit scale-up of antiretroviral therapy without excessive damage to existing programmes. This implies a large number of actions including: emergency recruitment, in some cases from abroad; relaxing fiscal constraints related to public sector hiring; introducing new cadres; increasing community input; initiating treatment-focused in-service training on a large scale; and expanding pre-service training. Although the benefits of expanded pre-service training will inevitably accrue outside the short timescale of 3 by 5, delay in tackling this crucial bottleneck will impose insuperable obstacles on efforts to maintain the momentum of expanded access.

The experience of the pilot sites delivering antiretroviral therapy provides only limited guidance for the optimum staffing of future services, since they have generally been intensive in their use of human resources. New patterns of service delivery and staffing, such as those recommended by WHO (20), need to be implemented; they should entail less frequent patient contact with the provider system, rely less on skilled labour inputs, and optimize the use of inputs other than those from the formal delivery system. These new patterns imply maximum delegation of tasks within the formal health care team, and maximum involvement of community resources. On the basis of standardized treatment guidelines, competency-based training (ensuring better alignment between training and practice), adequate supervision mechanisms, and improved management systems would contribute to productivity gains. Chapter 3

### Box 4.2 Incentives to health workers in Malawi

In Malawi, Médecins Sans Frontières is working in partnership with the Thyolo District Health Office to control tuberculosis and reduce the transmission of HIV; they also provide medical care, treatment, nutritional and social support for people living with HIV/AIDS, tuberculosis or both, and respond to nutritional or medical emergencies.

As part of this collaboration, Médecins Sans Frontières has sought innovative ways of tackling human resource constraints, focusing specifically on reducing staff attrition rates within the district and improving staff management, motivation and performance.

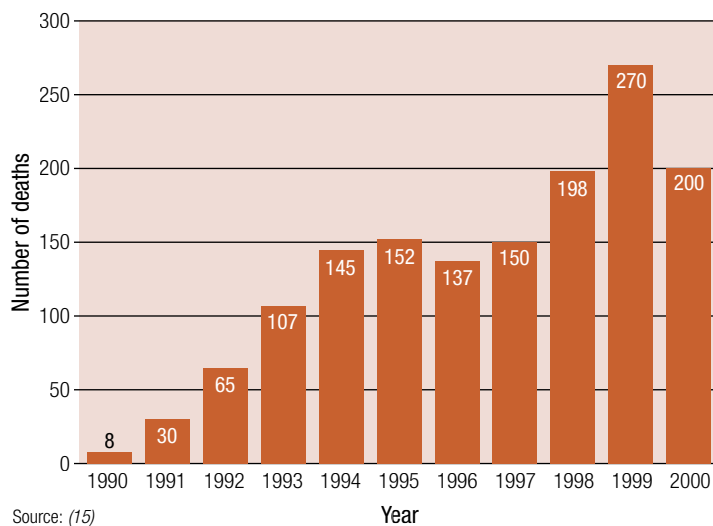
This work includes:

- ensuring that infection control measures and materials are in place;
- using non-clinical staff to conduct activities such as health promotion and voluntary counselling and testing;
- extending its workplace policy on antiretroviral therapy to all district health staff;
- piloting a performance-related incentive to all district health staff;
- using this incentive as a mechanism to encourage and supervise staff.

Incentive payments range from US\$ 6 to US\$ 22 per month, adding roughly 10% to

basic government salaries. They are dependent on a monthly review of performance carried out jointly by the district health management team and Médecins Sans Frontières programme managers, using a common evaluation checklist that assesses working hours, discipline, accuracy in carrying out tasks, management of resources (equipment, medicines, supplies, food) and cleanliness. Médecins Sans Frontières proposes that these innovations be carefully evaluated and considered for adoption at the national level.

Figure 4.1 Deaths from HIV/AIDS among health workers in Malawi, 1990–2000



Source: (15)

described how volunteers drawn from people living with HIV/AIDS, who may already be receiving antiretroviral therapy, constitute a resource that can be deployed to good effect.

Different issues arise in the settings of middle-income countries and countries in transition, where resources are less severely constrained, the numbers of trained health workers are generally higher, and the basic capacities of health facilities are more secure. The emphasis therefore lies on ensuring, through appropriate collective financing mechanisms, universal entitlements to care that include the most vulnerable and stigmatized populations. Subsidiary concerns include reducing the cost of treatment regimes, establishing reliable diagnostic and drug distribution networks, and improving surveillance (21). Box 4.3 describes a remarkable success story.

### FINANCING ISSUES

There are two interrelated levels at which the financing of HIV/AIDS interventions, including delivery of antiretroviral therapy, needs to be considered. The first, which has received the most attention, is the international division of responsibility between recipient countries and donors. The second level refers to the methods used within countries to finance provision of services.

One of the key messages of this report is that success in containing and reversing the HIV/AIDS pandemic is contingent on a massive increase in resource transfers from rich to poor countries. The 3 by 5 initiative cannot be implemented in isolation from a regeneration of health systems; this cannot be financed from the slender resources available to the poorest countries. It has been estimated that US\$ 35–40 per capita per annum is needed to finance a minimum health service package including antiretroviral therapy, but actual levels of expenditure fall far short of this (2). The average amount spent, per capita, on health services in low-income countries was US\$ 23 in 2001, of which only US\$ 6 was public spending.

### Box 4.3 Universal access to antiretroviral therapy in Brazil

Brazil is the first developing country to have implemented a universal antiretroviral distribution programme. Initiated in the early 1990s, by 2003 the programme was providing free antiretroviral medication to about 125 000 patients. The programme is credited with a dramatic reversal in the previously rising trend of AIDS mortality, averting 90 000 deaths and 358 000 AIDS-related hospital admissions.

Brazil has a population of approximately 175 million. With an adult HIV prevalence rate of 0.7% and a per capita income of US\$ 4350, the challenge presented by HIV/AIDS may appear to be more manageable than in countries with higher disease burdens and lower incomes. However, this is a result of the national response: in 1990, Brazil had one of the highest reported numbers of infected individuals in the world, and the World Bank projected that 1.2 million people would become infected by 2000. The current UNAIDS

estimate is that approximately 600 000 people are living with HIV/AIDS, suggesting that the Brazilian response has succeeded in halving the impact of the epidemic.

This success is attributed to a concerted and early government response, the foundations for which were laid by political and professional changes in the 1980s, strong and effective participation of civil society, multisectoral mobilization, a balance between prevention and treatment, and systematic advocacy of human rights in all strategies and actions. In particular, guidelines for prevention policies have emphasized the need to direct attention to more vulnerable populations, such as men who have sex with men, injecting drug users and commercial sex workers; to ensure access to prevention supplies, especially condoms, syringes and needles; and to introduce preventive actions in health care services. Condom use increased tenfold between 1986

and 1999, while needle and syringe exchange programmes significantly lowered HIV prevalence rates among injecting drug users.

A number of features appear to be critical to the provision of universal access to antiretroviral therapy. Most important in Brazil was the government's acceptance of responsibility in a 1996 presidential decree that guaranteed all patients free access to HIV/AIDS medications. The cost of treatment was reduced by manufacturing antiretroviral drugs domestically, and by aggressive price negotiation with international pharmaceutical companies, using the threat of compulsory licensing. A drugs logistic system supplying 450 outlets was developed, and laboratory capacity was established to monitor viral load, CD4 counts and drug resistance. Services are delivered through a network of more than 1000 public care and testing services, financed by federal, state and municipal governments (22).

Even supposing that the poorest countries were able to make the greatly increased domestic fiscal effort to raise an additional 1–2% of gross national product (GNP) for health – relative to the average of 14% for all public expenditures – the per capita amounts generated would still be inadequate. With per capita incomes below US\$ 300 per annum, an additional 1% of GNP raised for public health expenditure still produces less than US\$ 3 per capita, leaving a substantial gap between resources required and those available. The shortfall can be made good only by transfers from the rich world. One estimate of the amount required is US\$ 22 billion annually by 2007 (1), against which current transfers, though supplemented by innovative mechanisms (see Box 4.4), remain inadequate.

This response would be attended by four important considerations:

- First is the need for ongoing work to maintain and enhance the recent substantial increases in donor assistance for HIV/AIDS. This will require the involvement of the donor community in broad planning and monitoring at the international level.
- Second, poor countries themselves need reassurance that the aid flows linked to HIV/AIDS will not experience the volatility that has been known in some other areas in the past.
- Third, some donor funds need to be available to repair deficiencies in basic system capacity and, above all, in the vital areas of staff salaries and pre-service training. If an expansion of aid is to be constructively used to build basic system capacities, it will have to be in more flexible forms that allow a jointly agreed programme of work to be undertaken. There has been some limited experience with the sector-wide approach, with notable success in Uganda and the United Republic of

### Box 4.4 New international sources of finance

Billions of dollars of additional resource transfers from rich to poor countries are needed annually to support the 3 by 5 initiative and its associated investments in prevention, care and health systems strengthening. Some of this money will flow through long-established bilateral and multilateral channels, but increasing sums are expected to be channelled through newly established mechanisms. Prominent among these are the Global Fund to Fight AIDS, Tuberculosis and Malaria, the World Bank's Multi-Country HIV/AIDS Program, the President's Emergency Plan for AIDS Relief, and the contributions of private foundations such as the Bill and Melinda Gates Foundation and the William J. Clinton Foundation.

So far the Global Fund has received pledges totalling US\$ 4.8 billion and has committed expenditure of US\$ 2.1 billion as a result of applications received in the first three rounds (of which 60% has been allocated for combating HIV/AIDS). It had disbursed US\$ 178 million by the end of November 2003, its first year of expenditure. The Global Fund anticipates that commitments in relation to the first three rounds of applications will reach US\$ 2.5

billion by the end of 2004 and over US\$ 3.5 billion by the end of 2005, while disbursements (which necessarily lag behind commitments) will reach US\$ 1 billion by the end of 2004 and US\$ 2 billion by the end of 2005.

The President's Emergency Plan for AIDS Relief, announced in the 2003 State of the Union address, committed the USA to spending US\$ 15 billion to fight the HIV/AIDS pandemic over the following five years. Of this total, nearly US\$ 10 billion represents new commitments, to be disbursed through a number of federal government agencies, of which the largest are USAID and the Department of Health and Human Services, which oversees the Centers for Disease Control and Prevention and the National Institutes of Health. Through bilateral and multilateral channels, the US government plans to spend US\$ 2 billion on HIV/AIDS in the year to June 2004, and expenditure will clearly rise in the future. Some funding from the President's Emergency Plan will be disbursed through the Global Fund, to which US\$ 1.6 billion has been pledged, with the possibility of more to come if the pledge is matched by other donors' contributions.

The World Bank committed approximately US\$ 2 billion to HIV/AIDS programmes over the period 1988–2003. Most of this expenditure has been in the form of concessional loans. UNAIDS estimated the grant component of these loans to have reached US\$ 75 million annually by 2002.

Private foundations have begun to make significant contributions, some via the Global Fund and some acting in broad partnership within recipient countries. The Bill and Melinda Gates Foundation, in partnership with the pharmaceutical Merck Company Foundation and the Government of Botswana, established the US\$ 100 million African Comprehensive HIV/AIDS Partnership, which has supported a broad range of prevention and care interventions and has helped fund the largest public sector antiretroviral therapy programme in Africa. The William J. Clinton Foundation has developed programmes in several African and Caribbean countries, leveraging the contributions of other partners and successfully brokering access to cheaper generic medicines.

Tanzania (23), and across all development areas with poverty reduction strategy implementation using the proceeds of debt relief, with positive results in Ghana, Mozambique and Uganda (24).

- Fourth, it must be recognized that there is a potential problem with a massive increase in external aid threatening to produce adverse effects on macroeconomic stability and development by inducing domestic inflation and appreciation of the exchange rate.

The potential adverse effects may be transitory and more than offset by the effective use of aid to improve national productivity.

There is an obvious link between the international and domestic financing of health programmes. Smaller contributions from external sources mean that poor countries have to provide more funding from their own resources, either through collective mechanisms such as taxation or insurance, or individually out of pocket. South Africa receives very little external aid for its health sector, but it has recently seen some important changes in its domestic financing arrangements for antiretroviral therapy. In November 2003, the government committed itself to spending more than US\$ 1.73 billion over three years to combat HIV/AIDS, more than tripling the amount spent during the preceding three years. Of this, US\$ 270 million will be set aside for antiretroviral drugs. These funds will be insufficient, however, to cover all people who need medication, and multiple funding sources will be required to provide ongoing treatment.

In low-income developing countries, which generally do not have extensive insurance mechanisms, most personal health services are financed by a mix of taxation and user fees in the public sector. With the exceptions of Botswana and Brazil (both middle-income countries which have decided to meet the cost from public sources), developing country governments have not been greatly involved in financing antiretroviral therapy, probably because of its high unit cost. Private providers have been financing antiretroviral therapy through user fees for some time; international nongovernmental organizations and research-funded sites have received substantial external funds and have been able to provide either free or heavily subsidized treatment. Private-sector employers have provided free access to antiretroviral therapy, either directly through occupational health services or indirectly through private insurance intermediaries. A mixture of public and private financing is desirable, but only if it ensures equal access.

### Box 4.5 Health financing reform in Kenya

Until recently, patients in Kenya paid fees at the point of treatment for government-provided health services, which worsened the plight of poor people. A situation in which private providers served all sections of the community on a fee-for-service basis led to out-of-pocket payments reaching 75% of total health expenditures. Recently, however, social health insurance reforms have been proposed, aiming at adequate, accessible and affordable health services, including antiretroviral treatment. The draft law was scheduled to be submitted to parliament in early 2004.

The new insurance system will be funded by prepaid contributions from active and retired

workers, enterprises and the self-employed, with government subsidies to enable participation by the poor. These contributions constitute the revenue of a new National Social Health Insurance Fund. When insured members seek treatment, they will no longer have to pay fees at the time and point of treatment. Health facilities will be paid by the Fund for the health services they provide to insured patients. Both outpatient and inpatient health services will be part of the insurance benefit package.

A series of financial projections for the period 2004–2008 have been undertaken to determine whether treatment costs for HIV/AIDS might overly burden the proposed health insur-

ance system. It is projected that the number of patients treated will rise from 108 000 in 2004 to 186 000 in 2008. For the poorest Kenyans, this treatment would be paid for via government subsidies to the National Social Health Insurance Fund, while the better off would pay half of the cost. The cost of antiretroviral drugs will occupy an increasing share of the Fund's revenues: from 5.4% in 2004 to 13.4% in 2008. It has been determined that up to 2007, inclusion of treatment in the benefit package is financially feasible. But from 2008 onwards the government subsidies would have to be revised upwards in order to secure financial equilibrium in the Fund.

Thus, scaling up the provision of antiretroviral therapy with greater public provider involvement presents a considerable challenge to governments.

Some governments are not confident that the costs will be adequately met by donors, they do not expect to be able to afford free provision from domestic resources (even with the dramatically reduced drug prices now in prospect), and do not see a basis for discrimination between antiretroviral therapy and other life-saving treatments for which user fees are charged. It is the stated intention of some governments to apply to antiretroviral therapy the standard regime of partial cost recovery (that is, user fees meet some but not all costs of service provision, the balance being borne by taxation) in public facilities. Almost all governments that operate user fees have some system of fee waivers which, in theory at least, allows very poor people to be exempt from payment.

In other quarters, there is an expectation that antiretroviral therapy will be provided free or at only nominal cost to all who need it, financed by external aid or other solidarity mechanisms. Inability to pay should not be a barrier to access. There is now evidence that out-of-pocket payment has undermined adherence to treatment and increased the risk of drug resistance. There are precedents for free treatment, for example for tuberculosis, even in countries which otherwise charge user fees in public facilities.

In most countries a mixed regime in financing antiretroviral therapy will probably continue, the argument being that people who are able to pay should do so and free treatment should be reserved for when payment could undermine access and adherence to treatment. This is a critical matter, because out-of-pocket payments for health already result in a substantial number of households facing financial catastrophe and poverty in the countries most affected by HIV/AIDS. The attention given to 3 by 5 may drive health financing reforms designed to improve access to all health services for the poor, an endeavour actively supported by WHO. An example of such reform is the proposal to develop a social health insurance scheme in Kenya (see Box 4.5).

### MEETING THE CHALLENGE: HOPE FOR THE FUTURE

The 3 by 5 initiative presents a tremendous challenge to the health systems of countries with a high burden of HIV/AIDS, given the magnitude and urgency of the changes that will be initiated against a background of chronic incapacity and under-performance. An inspiring vision exists, based on the work of the treatment pioneers, of how health service and community resources can be combined in comprehensive prevention, treatment and care programmes, even in resource-poor settings. It must be hoped that this inspiration will reignite the determination of governments and people all over the world to invest sufficiently in health systems so that they can reverse the course of the HIV/AIDS epidemic. By doing so, strengthened health systems will gain the capacity to confront successfully the ancient enemy of infectious disease and the growing burden of chronic diseases.

The next chapter looks beyond 2005 and considers how advances in many areas of research, together with new approaches to gathering and sharing information, can assist international efforts in the prevention, treatment and control of HIV/AIDS and also contribute to building stronger health systems.

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