

VII. IMPACT ON THE HEALTH SECTOR

The HIV/AIDS epidemic has posed and will continue to pose tremendous challenges to the health systems of the developing countries, especially in the most severely affected countries. HIV/AIDS increases overall health expenditures for both medical care and social support at the same time that it is claiming the lives of doctors and nurses in the developing countries. The present chapter presents a conceptual framework for the impact of HIV/AIDS on the health sector. It then reviews some of the empirical findings concerning the effects of HIV/AIDS on the health sector.

A. CONCEPTUAL FRAMEWORK FOR THE IMPACT OF HIV/AIDS ON THE HEALTH SECTOR

HIV/AIDS may affect the health sector in a number of different ways, as shown in figure 12.

- First, health workers themselves may be infected with the HIV virus, and this will affect the supply of public health services. Health workers are vulnerable to the same routes of infection as the general public; however, they may also contract the HIV virus or other infections associated with AIDS, such as tuberculosis, through contact with AIDS patients.
- The morale of the health professionals may also be affected. Caring for AIDS patients is demanding and stressful for the health staff involved. High levels of stress may lead to greater staff absenteeism, and staff may refuse to be transferred to high-prevalence regions within a country.
- In some cases the quality of services may also be affected by the attitude of the health staff towards HIV/AIDS patients. Fear of contracting the disease and the psychological stress involved in treating AIDS patients may lead to a re-

duction in the quality of services provided.

- HIV/AIDS contributes to increases in health expenditures in both the public and private sectors and may divert resources towards the higher levels of care needed for AIDS patients.
- The added strains on public health finances, staff and other resources may force more people to seek private health care. Many households may have to choose between health care and other essentials such as food.

B. AVAILABLE EVIDENCE ON THE IMPACT OF HIV/AIDS ON THE HEALTH SECTOR

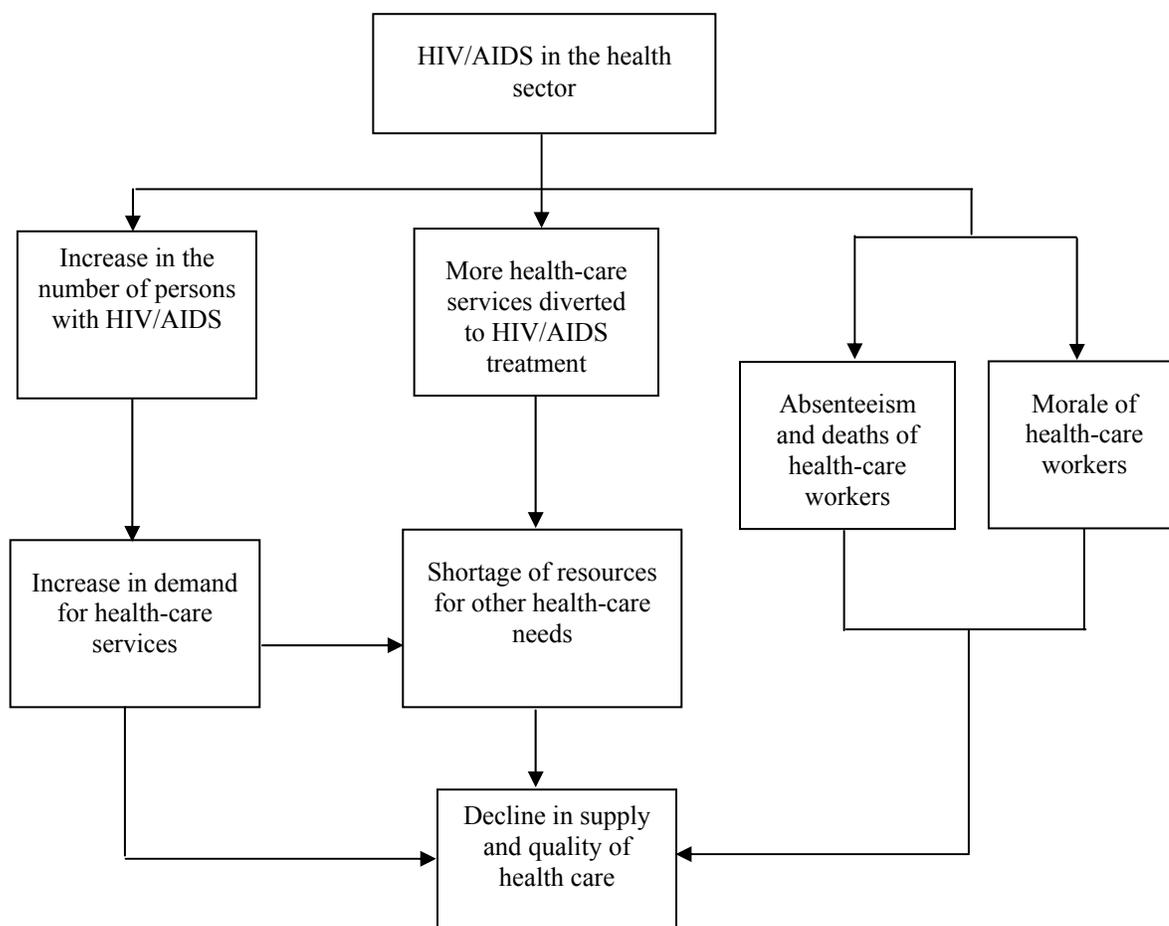
Increases in the number of people seeking health care are straining the health sector in the developing countries most affected by HIV/AIDS. The health systems of those countries were struggling to cope with pressing health-care needs even before the HIV/AIDS epidemic.

1. *Shortage of health professionals*

The World Bank has estimated that a country with a stable 5 per cent adult HIV prevalence rate can expect that each year between 0.5 and 1 per cent of its health-care providers will die from AIDS. In contrast, a country with 30 per cent prevalence would lose 3-7 per cent of its health workers to the HIV/AIDS epidemic (World Bank, 1999).

Absenteeism and illness among health workers is a major issue. In Lusaka, Zambia, for example, HIV prevalence was 39 per cent among midwives and 44 per cent among nurses in 1991-1992 (Whiteside, 2002). Health workers are also susceptible to opportunistic infections that often accompany HIV/AIDS. Studies conducted in South Africa between 1991 and 1998 documented a five-fold increase in the tuberculosis rate among

Figure 12. Conceptual framework for the impact of the HIV/AIDS epidemic on the health sector



Source: United Nations, Department of Economic and Social Affairs, Population Division.

staff. In Zambia, pilot surveys found that mortality among nurses had increased 13-fold between 1980 and 1991, to 2.7 per cent (Buvé and others, 1994).

The quality of care of AIDS patients may also suffer because caregivers fear contracting the disease. In Burkina Faso, a study found that health-care workers were afraid of contracting the HIV virus and that their fear had led to a decline in the quality of care (Burkina Faso National Committee

to Combat HIV/AIDS and Sexually Transmitted Infections, 2003).

2. Increased demand for health care

Many countries in the developing world are faced with a high demand for treatment of AIDS-related diseases, making it difficult to satisfy the demand for treatment of other diseases. Information on bed usage by AIDS patients is available for major hospitals in a number of countries. For

many of the most affected countries, the loss of hospital capacity may be on the order of 50 per cent.

A study conducted in Rwanda found that 350 HIV-positive outpatients visited the hospital 10.9 times on average as opposed to 0.3 times for the general population. The study also revealed that the increased demand for outpatient services was characterized by considerable inequities. Expenditures on health services differed according to gender, income, place of residence and the ability to mobilize non-household resources to pay for care (Nandakumar, Schneider and Butera, 2000).

3. Increases in health expenditures

Calculations by the World Bank (1999) suggest that the effect of HIV/AIDS on total health care costs is likely to be quite large, even in countries that are spared the most serious epidemics. As HIV/AIDS increases the demand for health care, it will tend to drive up the effective price of health care as well, amplifying the impact on total health-care spending. Higher prices will lead some people to forego care they would have sought at the lower price, with the poor likely to feel the greatest effect. However, the price-responsiveness or elasticity of demand for adult health care is usually small, since people who are sick and who have the ability to pay will often pay whatever is needed to get well (World Bank, 1999, p. 191). The same publication considers a hypothetical country in which the HIV/AIDS epidemic would level off at a constant seroprevalence of 5 per cent of the adult population. Using plausible assumptions about the elasticities of demand and supply for health care (based on observed patterns in selected countries), assuming that the Government would subsidize the cost to consumers and assuming that adult mortality in the absence of HIV/AIDS would match conditions in sub-Saharan Africa before the epidemic, the World Bank estimated that HIV/AIDS among adults would increase health care expenditures by over 40 per cent, even in the absence of anti-retroviral therapy. Factoring in the cost of anti-retroviral therapy and the cost of care for children with AIDS would raise the total cost. Finally, the

total cost will be much larger where HIV seroprevalence rises substantially above 5 per cent of the adult population.

In sub-Saharan Africa, the annual direct medical costs of AIDS (excluding anti-retroviral therapy) are estimated at \$30 per person infected, whereas the overall health expenditures in the public health sector are less than \$10 per capita in most African countries (UNAIDS, 2002a). In many low-income countries, public health budgets are too low to provide basic health-care services, even without the added burden imposed by AIDS (Musgrove and Zeramdini, 2001).

In studies conducted in Côte d'Ivoire, Mexico and the United Republic of Tanzania, health expenditures have increased drastically during the last two decades. In many affected countries, the health budget allocated to the HIV/AIDS epidemic has increased, leading to the compression of the non-AIDS health budget (Shepard, 1998).

One of the reasons for a higher allocation to AIDS in the health budget is that AIDS is far more costly to treat than other conditions. A study in Zimbabwe shows, for instance, that hospital care for HIV/AIDS patients was twice as expensive as that for the non-HIV/AIDS patients. In Côte d'Ivoire, 906 AIDS patients who went to private clinics spent a total of 2,516,709 CFA francs (CFAF) in 1996, whereas 8,699 patients who went to public health facilities spent 4,735,000 CFAF (Koné and others, 1998). The Government allocated a budget of 470 million CFAF for the fight against HIV/AIDS, but only 60 per cent of the budget was made available. Of the total of 1.5 billion CFAF spent in 1994-1995 by the public health sector, only 18 per cent came from government funds. Total government expenditures for 1995 were 50 billion CFA (\$100 million), of which three quarters was spent on curative care and one quarter on prevention. AIDS expenditures represented 8.5 per cent of total health spending.

In Mexico, the Government spent \$79 million on AIDS-related health care and prevention in 1995, or about 1 per cent of its total (private and

public) health expenditures. HIV prevalence is low in Mexico, which explains the relatively low proportion of HIV/AIDS-related expenditures in the total health expenditures (Izazola and others, 1998).

In the United Republic of Tanzania, where adult HIV prevalence is higher than in either Mexico or Côte d'Ivoire, HIV/AIDS health expenditures are higher. As a result of the large share of prevention interventions financed by donors and the large amount spent, donors funded a third of all health spending in the United Republic of Tanzania and 84 per cent of all spending on HIV/AIDS and sexually transmitted diseases in 1996—a larger share in both cases than that of the Government. The contribution of Government to health and HIV/AIDS/STD spending is therefore very small—19 per cent of total health spending and 5 per cent of spending on HIV/AIDS and STDs (Tibandebage and others, 1998).

A few studies have documented how the costs of treatment are shared between service providers in the public sector, private clinics and households. In developing countries, there seems to be a shift of the burden of treatment towards households. The household out-of-pocket share of total health-care spending tends to be higher in low-income than in middle- or high-income countries (Musgrove and Zeramdini, 2001). The epidemic has triggered an increase in private health spending which, for many affected households, has influenced the consumption of basic items (see chapter III). The “care gap” is now being partially filled by local, non-governmental service organizations as well as the traditional network of extended family.

Highly active anti-retroviral treatment for AIDS has been available on only a limited basis in low-income countries, but this is beginning to change with the establishment of differential pricing schemes for the drugs. In early 2000, the annual cost of the drugs for treating one person was from \$10,000 to \$12,000 nearly everywhere, but by the end of 2001 prices as low as \$350 were being offered in some cases (UNAIDS, 2002). Such prices will mean that many more people can be treated. However, low-income countries with high HIV prevalence cannot be expected to meet,

out of their own resources, the cost of extending treatment to all who need it.

The international community has recognized that low-income countries need donor assistance to cope with the costs of prevention and treatment of HIV and AIDS. Experts associated with UNAIDS estimated that, as of 2001, annual spending on HIV/AIDS in low- and middle-income countries from all sources was \$1.8 billion, but that annual resource needs amounted to \$3.2 billion in 2002 and would rise to \$9.2 billion by 2005. Of the total for 2005, \$4.8 billion is estimated to be needed for prevention interventions and \$4.4 billion for care and support, of which \$2.2 billion would be needed for anti-retroviral treatment (Schwartländer and others, 2001). While the estimates include an allowance for non-medical support to orphaned children, they do not include the costs of the improvements to the health infrastructure that will be required to expand delivery of services. It was estimated that one third to one half of the needed resources could come from the public and private sectors of the countries themselves, but that international donors would need to provide the remainder.

4. Health as a human capital investment

Investment in human capital is one of the most important aspects of development and economic growth. Along with education, good health is an element of human capital and is an essential ingredient for a productive population. The education sector adds value to human capital, whereas the health sector maintains it (Whiteside, 2002). The HIV/AIDS epidemic has changed the equation for investment in human capital: if mortality rates are high, especially among young adults, then there is a substantial decrease in lifetime returns to human capital investments (United Nations, 2003e). Moreover, as costs of care for AIDS patients increasingly strain public spending on health care, the health needs of other individuals may receive less attention. The reallocation of scarce resources could compromise the health status of the whole population and retard economic growth. A study in Burkina Faso found that the increase in resources allocated to HIV/AIDS treatment resulted in a reduction in the resources available to combat other health concerns, such as

malnutrition, malaria and tuberculosis (Burkina Faso National Committee to Combat HIV/AIDS and Sexually Transmitted Infections, 2003).

The HIV/AIDS epidemic is also affecting the human capital investment in children whose parents have died of AIDS. Several studies have found that orphans are more likely to be living in poor households than non-orphans and are less likely to be enrolled in school (Bicego, Rutstein and Johnson, 2003; Case, Paxson and Ableidinger, 2003; Suliman, 2003; see also chapter III on households and chapter VI on education). In addition, the health and nutritional status of orphans is also likely to suffer. Children in rural Uganda who had lost a parent to AIDS had higher HIV-1 seropositivity rates than those whose parents were not infected (Busingye and others, 2003). Floyd and others (2003) found that children of AIDS victims in the Karonga district of Malawi had higher mortality rates than other children. In a study of 312 communities in 13 Indonesian provinces, Gertler, Levine and Martinez (2003) found that children whose mothers had died were more likely to die than children who had not lost a parent. Bereaved children were generally less healthy than children whose parents had lived.

In a study of children's health in the north-western United Republic of Tanzania, Ainsworth and Semali (2000) found that adult deaths led to increased morbidity and reduced height for age of children under five in the household. The effects were most severe for children from the poorest households, those whose parents were uneducated and those with the least access to health care.

C. CONCLUSIONS

Developed countries generally, albeit with difficulty, have been able to cope with burdens on the public health sector caused by HIV/AIDS. However, in the less developed countries, especially in the most affected ones, the total effects on the health sector are already serious and are projected to increase sharply as the number of AIDS cases grows. Increased need for health-care services, together with an eroding supply of health-care workers, risks degrading the quality and quantity of health care for whole populations.

Some of the major conclusions of the present chapter may be summarized as follows:

- **Absenteeism and deaths of health workers pose a serious threat to the health systems of the most affected countries.** A shortage of nurses and doctors has been observed in the high HIV prevalence countries. The shortage is particularly pronounced in rural areas since many health professionals are unwilling to work in remote areas.
- **The increasing mortality of health professionals in some countries poses a serious threat to the quality of health care.** Training of new professionals is certainly going to cost more money, while the accumulated experience of those who died is lost forever.
- **The budget devoted to health in most developing countries is insufficient to cover AIDS-related expenditures.** With more people falling ill and with the demand for anti-retroviral therapy growing, the budgetary situation can only get worse. Since the treatment of AIDS is expensive, few public health sectors in the developing world can afford it. Thus, there is a shift of the costs to the private sector and to households.
- **The high demand for an effective treatment of AIDS-related diseases makes it difficult for the most affected countries to satisfy the demand for treatment of non-HIV/AIDS-related diseases.** Funds for treatment of malaria and tuberculosis, for example, have been diverted to care for AIDS patients.
- **Developing countries need help from international donors if they are to meet the health-care needs imposed by HIV and AIDS.** The Joint United Nations Programme on HIV/AIDS has estimated that, as of 2001, annual

spending on HIV/AIDS in low- and middle-income countries from all sources was \$1.8 billion, but that annual resource needs amounted to \$3.2 billion in 2002 and will rise to \$9.2 billion by

2005. While the countries involved might be able to provide one third to one half of the needed resources, the international community will need to provide the remainder.