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HIV/AIDS in Ethiopia: The Epidemic and Social, Economic, and Demographic Impacts

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HIV/AIDS IN ETHIOPIA: THE EPIDEMIC, SOCIAL, ECONOMIC AND DEMOGRAPHIC IMPACTS AND PROSPECTS OF CONTROL

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Abstract:
This paper reviews the epidemiology, driving forces and impacts of the HIV/AIDS epidemic in Ethiopia and evaluates prospects for prevention and control. After the rapid spread of HIV infection in the 1980s and 1990s primarily by commercial sex workers, truck drivers and soldiers along major transportation routes, children, adolescents and the general population are increasingly infected. There is also evidence that infection rates are rapidly increasing in rural populations. But surveillance activities remain underdeveloped rendering the fragmentary data on the prevalence, incidence and impact of HIV/AIDS highly speculative and hindering the planning and implementation of prevention and control programs. Available data on attitudes, sexual behavior and risk of infection show that while preventive measures, especially the use of condoms, have greatly increased in towns, there is still a high degree of denial and high-risk behavior and little is known about the situation in rural Ethiopia. Poverty, war, gender inequities, traditional practices, discrimination, fear, the decentralization drive and political problems have been major impediments to the prevention of infection and the care of AIDS patients. HIV/AIDS prevention efforts by the Ethiopian government are reviewed. Prospects of decentralized, multisectoral and participatory planning and implementation are briefly examined and the need to upscale the few local HIV/AIDS programs to the national level is emphasized.

Introduction

At the end of 1999, an estimated 3 million people in Ethiopia were infected with the HIV virus, making this the third largest infected population worldwide after South Africa and India, and an estimated 280,000 people had died of AIDS (UNAIDS 2000). The complexity of the HIV/AIDS epidemic and the high demands successful programs make on planners, administrators and people at risk constitute a tremendous challenge for Ethiopia. According to a recent World Bank report, HIV/AIDS now poses the foremost threat to Ethiopia's development and its future depends on responding to the epidemic forcefully and fast (World Bank 2000a). After seven years of limited prevention measures, the Ethiopian government implemented in 2001 a comprehensive, multisectoral HIV/AIDS 5-year strategic plan. Although the implementation, monitoring and evaluation of Ethiopia's HIV/AIDS strategic plan, including the development of both preventive and treatment strategies, require extensive and reliable baseline data on the progression of the epidemic as well as its impacts on society, few studies have been carried out in these areas (Kebede et al. 2000). While epidemiological studies are necessary to answer questions about who, when, where and how people get infected or develop disease and thus to guide health policy and control programs, they are not sufficient to fully explain great disparities in the prevalence of HIV/AIDS among communities, regions and countries. It is well recognized that broader underlying socioeconomic, cultural and political factors, including poverty, women's rights and other gender issues, cultural factors and political, have to be considered as well (Caldwell 2000; Carael et al. 1997; Eshete et al. 1993; Farmer et al. 1996; Foreman 1999; Kloos 1993; Setel 1999). The objective of this paper is to examine the available epidemiological data on the distribution and spread of HIV/AIDS and risk behavior in Ethiopia in the context of the socioeconomic, political and cultural environment, including relevant traditional practices and attitudes, and to evaluate economic, social and demographic impacts of AIDS.

Recent Developments Bearing on Health

Largely as a result of recent wars, famines and misguided government policies, most economic and quality of life indicators have remained low during the last 3 decades in Ethiopia. In 1995, about half of all youths and 70% of all females above 15 years were illiterate. Between 1992 and 1998, Ethiopian children under 5 ranked fourth lowest in weight-for-age. Contraceptive prevalence among women was about 4% in the 1990s, the second lowest worldwide, and only 8% of all births were attended by medical staff. Life expectancy was 43 years in 1998 (42 years in 1980), the fourth lowest worldwide. The population grew by 2.7% annually between 1980 and 1998, but growth was projected at 2.1% for the 1998-2015 period, largely as a result of the AIDS epidemic (World Bank 2000b).

The Ethiopian Economic Association estimated that 50-60% of the population faced food insecurity in early 2001 (Editorial 2001a), and it is unlikely that self sufficiency can be achieved in the medium term (Rupahel 2000). Although poverty is most pervasive in rural areas, a study of urban incomes showed that it is spreading to the towns (Bigsten and Makonnen, 1999). The close relationship between poverty and the AIDS epidemic

has repeatedly been described from different HIV-endemic countries (Butler 2000; Farmer et al. 1996; Tawil et al. 1995).

The Transitional Government committed itself to establishing a democracy with a free market economy, provided for national elections and declared that all ethnic groups have the right to self-determination, including independence (Peaceful and Democratic Transitional Government of Ethiopia 1991). Decentralization granted all of the new 9 ethnically based regions and the 2 city governments their own constitution and the power to generate and administer revenues for their sectoral programs, including health programs, with reduced administrative links to the central governments. But decentralization is further weakening the traditionally weak position of the Ministry of Health at a time when the HIV/AIDS councils, which are charged with the coordination and implementation of the HIV/AIDS program, are still in the formative stage. And contrary to these democratic initiatives are continued insecurity of land tenure (Rupahel 2000) and human rights violations.

The 1993 health policy emphasized rural health and decentralization and in 1996, the regional governments controlled 83% of the recurrent budget and 95% of the capital budget. The per capita health budget among the different administrative regions varied between $US0.50 and $17 in 1996 (World Bank 1998:43). The population grew faster than the number of hospitals and health stations during the 1989-1999 period, and the number of physicians, pharmacists and pharmacy technicians declined during those 10 years (Ministry of Health 1991; l999a).

Coverage and utilization of most health services remained low, largely due to the low facility-to-population ratio and associated difficulty of access. There is only 1 doctor per 40,000 to 50,000 people and the distribution of medical services is heavily concentrated in towns. Health services coverage is less than 50% in rural areas and utilization rates are far lower. Traditional medicine and home care remain the major health resources, especially in many rural areas. In 1995, fewer than 20% of pregnant women received antenatal care, compared with more than 60% for Sub-Saharan Africa, and family planning utilization was approximately 6.5% in 1994/1995 (51% in all developing countries) (World Bank 1998:32). Maldistribution of health services is illustrated by antenatal care coverage, which was only 5% in Somali Region in 1999 but 73% in Addis Ababa, with a national average of 26% (Ministry of Health 1999a). Recent studies on the barriers to good quality basic health care and reproductive health care services revealed the importance of poverty, insecure livelihoods and poor nutrition (von Massow 2000).

The HIV/AIDS Epidemic

HIV infections were first found in Ethiopia in 1984, one to two years later than in most other Sub-Saharan countries but its main features resemble those elsewhere in Eastern Africa: the relatively virulent HIV-1 is the major strain of the virus in Ethiopia, transmission is largely through heterosexual contact and to a lesser extent to mother-to-child transmission, and the highest prevalence of infection is in the 20-39 age group, with higher rates in females than males in the younger age groups. Genetic diversification studies of the Ethiopian HIV-1 subtype C virus confirm its introduction in the early 1980s (Abebe et al. 2001). HIV/AIDS prevalence remained low in the 1980s but sharply

accelerated through most of the 1990s, rising from an estimated 3.2% in the 15-49 years age group in 1993 to 10.6% by the end of 1999 (Kebede et al. 2000).

Although difficult to measure, the impact of political, economic, and ecological crises since the 1970s on HIV and other sexually transmitted infections (STIs) in Ethiopia has been significant as they created conditions conducive to the transmission of HIV. Among the factors contributing to the rapid spread of HIV are 1) seasonal migration of workers in search of employment and better economic conditions that tend to increase multi-partner sexual contacts, 2) dislocation of many people due to the civil war, 3) high STI rates in both high-risk groups and the general population, 4) increasing sexual activity among youth and 5) high unemployment rates, including the demobilized soldiers (AIDSCAP 2001).

High-Risk Groups

During the early stage of the epidemic, the focus was on identifying high-risk groups and their sexual behavior. In 1988, a seroepidemiological study of 6,234 female commercial sex workers in 24 communities throughout Ethiopia revealed infection rates between 1.3% and 38.1% in different towns. The mean infection rate was 18.3%, which increased to 29.2% during a follow-up survey in 1989. Rates above 20% were found in communities on major truck routes between Addis Ababa and Assab and from Addis Ababa to Bahir Dar and Mekele (Mehret et al., 1990a). Truck drivers have been identified as another high-risk group (17.3% infection in 1989) that is closely linked with commercial sex workers (Mehret at al. 1990b). Several studies reported a strong correlation between HIV and STI infections in both males and females (Aklilu et al. 1999; Zewde et al. 2001). Rates in commercial sex workers increased further in 1990 and 1991 but no comparable epidemiological data are available for female sex workers for subsequent years. In Addis Ababa rates among sex workers were 24.7% in 1988, 54.3% at STD clinics in 1990 and 73.4% in 1998, indicating that rates continue to increase also in other urban centers (Fig. 1; Mehret et al. 1990c; Aklilu et al. 1999).

Soldiers, another highly mobile high-risk group exposed through multi-partner sex contacts, were stationed in many towns within the war zone characterized by high HIV infection rates. Troops could also have been infected during emergency blood transfusions, without HIV screening (Eshete et al. 1993; Kloos 1993). HIV infection rates in new recruits increased from 0.8% in 1986 to 2.6% in 1991 and in soldiers from 12% in 1990 to 27% in 1993 (Khodakevich and Zewdie 1993; Assefa et al. 1994). About half a million soldiers had been demobilized and reintegrated into the rural economy by the mid 1990s (Dercon and Ayelew 1998). In the first study of risk behavior in rural areas, Shabbir and Larson (l995) demobilized soldiers reported that they had not changed their sexual behaviors. Studies in Uganda have shown strong spatial correlations between the source areas of soldiers recruited into the armed forces and subsequently high rates of AIDS in the general population in those same areas (Smallman-Raynor and Cliff 1991).

Children, adolescents and young adults have become high-risk groups in recent years, with an estimated 250,000 children infected in 2000 and 11.9% of females and 7.5% of males aged 15-24. An estimated 1.2 million children were AIDS orphans in 1999 (Ministry of Health 2000a; UNAIDS 2000). No reliable data are available on mother-to-

child-transmission in Ethiopia although the Ministry of Health estimated that prenatal transmission contributes up to 25% of all new infections (Ministry of Health 1999b). Many more young females are likely to enter prostitution if economic conditions do not improve. Although the 1993 national health policy addresses the health problems and related needs of adolescents (Transitional Government of Ethiopia, 1993), unmarried youth have no access to reproductive services in health institutions due to opposition of the major religions.

HIV Infection in the General Population

The AIDS surveillance system of the Ministry of Health based on monthly reports from hospitals identified only about a fifth of the estimated 400,000 AIDS cases nationwide because many ill persons in the rural areas have no access to hospitals. Even if they succeed in reaching hospitals and prove to be HIV positive the diagnosis may be reported as TB or another opportunistic infection instead (Kebede et al. 2000). Moreover, data on AIDS cases aggregated by age and sex were gathered only up to 1994, impeding the surveillance of AIDS incidence and the planning of control activities. Data on the prevalence of HIV infections in the general population of Ethiopia have been based mainly on infection rates among antenatal clinic (ANC) attendees (pregnant women) at several clinics in Addis Ababa and regional towns, with supplementary data from blood donors and some special surveys. Most data are from urban populations and little is known about the occurrence of HIV infections in rural areas, where around 85% of the population lives. Although antenatal data are considered to be an acceptable indicator of the true prevalence of infection in the general population (Kebede et al. 2000), this relationship still needs to be clarified (Solomon and Murray 2001).

Based on all available survey data the Ministry of Health estimated in 2000 the HIV prevalence in the sexually active population (15-49 years) to be 13.4% in urban Ethiopia, 16.8% in Addis Ababa and “about 5%” in rural areas (Ministry of Health 2000a). Rates in antenatal attendees at 13 clinic and hospital sentinel sites in 9 urban and rural communities, which were instrumental in estimating the national rates, varied between 4 and 21 % in 1999/2000. The highest rates were in Bahir Dar, Gambela and Addis Ababa (Ministry of Health 2000a; Table 1). In Addis Ababa, 6.4% of 11,587 blood donors and 9.1% of 10,930 visa applicants were sero-positive in 1999 (Kebede et al. 2000). A study of police recruits from the Awash Valley indicates that distance to truck stops is more important in HIV risk than rural residence per se (Zewde 2001). Surveys carried out in 1993 in the sexually active population in 6 rural communities in Shewa, Tigray, Bale and South Omo showed 0.7% of the population infected with HIV, similiar to the rates among antenatal patients at Attat and Gambo rural hospitals in 1998/99. But one year later, 4% of the Attat antenatals were infected (Ministry of Health 2000a; Table 1). It is not known if the low rate (0.2%) of infections in 1,800 Falasha resettled in Israel since 1991 (after Operation Solomon) (Fisher 1996) are representative of the rural population in Ethiopia.

The gender ratio of HIV infection in Ethiopia has changed over the years, from male to female dominated rates (1:1.2 gender ratio) in the late 1990s (Ministry of Health 1994; UNAIDS 2000), indicating its spread in the wider population. Females now have significantly higher AIDS rates in the 15-19 and 20-24 groups, apparently due to their earlier commencement of sexual activity than males (Fig. 2). This trend will increase mother-to-child HIV transmission levels among babies of mothers in these age groups

unless effective preventive measures are implemented soon. The high HIV prevalence rates in younger females also emphasize the need for testing and counseling among both males and females as a central part of the prevention strategy. The balanced male-to-female infection ratio in Addis Ababa (0.97:1) supports the general conclusion that the main mode of HIV transmission in Ethiopia is heterosexual (Fontanet, Wolde/Michael 1999). Absence of infection in the 6-13 age group in Addis Ababa (Fontanet et al. 1998), also reported from Uganda and other African countries, and very low rates of AIDS in 5-14 year olds constitutes a "window of hope" if this age group can be helped to prevent infection once they become sexually active (Fig. 2; Lemma 1996).

There is some evidence that HIV infection rates in Ethiopian towns are leveling off although this still needs to be confirmed. HIV testing among 3,877 pregnant women at four antenatal clinics in Addis Ababa between 1995 and 2000 revealed a 30% decline of infection rates (Kebede et al. 2000). HIV infection rates in blood donors in Addis Ababa and nine other towns for the period 1988-1999 also declined. The only data available for younger ages, which are a better indicator of the epidemic's progression—ANC attendees and blood donors aged 19-25—show a similar declining trend. It is not known if these declines are due to a decline in high-risk behavior or to other factors, particularly sampling bias, increasing efficiency of prescreening blood donors, variable quality of ANC laboratory test data, or to maturing of the epidemic (Kebede et al. 2000; UNAIDS 1997). In Brazil, AIDS rates increased slower in the initially hyperendemic counties of the southeast than in low-prevalence counties in the north, indicating both a maturing of the epidemic characterized by the depletion of high-risk persons in the population and heightened awareness of the AIDS problem in high-prevalence areas (Swarcwald et al. 2000). A similar situation seems to prevail in Ethiopia between urban areas (where HIV first reached epidemic proportions and prevention campaigns have been most common), and the less affected and informed rural areas. This pattern is also consistent with reductions in high-risk behavior among students in urban areas, further discussed below, and recent reports of decreasing infection rates due to control efforts. However, HIV rates showed no declining trend for visa applicants between 1993 and 1999. Similarly, fairly steady HIV prevalence rates among visa applicants and increasing rates in Moslem pilgrims from 6.0% in 1996 to 11.2% in 1997 (Kebede et al. 2000) indicate that HIV transmission rates have not declined in some subpopulations of Addis Ababa. Furthermore, in Bahir Dar and Gambela, HIV prevalence in pregnant women increased from 13.0% in 1992/93 to 20.8% in 1999 in the former and from 12.7% in 1997 to 19,0% in 1999 in the latter (Kebede et al. 2000).

The increase in HIV/AIDS in the rural areas cannot be quantified at this time in the absence of longitudinal sero-surveillance data for the regions, although there is no doubt that infections have significantly increased in many areas. The periodic visits by farmers to towns and the massive rehabilitation of soldiers appear to contribute significantly to the spread of the infection from urban to rural areas (Shabbir and Larson 1995).

Risk Behavior

In Ethiopian and other African populations, patterns and changes in sexual behavior, especially in extramarital relations associated with poverty and gender inequities predominate HIV transmission dynamics in the absence of high-level homosexual and drug-induced transmission (UNAIDS 2000; Farmer 1996). Prostitution was instrumental

in spreading the virus in the early stage of the epidemic in Ethiopia and still plays an important part in HIV transmission. Poverty predominates among socioeconomic factors in prostitution in Ethiopia, engendered by the traditionally low female social status, high divorce rates, customary property inheritance and the failure of legislation to forcefully assert the rights of women. Female sex workers in Addis Ababa were not only poorer than women still married to their first husband but had also married earlier (Duncan et al. 1994).

Most female sex workers in the towns came from rural areas in search of work and a better life (Baardson 1991). Female dominated and economically caused rural-urban migration also prevails in some Asian countries, especially in Thailand, but migrations in Ethiopia are not circulatory in nature and provide women with fewer job opportunities besides bar maids, prostitutes and domestic helpers, which makes them very vulnerable to sexual abuse (Archavinatkul et al. 1994, Pankhurst 1992). This pattern continued under Mengistu's regime, which failed to create an environment empowering women (Rhamato 1991). Advocates of women's rights are calling for the step-by-step abolishment of legal and social malpractices that jeopardize the economic, social and human rights of women within the framework of the national Women's Policy (Mekbib 2001). The trend among African female sex workers to enter into prostitution at an earlier age, also reported from Ethiopia, increases their risk of infection due to biological factors. In Addis Ababa, the mean starting age of a sample of 77 female sex workers was 14.7 years (Baardson 1993) and in Bahir Dar, 41.2% of 650 female sex workers had entered the profession below 18 years (Ayalew and Berhane 2000).

Promiscuity of males in the general population is another major factor in the high HIV prevalence reported from urban populations. High sexually transmitted disease (STD) prevalence in women still married to their first husband in Addis Ababa was associated with extramarital sexual activities of males (Duncan et al. 1994). A study of the sexual behaviors of rural farmers, merchants, soldiers and students found that all these groups had frequent sexual contact with female sex workers while they visited towns (Shabbir and Larson 1995).

Adequate and reliable data on behavioral risk factors, including attitudes and beliefs, are important for the assessment of the progression of the HIV epidemic, to identify high-risk populations and avenues of intervention, and to evaluate programs. All published studies on sexual behavior in Ethiopia have been carried out in urban areas. Two large-scale nation-wide surveys on condom use showed an increase from 3.6% in 1978/88 to 47.5% in 1993, and similar changes were reported for college students in Gonder and high school students in Addis Ababa (Kebede et al. 2000). The increase in condom use took place during the social marketing program of the major NGO distributing condoms in Ethiopia in the 1990s. Nevertheless, use of different methods by the various researchers demand caution in the interpretation of these data. In another study, among out-of-school youths in Awassa town, only 27.6% of them said to use condoms in spite of more than 90% knowing about HIV/AIDS (Taffa 1998). Major discrepancies between knowledge and behavior was reported by a number of other studies showing that awareness or perception of risk were generally lowest among females, unmarried and less educated persons. Similarly, significantly fewer rural than urban persons knew that HIV/AIDS can be prevented (The Futures Group International-Ethiopia 2000a; Kebede et al. 2000). Among 751 factory workers in Akaki, only 30% of males with casual sex

partners considered themselves at risk of HIV infection. Acceptance of personal risk is a precondition for behavioral change. Only 43% of those who said during pretesting session that they wanted to know their HIV sero-status returned for testing during the first 60 days. Another 26% came for testing during the following 10 months (Sahlu et al. 1999).

Another indicator of changes in sexual behavior, sales of condoms, also shows a positive trend. Condom sales in Ethiopia increased from 700,000 in 1990 to 41.8 million in 1999. Nearly all condom use studies, however, are institution-based rather than community-based and few comparable data are available on condom use in non-student populations and in urban versus rural areas. The only community-based study to date identified false rumors, myths and alleged religious prohibition on condom use as sources of resistance to their use, especially in a rural study community (The Futures Group International-Ethiopia 2000b). Furthermore, it is not known if condoms are being used primarily for disease prevention or pregnancy prevention. The Ministry of Health data on sexually transmitted infections or diseases (STIs/STDs) do not show any trend that might explain condom use patterns for disease prevention (Kebede et al 2000).

Stigma, discrimination, fear, denial and traditional harmful practices

Protection of human rights, and particularly protection against discrimination, is the core principle in the prevention of HIV/AIDS (International Labour Office 2000:10). Stigma, denial and fear of disclosure due to discrimination among HIV/AIDS-affected persons continue to fuel the epidemic and remain a serious impediment to any control efforts in Ethiopia and other African countries. In Beneshangul-Gumuz, the stigma attached to the diagnosis of HIV/AIDS was found to be so strong that health workers were afraid to pronounce the diagnosis of AIDS. Thus no clinical or serological diagnosis was attempted (UNAIDS 1997). A similar situation has also been reported from a hospital in Oromia State, where medical workers are contributing to the prevailing denial environment that promotes HIV transmission (Lindtjorn 2001). Another manifestation of the stigmatization of HIV-infected persons is the frequent failure to indicate on death certificates that patients died of AIDS and the practice not to notify HIV-positive blood donors of test results. The widespread perception that being HIV positive is the equivalent of a death sentence in the absence of affordable drugs keeps many persons from being tested and has caused some orphans to be denied access to orphanages on the ground that limited space was prioritized for individuals expected to live longer (Shinn 2001).

Moreover, culturally sanctioned gender roles that circumscribe women's sexual rights in marriage render them vulnerable to HIV infection (Alemu 2001). More than half a dozen organizations, including the Ministry of Health and indigenous NGOs, are addressing the discrimination and stigmatization problem through awareness creation and sensitization activities (Ministry of Health 1999b), and an Ethiopian court recently persecuted individuals for committing violence against people with AIDS (Editorial 2000; Alemu 2001). There are increasing numbers of casual, unconfirmed reports of suicide among Ethiopian AIDS patients. The severity of this problem is indicated by police reports in Zimbabwe, where more than half of all suicides are being committed by people diagnosed positive for AIDS (Ladd 2001). There is also evidence that stigma, denial and fear of disclosure of HIV and AIDS affect Ethiopian immigrants after they

settle in industrialized countries (Tharao et al. 2000; Kaplan 1998). The seriousness of the stigmatization problem is indicated by leprosy patients, who still suffer discrimination after many years of educating the public that this is not an inheritable disease.

Traditional harmful practices, including violence against women (rape, abduction and domestic violence), child marriage, female infibulation, excision and clitoridectomy, ritual scarification, ear piercing, minor surgery and cauterization are widespread in many parts of Ethiopia. Some of these practices have been associated with hepatitis B, HIV infection and other sexually transmitted infections (Khodakevich and Zewdie 1993; Afework et al. 1997; Getahun 2001). By 1997, only 2 of the 9 regions had planned interventions to control such practices (UNAIDS 1997). According to surveys by women's committees in the Southern Nations Region in 1997, 31% of the population opposed female genital mutilations and 75% opposed early marriage but the prevalence of female circumcision was 90% (Editorial 1999). Although age-old values and practices still have a stronghold in Ethiopian society, there is evidence of change, including the recent decline in female genital mutilation as a result of national health campaigns (Spadacini and Nichols 1998) and through the mass media and campaigns by Muslim leaders against infibulation (Missailidis and Gebre-Medhin 2000). Another traditional practice, the use of plant medicines that may lead patients to delay visits to clinics (Waldorf and Mchape 1997), has not been studied in Ethiopia although several plants with anti-HIV properties have been identified in Ethiopia (Assures et al. 2001; Zewde et al.). Lastly, health workers in clinics are known for many years to engage in high-risk activities such as the reuse of disposable syringes and needles and unqualified personnel like cleaners and guards administer injections under unhygienic conditions.

The economic, social and demographic impacts of HIV/AIDS

Although the economic and social impacts of AIDS in Ethiopia have not been comprehensively quantified in Ethiopia they are significant. By undermining major determinants of economic growth and preventing increasing segments of the population from participating in the economy, HIV/AIDS increases poverty, on which it feeds in a vicious cycle. By 2000, hospitals had reported 83,487 AIDS cases to the Ministry of Health, nearly 40% from Addis Ababa.

A World Bank study estimated that AIDS is already causing a 1% annual reduction in economic growth in Ethiopia, which, together with declining life expectancy and labor force reduction is systematically undermining the country's efforts to reduce poverty through improvements in health, education, agricultural production and household food security. Other sectors that may be severely affected are health care, insurance and sectors requiring a mobile work force, such as the military, transportation, extension services and banking (Ministry of Health 1998:27). Two phenomena exacerbate the impact of AIDS on agricultural households. First, land that is no longer used by households after the death of a family member cannot be leased or sold in many areas due to government regulations, eliminating a potential source of income. Second, Ethiopian households are less inclined to help AIDS-affected neighbors than in other African countries, apparently the result of poverty. Rural households growing labor-intensive

crops such as *teff* and *enset* or depending on coffee picking were particularly hard hit when family members died of AIDS (Bollinger et al. 1999).

The direct and indirect costs of health and social care in the Ethiopian public and private sectors as well as lost earnings due to HIV/AIDS for the period 1997-2000 were estimated at US$32-49 million and the cost of preventive government services at US$56 million. A survey of four hospitals in regional towns and one in Addis Ababa showed that per capita outpatient cost for opportunistic infections was, on average, 3 to 10 times higher than inpatient costs for other diseases (Kello 1998; Kassie and Kloos 1993). Patient load is stretching the capacities of many hospitals, where more than 50% of the medical beds were occupied by AIDS patients in 1997, resulting in the denial of hospitalized medical services to patients with other diseases (UNAIDS 1997). The common perception that AIDS patients are preferably cared for in hospitals rather than at home (Berhanu and Zakus 1995) adds to the health services crisis. Production of businesses is also affected. One study of industrial firms found that half of all illnesses reported by employees between 1988 and 1993 were due to AIDS (Ministry of Health 2000a).

No comprehensive study has been carried out on the social impact of HIV/AIDS in Ethiopia. There is evidence that high morbidity and mortality in young adults, who traditionally provided care for both children and the elderly, are increasingly burdening this group with more care for a growing sick population and that children are being kept out of school to care for sick family members or to work in the fields. A study in Addis Ababa found that many of the 1.2 million orphans had dropped out of school or were displaced or abandoned by their families (Bedri et al.1995). Mutual aid organizations dealing with funeral expenses, especially many *ekub*, have become bankrupt in recent years due to the unprecedented number of deaths.

A demographic impact study estimated that by 2024, HIV-related deaths in Addis Ababa would represent more than 70% of all deaths in the 15-65 age group (Mekonnen et al. 1999). According to a recent demographic model, life expectancy in the city will decline by 15 years by 2004 but AIDS prevalence will plateau in 2001 (Abdurehman and Enquoselassie 2001). The lack of reliable HIV incidence data renders these projections highly speculative.

High HIV incidence is increasing tuberculosis morbidity and mortality in Ethiopia. Thirty per cent of Ethiopia's tuberculosis cases were estimated to be HIV-positive in 1998, more than in any other African country except South Africa (Dye et al. 1999). At least 90,000 new cases of tuberculosis due to HIV infection were estimated to have developed from latent TB infections in 1997, and these synergistic infections are expected to increase to more than 130,000 by 2014 (Ministry of Health 1998, 2000a; Eyoub et al. 1999).

History, Problems and Prospects of HIV/AIDS Prevention and Control

In 1985 the National Task Force on HIV was established by the Ministry of Health and in 1987 the first national AIDS prevention and control program was launched. These early intervention efforts were inadequate in scale and largely ineffective. Lack of adequate stakeholder participation in planning, multisectoral coordination and

integration, and lack of financial and human resources were the major impediments. Interim evaluation of the program by UNAIDS in 1997 revealed that only 2 of the 11 regions had mechanisms in place for multisectoral planning, monitoring and evaluation of HIV/AIDS activities, that prevention activities also varied considerably among the regions, that clinical care and social support activities were constrained by lack of training of clinical staff and a weak HIV testing program, that most regions failed to address empowerment and gender related interventions addressed at reducing vulnerability in women and out-of-school youth, and HIV/AIDS surveillance was inadequate (UNAIDS 1997).

With the deterioration of the HIV/AIDS program the government, assisted by international partners and donors, developed a plan for national mobilization. In 1998 it issued the National Policy on HIV/AIDS (Federal Democratic Republic of Ethiopia 1998), which provides the framework for the National Multisectoral HIV/AIDS Strategic Plan for 2000-2004 (Ministry of Health 1999b). In November 1999, a major conference on HIV/AIDS in Ethiopia was held in Addis Ababa. The conference heightened attention to HIV/AIDS among policy makers, health workers, the media and the public. In April 2000, the Ministry of Health, in collaboration with UNICEF/UNAIDS Ethiopia held a workshop on the prevention of mother-to-child transmission of HIV toward formulating a national plan for the prevention of mother-to-child of HIV. In April 2000, the government also established the National AIDS Council, charged with the implementation and monitoring performance and the evaluation of the Multisectoral HIV/AIDS Strategic Plan. The Council is headed by the President of Ethiopia and involves leaders from multiple sectors, the major religions and private organizations and is to have offices in all 11 regions and eventually in all *woredas* (districts). (National AIDS Council 2000). The Plan is being supported by a World Bank grant (US$59.7 million) under the Region's new Multi-Country HIV/AIDS Program for Africa (MAP). The Ethiopian government contributes US$2 million in cash and NGOs, the private sector and community-based organizations US$1.7 million (World Bank 2000a).

The objectives of the Multisectoral HIV/AIDS Strategic Plan are to 1) create a conducive environment for an expanded response to the epidemic, 2) prevent transmission of HIV through sexual contact and blood, 3) provide care to AIDS cases and their families, 4) coordinate and foster the multisectoral approach, and 5) support and strengthen HIV/AIDS research. This includes development of policy, technical guidelines and new technologies in HIV/AIDS prevention and control, advocacy against discrimination directed against infected persons, and program evaluation. Specific guidelines for program implementation from the central to the village levels have been issued by the government. Due to the effectiveness of community-based programs in Africa priority is given to participation of *woredas* and *kebele*, which are scheduled to receive most of the grant money through block grants and small grants, respectively (Federal Democratice Republic of Ethiopia 2000; World Bank 2000a). At inception, 7 ministries and 9 national and international NGOs (UNICEF, UNDP, UNHCR, UNFPA, UNESCO, WHO, World Bank and Centers for Disease Control in Atlanta (CDC) and the Ethiopian Red Cross were included in the Plan and their numbers continue to grow. Technical capacity is being strengthened by CDC, WHO and the Dutch Ethio-Netherlands AIDS Research Project (ENARP). In addition, there is a large number of smaller NGOs active in HIV prevention and patient and orphan care active in Ethiopia.

Although this Plan is comprehensive and tested in other African countries, its success in Ethiopia is not assured. The Ethiopian system of ethnic federalism and lack of health infrastructure are likely to impede the implementation of the HIV/AIDS program in the short term, particularly in the traditionally disadvantaged lowland areas at the periphery, due to its high demands on resources and staffing (Shinn 2001). There is an urgent need to facilitate the formation of the regional, zonal and district AIDS Councils to facilitate the coordination and implementation of the national HIV/AIDS program. Capacity building hampered by trained manpower shortage may impede the decentralization process in the short term, as already noted in the education sector (Negash 1999), and constitute a major problem in the disbursement of funds to end users at the *kebele* level (World Bank 2000a). Although the *kebele* have the potential of serving as an appropriate administrative structure for the HIV/AIDS program, their poor record in developing primary health care services (Kloos 1998) emphasizes the need to upgrade their capacity. The medium- and long-term benefits of the Plan structure are thought to be substantial. Various national HIV/AIDS programs show that decentralized, multisectoral, participatory planning and implementation are more effective than the health and rural development programs of the 1970s and 1980s that relied on central sectoral agencies. Community based programs have been particularly effective in enhancing HIV/AIDS prevention, care, support and treatment programs (World Bank 2000a). Although the task of building a truly national HIV/AIDS program is daunting and risky in a poor country like Ethiopia, a quick, decisive start and "learning by doing" rather than extending the preparatory period offers the most promise for success (Binswanger 2000). Like most sub-Saharan countries, Ethiopia was slow in responding effectively to the HIV epidemic, greatly increasing the cost of dealing with it now (World Bank 2000a).

Upgrading the HIV/AIDS surveillance system as planned by the national HIV/AIDS program is urgently needed to reveal both the dynamics of HIV transmission and spread in different high-risk groups and communities toward the development of prevention and treatment programs. Strengthening of the prevention program and the development of a network of VCT centers and HIV laboratories, together with improvements in the general health services that treat opportunistic infections, TB, and sexually transmitted diseases can greatly increase coverage of the population, and reduce suffering and the incidence of new HIV infections (Ministry of Health 1999b).

Strong government commitment will be crucial in the upscaling of the few existing community based prevention, patient care and treatment programs to a truly national multisectoral HIV/AIDS program by building on available models, starting with existing capacities and building them through learning by doing, by giving the highest priority to prevention, by promoting accountability and improving fiscal sustainability, among others. Mechanisms and operations of upgrading have been described in detail by Binswanger (2000), who emphasized that the specific upscaling programs will have to be adapted to the prevailing national conditions.

The economic and social impacts of AIDS in Ethiopia will probably increase with the maturing of the epidemic, when debilitating illness and death affect even larger proportions of families and productive young adults than today. To what extent poverty reduction and AIDS control can reduce the spread and impacts of the epidemic depends to a large degree on a wide range of political, economic and social factors. An environment of high-level political leadership and advocacy for the mobilization of

resources toward HIV prevention, strong community involvement and the timely implementation of the national program are critical in reducing the incidence of new HIV infections, as shown in Uganda and Senegal (UNAIDS 2000).

It will be more difficult to change the denial, stigmatization and discrimination associated with HIV/AIDS which still preclude frank, open discussions of the infection status of individuals thus jeopardizing positive health-seeking behavior, impairing doctor-patient communication and reducing compliance of patients. The denial syndrome, due to deeply entrenched cultural, religious and other reasons, may also make it difficult for many actors to participate effectively in the project. As part of addressing this form of denial and the increasing need for patient care, ethical questions surrounding patient rights in the workplace, at school, in medical institutions and in the family need to be addressed through the legislative process and community involvement. Furthermore, the planned importation of affordable drugs by the Ethiopian government, their ready availability to the broad population and development of effective voluntary counseling and testing services well as patient care programs may encourage positive health behavior necessary to overcome these problems.

A growing number of Ethiopian organizations have been developing HIV/AIDS programs, some with encouraging results. The testing, counseling and treatment program of Ethiopian Airlines is said to result in declining HIV incidence. Similarly, the active defense forces are apparently succeeding in reducing HIV transmission through an effective prevention program (Shinn 2001), but epidemiological studies are needed to confirm these claims and the applicability of these programs for wider use need to be evaluated.

Social and behavioral scientists can make significant contributions to better understanding the transmission dynamics and impacts of HIV infection and advocating for and developing appropriate prevention, control and patient care programs. HIV/AIDS is not primarily a medical problem but has its roots in deep-seated attitudes and behaviors as well as poverty and institutional/infrastructure weaknesses that need urgent attention. The national AIDS control program, aiming to control a deadly disease without cure, which demands high human and material inputs for its control, will require the highest priority and support on a sustainable basis by the Ethiopian government and collaboration with as well as participation by local communities, private organizations, researchers, NGOs and international agencies.

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