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THE ECONOMIC COST OF AIDS: A CLEAR CASE FOR ACTION

Poverty And Marginalization Primary Contributors

AIDS was a headline concern in North America and the developed world throughout the 1980s and 1990s. As education helped to slow the pace of new HIV infections and drug therapies extended the lives of those already infected, attention waned. Yet the spread of the disease continues to be a substantial problem among poor and marginalized communities in Canada, the United States, and the rest of the industrialized world. Moreover, the spread of AIDS in the developing world is nothing short of catastrophic. Nineteen out of every 20 people currently infected with HIV live in the developing world. In many poorer nations AIDS threatens to destroy their economic, social, and political fabric. Richer nations too will be poorer if the disease continues to spread unabated in the developing world.

With so little attention being paid to the current realities of AIDS, misperceptions abound. It is commonly believed that AIDS largely affects only those involved in high-risk activities such as IV drug use or gay sex. This is just plain wrong. HIV infection rates are higher for women than they are for men. Four out of every five of these women are infected by their husband or partner. In fact, for a number of these women, their only identifiable risk factor is being in a monogamous relationship. Even among men who have sex with men, HIV infection rates are much higher among those that are poor, a racial minority, or the victim of discrimination. All of this reinforces the fact that AIDS is a disease of the poor, the marginalized, and

INDIVIDUALS INFECTED WITH HIV AND AIDS AS AT END 2005

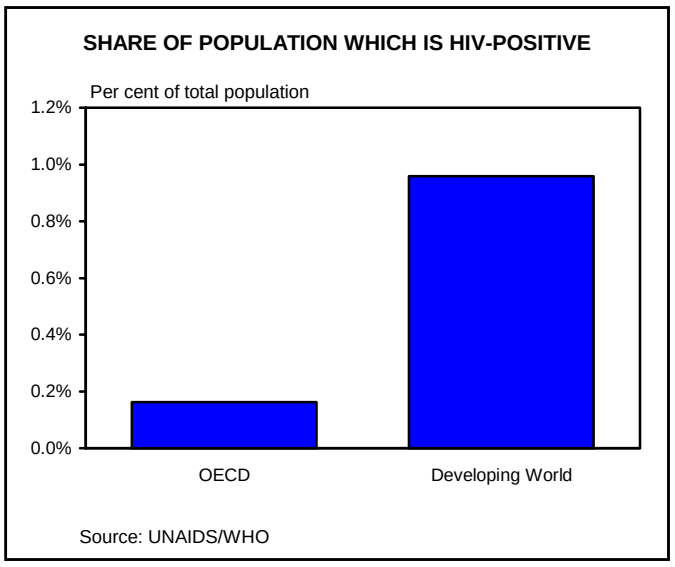
Source: UNAIDS/WHO 2006, Report on the Global AIDS Epidemic

the helpless.

Clearly, human tragedy and humanitarian factors should be a sufficient rationale for action to fight AIDS. However, in the absence of a proper accounting of the costs to industrialized nations of world poverty, instability, and hopelessness, humanitarian support may be under-funded. Once these enormous economic costs are properly accounted for, there is a clear case for action.

So what are the costs? Some studies suggest a significant, but not devastating economic cost of just a few tenths of a percentage point lost from the annual GDP growth rate – even in the developing world. But these assessments appear to be incomplete. For one, they tend to attach little importance to a reduction in the labour force. For many of these studies, the starting point is an assumption that much of the developing world has an excess supply of labour, as evidenced by very high unemployment rates and low labour force participation rates. But once, as is generally projected, some of these countries lose as much as one-quarter of their labour force – and likely the youngest and most productive quarter — such a model is questionable.

Taking a broader and longer-term perspective, AIDS could cause the outright collapse of many economies, particularly in Sub-Saharan Africa. Four out of every five people in the developing world infected with HIV are under the age of 30. With HIV concentrated among those in their prime, it destroys human capital. Millions of children are left without parents, depriving them of a critical link for passing knowledge forward to the next generation. Compounding this, in many Sub-Saharan African countries, where one-third of the population is HIV-positive, life expectancy for the entire population is now less than 40 years. Unfortunately for many, especially female children, completing primary school must take a back seat to caring for sick members of the family. The incentives and rewards of education are lost. With the fabric of civil society torn, this puts enormous strain on government revenues which dwindle as economies decline. Resources that might be used for economic development must be diverted to the AIDS crisis.



In an economist's jargon, market failures appear everywhere. Public policy must be invoked when costs and benefits extend far beyond the individuals directly involved. The costs of the rapid spread of infection exceed the calamity to the family or country directly affected.

THE GLOBAL EPIDEMIC OF HIV AND AIDS IN 2005

	Thousands					Per cent
	UN/WHO estimates of those living with HIV/AIDS			New infections in 2005	HIV/AIDS deaths in 2005	Adult prevalence (Age 15-49)
	Low	Medium	High			
Global	33,400	38,600	46,000	4,100	2,800	1.0%
Sub-Saharan Africa	21,600	24,500	27,400	2,700	2,000	6.1%
Asia	5,568	8,358	12,970	937	603	0.4%
Latin America	1,200	1,600	2,400	140	59	0.5%
Eastern Europe and Central Asia	1,000	1,500	2,300	220	53	0.8%
North America	770	1,300	2,100	42	18	0.4%
Canada	48	60	72	2	1	0.2%
United States of America	720	1,200	2,000	40	16	0.4%
Western and Central Europe	550	720	950	23	12	0.5%
North Africa and Middle East	250	440	720	64	37	0.2%
Caribbean	240	330	420	37	27	1.6%

Source: UNAIDS/WHO 2006 Report on the global AIDS epidemic

HIV AND AIDS IN OECD COUNTRIES, 2005			
	Living with HIV/AIDS		Number of Deaths
	Thousands	Share of population	
OECD	2,171	0.16%	38,800
Americas	1,427	0.24%	24,600
Canada	60	0.19%	<1000
Mexico	180	0.17%	6,200
United States	1,200	0.40%	16,000
Asia	47	0.02%	2,400
Australia	16	0.08%	<500
Japan	17	0.01%	1,400
New Zealand	1	0.03%	n.a.
Korea	13	0.03%	<500
Europe	696	0.13%	11,800
Western Europe	640	0.17%	10,100
Austria	12	0.15%	<100
Belgium	14	0.13%	<100
France	130	0.21%	1,500
Germany	49	0.06%	<1000
Greece	9	0.08%	<100
Italy	150	0.26%	3,000
Luxembourg	1	0.20%	<100
Netherlands	18	0.11%	<100
Portugal	32	0.30%	<1000
Spain	140	0.32%	2,000
Switzerland	17	0.23%	<100
United Kingdom	68	0.11%	<1000
Remaining Europe	56	0.03%	1,700
Czech Republic	2	0.01%	<100
Denmark	6	0.10%	<100
Finland	2	0.04%	<100
Hungary	3	0.03%	n.a.
Iceland	1	0.17%	<100
Ireland	5	0.12%	<100
Norway	3	0.05%	<100
Poland	25	0.07%	<1000
Slovakia	1	0.01%	n.a.
Sweden	8	0.09%	<100
Turkey	2	0.00%	n.a.

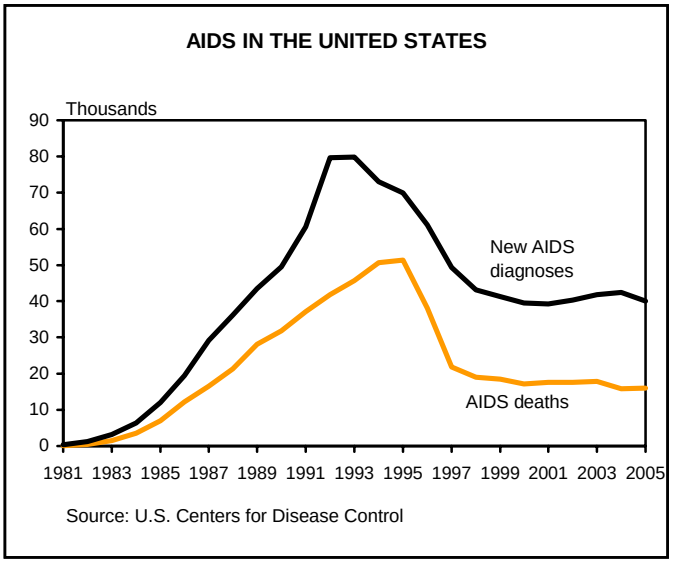
Source: UNAIDS/WHO 2006 Report on the global AIDS epidemic

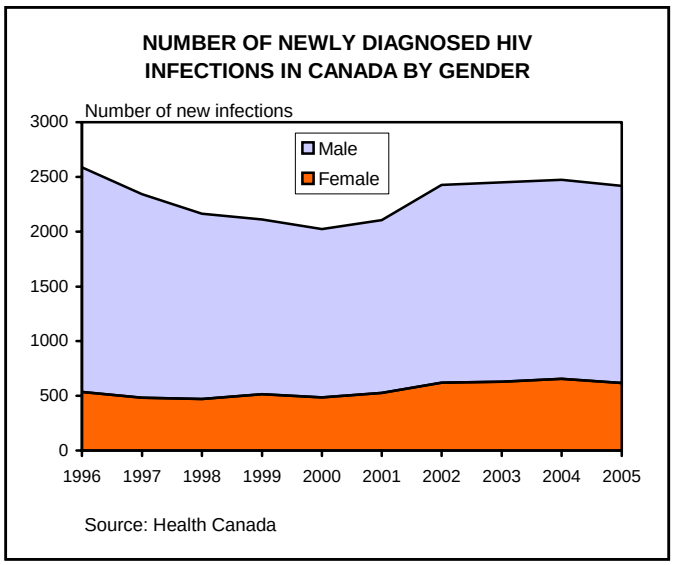
Ironically, the benefits of education and treatment in containing the disease are so broad that individuals and nations have a difficult time factoring them into their decisions. Profit maximization for the pharmaceutical industry is a poor guide to decisions as to what will provide the greatest benefit for the world. Because of the appalling lack of education, many of those most at risk of infection are least able to understand the risks and benefits, and as many as 90 per cent of the 13,000 people infected daily will not know it for almost a decade. Many do not even know that AIDS exists. With appropriate action, the public sector, in partnership with other agents, can make a positive difference.

For the developed world, there is a clear economic case for attention and action outside of humanitarian motives. The potential collapse of some of these economies will deprive the world of future markets for both imports and exports. Already the world has been made worse off. Twenty years ago, Sub-Saharan Africa was a net exporter of agricultural products. The region's share in world agricultural exports has fallen from eight per cent in the early 1960s to just two per cent currently. The region must import more agricultural products than it exports, in spite of substantial international development assistance to date. Additionally, the developed world incurs all-too-real costs from failed states and the flow of refugees and disillusionment that emanate from them. Ultimately, the bill to provide assistance will be much greater if the human capital, government services, and infrastructure have been destroyed. Pay now or pay a LOT more later.

AIDS in the developed world

Although AIDS entered the public consciousness of the industrialized world in 1981 the first documented and scientifically verified AIDS death was a British sailor who died in 1959 after work in Africa, ultimately passing the virus on to his wife and daughter. Estimates date the introduction of the disease in humans to 25 or more years earlier. In 1969, a teenage boy in St. Louis who was be-



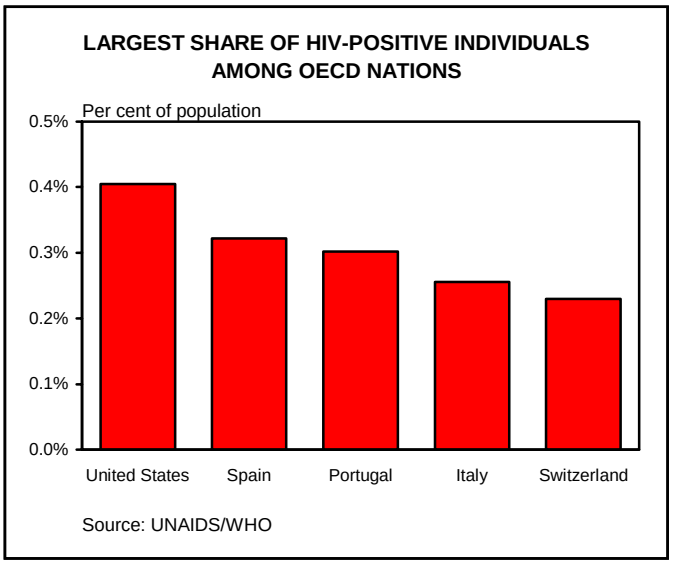


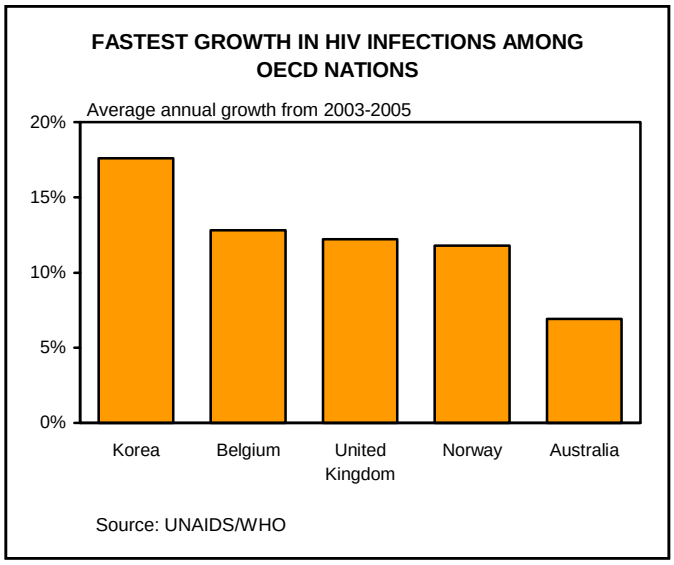
lieved to be a prostitute became the first individual known to die without having directly traveled to Africa. In 1977, a Danish doctor working in Zaire became the first documented death as a result of contact with HIV-infected blood. By December 1981, there were more than 100 confirmed AIDS deaths and it is now believed anywhere from a quarter to a half a million people worldwide were infected with HIV. Since then, the number of people living with HIV in G-7 countries has increased every year. Among OECD nations, almost 2.2 million people are now living with HIV, with over half of these in the United States and 60,000 infected in Canada. The HIV-positive individuals in the 30 nations that comprise the OECD represent only five per cent of the estimated 40 million people worldwide currently living with HIV, which includes almost 10 million people believed to be unaware of their infection.

The progression of the disease followed a similar path in all developed countries. As education and understanding of HIV prevention grew, the number of newly diagnosed AIDS cases in the U.S. and Canada peaked in 1993. In the U.S., new infections each year are approximately half what they were in 1993 while in Canada, the number of new infections is just one-third the level seen in 1993. The number of deaths from AIDS each year peaked in the U.S. and Canada in 1995 before again stabilizing at relatively constant levels for the last decade as the rate of transmission slowed and the first effective antiretroviral treatment to slow the progression of the disease was introduced.

With the view that tangible progress has been made combating HIV/AIDS in the U.S. and Canada, public perceptions of the disease have lagged the evolution of the disease itself. What most fail to understand is that the dominant factors supporting the spread of AIDS in the developed world are poverty and marginalization, not IV drug use or sexual habits. In fact as we will see, they are the defining issues worldwide. Since being primarily associated with men in the early 1980s – when women accounted for less than one in 10 new infections – females now account for more than one in four new infections in the U.S. and Canada. In 1985, 85 per cent of infections in the U.S. were the result of either IV drug use or men having sex with men. As of 2003, these two factors accounted for 64 per cent of HIV transmission. Over the same period, transmission through heterosexual sex grew from just three per cent of new infections in 1985 to more than 30 per cent in 2003.

Underlying these changes are clues as to the real factors driving the AIDS epidemic in developed nations. African-Americans make up half of all HIV-positive individuals living in the U.S. while seven out of 10 of the newly diagnosed belong to a racial minority. An African-American woman is 12 times more likely to be infected with HIV than a Caucasian woman, and, indeed, AIDS is the leading cause of death for African-American women aged 25-34. In Canada, Aboriginal people account for six to 12 per cent of new HIV infections in spite of comprising only three per cent of the population. A driving factor is socio-economic status. Two of every three HIV-positive women and four out of 10 HIV-positive men live on an annual income of $10,000 or less.

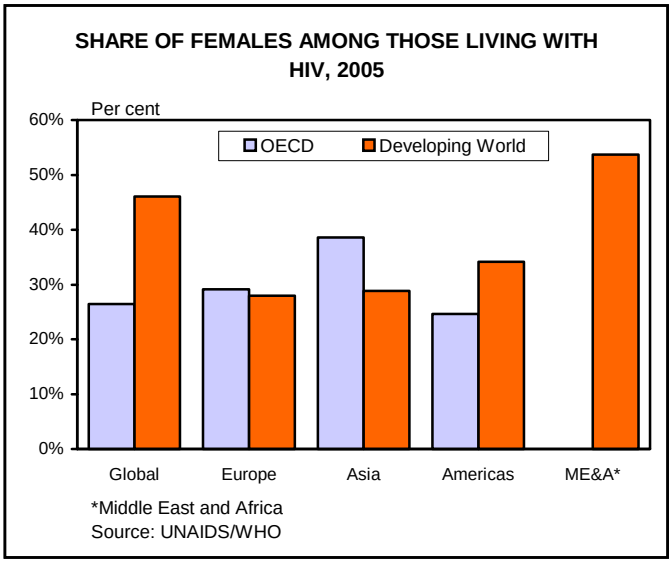


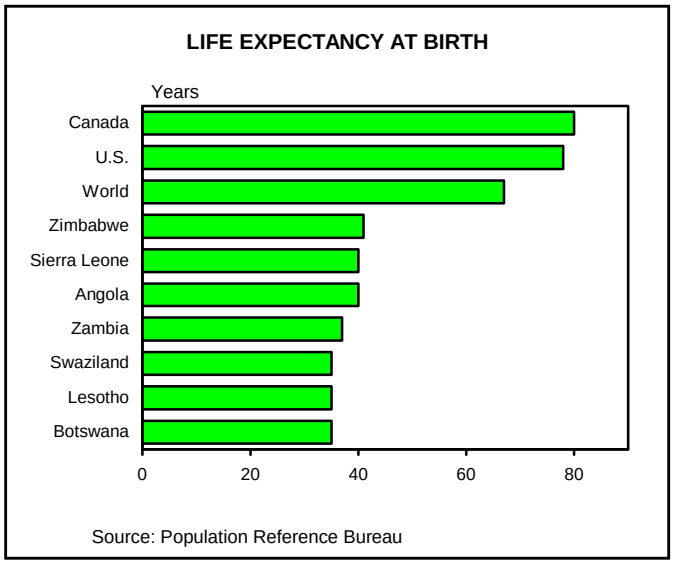


This socioeconomic basis for the spread of HIV in the developed world is also underscored among the gay and bisexual community and IV drug users. HIV infection falls along existing social fault lines and exploits gaps in the social safety nets already in place. Severe mental illness is five times more prevalent among those with HIV/AIDS than the general U.S. population. One study found that more than one-third of HIV-positive individuals in the U.S. have at least one mental illness while a quarter has received some mental health care. A large share of the mentally ill – and especially those from poorer socio-economic brackets with less access to mental health services – attempt to self-medicate to cope with their symptoms. This leaves those with mental illness more prone to contracting the HIV virus. Nearly half of HIV-infected individuals in the U.S. have reported some history of substance abuse, including marijuana, heroin, sedatives, cocaine, and alcohol. Within the young gay and bisexual community (between the ages of 23-29), Latinos are twice as likely and African Americans are five times as likely as Caucasian gay men to be HIV-positive, even when drawn from the same social groups. Moreover, compounding the discrimination that gay and bisexual men may face in their daily lives, those reporting higher levels of discrimination also exhibit a higher prevalence of HIV infection. So in trying to understand the changing evolution of HIV prevalence in the developed world, it is important to draw a distinction between the method of transmission and the socioeconomic factors underlying the spread of the disease.

Nonetheless, the developed world accounts for a small share of the global AIDS epidemic. Moreover, it has proven much more capable of controlling the spread of HIV and AIDS than poorer countries. The question remains, why? An initial response may be money. International aid to support the fight against HIV in the developing world amounts to approximately $8 billion U.S. dollars per year, compared with $17.3 billion spent domestically in fiscal year 2005 by the U.S. federal government. However, $13.4 billion of this – nearly 80 per cent – is spent on the care and treatment of those already infected. Another 15 per cent is spent on research, leaving less than five per cent – just $788 million a year – spent on prevention. This amounts to $2.63 per person in the U.S. In Canada, health services are provided at the provincial level. The federal government did provide $57 million Canadian dollars in fiscal year 2004-05. Approximately 60 per cent of this was spent on prevention which amounts to $1.16 per person in Canadian dollars (or $1.06 in U.S. dollars). This is currently projected to increase to $1.73 per person in 2008 Applying these same figures to the population of developing countries would imply a need for $14 billion a year in preventative spending. However, adjusting this figure for the differences in purchasing power between developed and developing countries implies one-half to one-third this amount may be sufficient.

Ultimately, education and drug therapy were able to control the scale of the problem in developed nations but still proved ineffective in overcoming the complications of marginalization. As we will see, a careful economic analysis of the AIDS epidemic in the developing world reveals once again that the economic, social, and struc-





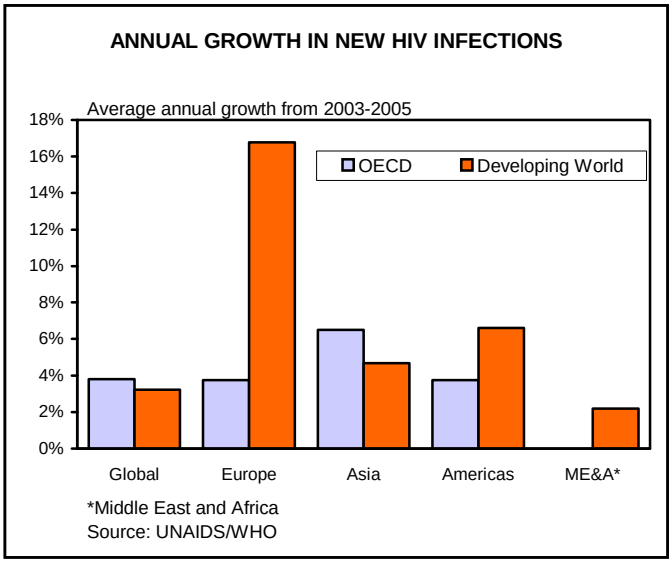
tural ramifications of poverty are to blame for the disproportionate impact of HIV and AIDS in poor countries. Moreover, the financial implications for the developed world of ignoring this issue while it is still manageable could prove a costly economic mistake.

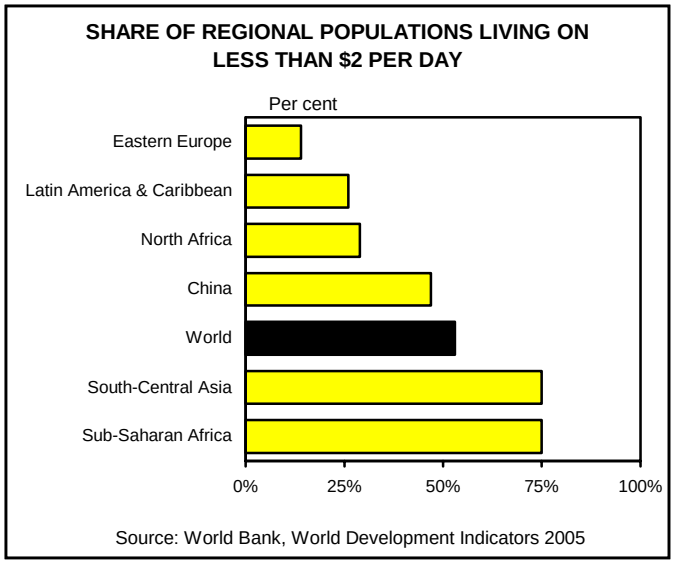
AIDS in the developing world

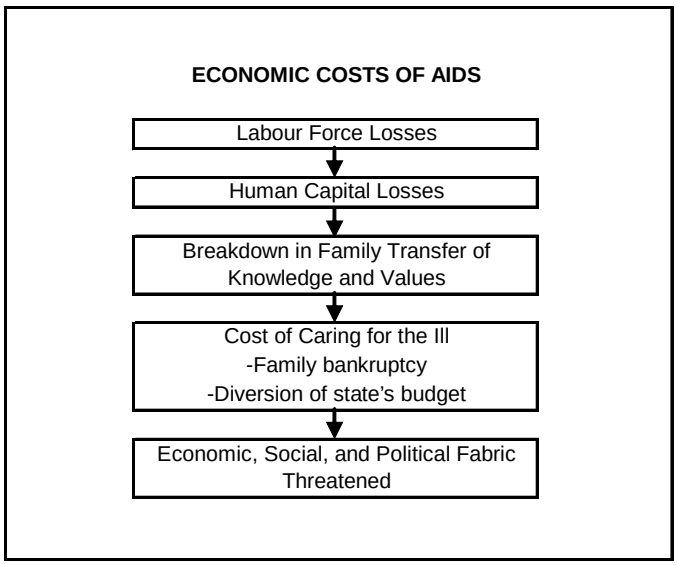
The scope of the AIDS problem in the developing world is staggering. Outside of the 2.2 million people living with HIV and AIDS in OECD countries, an additional 32 to 42 million people are living with the disease worldwide. Of these, two out of every three infected individuals live in Sub-Saharan Africa. This has caused life expectancy at birth to plummet in these countries by more than a third. Children born today in six African nations are not even expected to reach their 40th birthday. In fact, for a number of Sub-Saharan African nations, more than one in three adult members of the population may be HIV-positive within a decade. In India, in spite of having less than one per cent HIV prevalence, has 5.7 million people infected with HIV. Moreover, a recent report commissioned by the Indian government found GDP growth may fall by one percentage point a year if the spread of HIV is not slowed. Even more alarming, only one-quarter of the ten million total deaths from all causes each year in India occur in a hospital. For the 7.5 million other deaths that occur at home, death certificates and cause of death are rarely recorded meaning the full extent of the problem may be hard to track.

The distribution of the disease across gender and age groups is also different and more worrying than that seen in the developed world. While women make up just over a quarter of all individuals living with HIV/AIDS in the developed world, globally women account for half of all people living with the disease. Moreover, in regions such as Sub-Saharan Africa, the figure is closer to 60 per cent with new infections among women outpacing those among men. The next generation of the developing world has similarly been hit harder. While only 30 per cent of infected individuals in North America and Western Europe are under the age of 30, in the developing world the number is closer to one-half while in Sub-Saharan Africa, four in every five infected individuals is under the age of 30. Globally, nine out of every 10 infected individuals is under the age of 45. Gender and youth also combine with devastating results. For example, three-fourths of all HIV-positive individuals between the ages of 15-24 are female.

The spread of HIV has also continued unabated across borders and into previously unaffected marginalized communities. While the disease continues to be most prevalent in Africa, the fastest growth in new infections is in Eastern Europe and Central Asia. In Ukraine, 1.4 per cent of the population is now believed to be HIV-positive. While low compared to current prevalence rates in Sub-Saharan Africa, the grim reality is that this follows a 32 per cent increase in infections from 2003 to 2004. The World Bank forecasts that 1.9 to 3.5 percent of the population will be infected by 2014. The virus has also shown a knack for using whatever mechanisms present themselves to spread through marginalized communities. In the industrialized world, these have generally been contained pockets. In







Africa, extreme poverty, weak infrastructure, and limited gender equality have perpetuated the spread to the population at large. In Central America and the Caribbean, HIV transmission has come through interconnections between the sex trade, migration, and heterosexual partners. In Eastern Europe, the most prevalent transmission mechanism so far has been IV drug use and the most heavily affected population has been street children. This is simply the path of least resistance. Experience in other countries suggests HIV will exploit other vulnerabilities in the social safety nets of Eastern Europe and Central Asia to spread to the next vulnerable community. In the end, the spread of HIV to vulnerable populations is a question of when, not if.

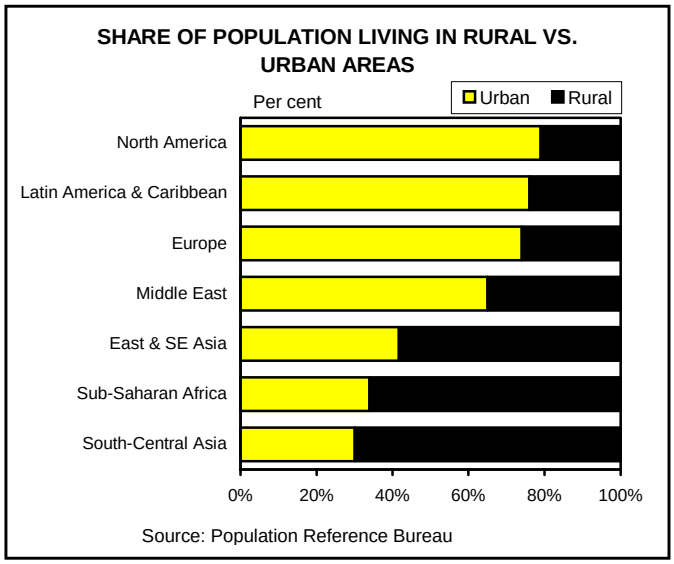
The implications of these developments on the next generation of farmers, labourers, politicians, health workers, teachers, mothers, bankers et cetera are difficult to measure. Forecasts for the impact 20, 30, or 50 years out require an analysis of a number of interrelated factors. The estimates so far, while certainly unsettling, nonetheless may be incomplete. The World Bank estimates that when HIV/AIDS prevalence reaches eight per cent as is seen in a third of Sub-Saharan African countries, real GDP growth each year may fall by one percentage point. If the prevalence rate reaches 10 per cent, real GDP growth may plummet by almost a third. Further exacerbating this, the informal economy is not included in measurements of GDP and in some developing economies, this sector is even larger than the formal economy. This means many costs will not be captured by any analysis of GDP loss.

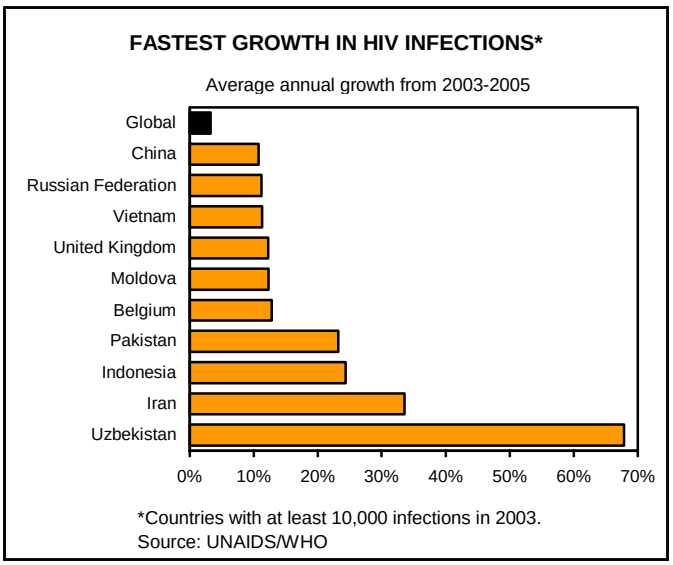
Economists have a notoriously difficult time quantifying the exact impact of structural changes in a society on the economic output of that country. We do, nonetheless, know that these impacts can be large. What follows then is a framework to examine how AIDS may ultimately change the structural and economic well-being of the most affected nations and why these changes will ultimately cost the world a great deal.

Labour Force Losses

The most direct impact of AIDS on the economy is certainly the losses seen in the labour force. Those in the early stages of HIV may miss work occasionally but still remain in their position. As the disease progresses, however, these individuals become too ill to work and must leave the workforce altogether. The labour loss is doubled after accounting for those charged with their care. Many analyses of the impact of HIV/AIDS in the developing world begin with an assumption of a tremendous amount of excess labour supply such that a person who must leave work due to severe illness is quickly replaced by a previously unemployed person or new entrant to the labour market from the rural sector. In Sub-Saharan Africa, however, five to 10 per cent of the labour force has already died as a result of AIDS and as much as a quarter will possibly be dead within 15 years. Even outside of issues of education and family structure, which will be addressed soon, losses of this magnitude begin to call assumptions of "excess labour" into question.

Moreover, agriculture and subsistence farming account for the predominant share of the economy in many of these countries. Among the most heavily impacted countries,

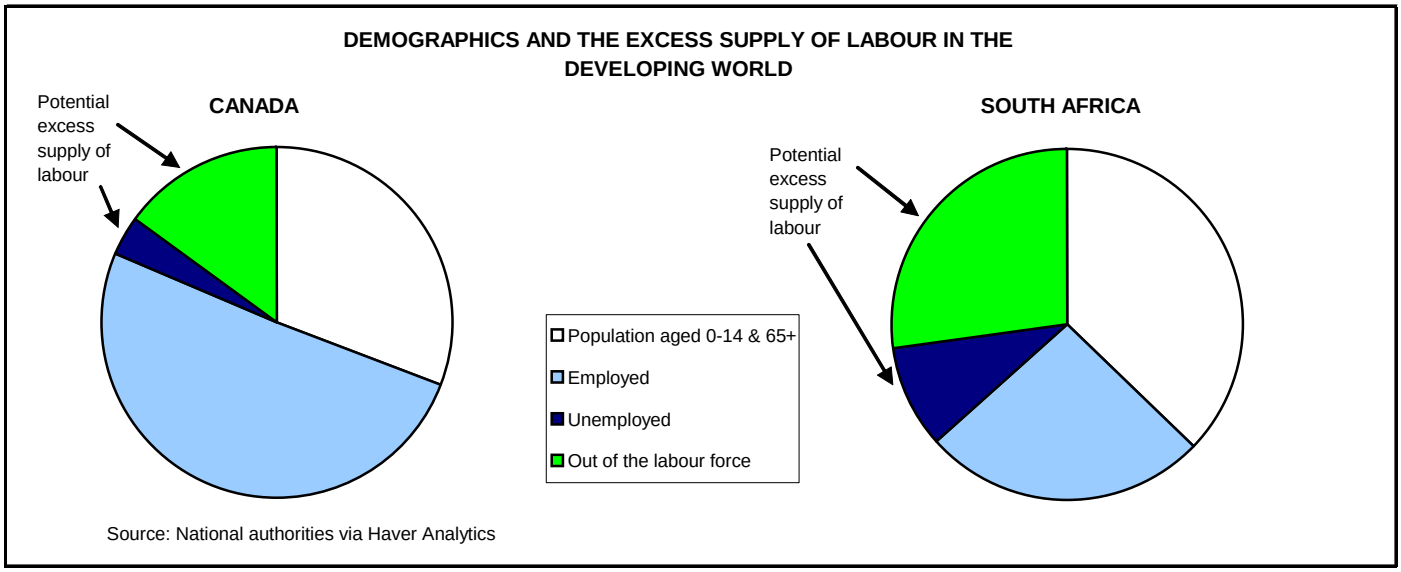




agriculture accounts for four-fifths of individuals' livelihoods. In Sub-Saharan Africa, AIDS has turned a region that was once a net agricultural exporter into a net importer. Many studies have found that AIDS-affected households spend less than half the time on agriculture that non-affected households do. Moreover, commercial production in some of the worst-affected areas has fallen by nearly 50 per cent in only a few years. As more fall ill, there is insufficient labour to farm larger plots of land as well as maintain an appropriate rotation of crops, further reducing yields. As the healthy children must work to care for the sick, this also leaves them without the skills to carry out this agricultural work in the future. Additionally, with such a basic resource threatened, not only does the economy suffer but lack of proper nutrition leads to stunted growth among children which has an impact on their health, education, and future prospects.

Human Capital Losses

With the prevalence of HIV among the young, losses in the size of the labour force are compounded by losses in the economy's "education force" – the number of children attending school. While the labour force may be projected to fall by another 10-15 per cent in the next 15 years, there has already been a 20 per cent drop or more in the number of children attending school in many African countries. With nine out of ten HIV-positive children (under the age of 15) living in Sub-Saharan Africa, the crisis is



imminent. Moreover, the incentives for existing workers to receive training are lost. This has already been seen in African nations where the incidence of HIV is highest. For the average 20-year old manufacturing worker in this region, each two per cent increase in the mortality rate cuts one and a half percentage points off the probability of that worker receiving training. While many of the goods produced in developing countries require less advanced skills than goods produced in industrialized countries, retraining is still an issue. Moreover, the prospects of these economies moving up the value added chain are limited as firms know that, in spite of cheaper wages, the ultimate costs of operations may actually be much higher.

The implications of this for the future are dire. In India, more than one-third of boys and two-thirds of girls have left school by the age of 15. With the majority of household duties and caring for the sick falling on women in the developing world, a large part of this discrepancy can be attributed to children leaving school to fill jobs in the household. This means children – especially women – will not have the foundation to fill more advanced positions in the future, finding themselves further marginalized. Nor are the incentives there to change. In economists' parlance, this is a rational decision – albeit unfortunate. In the U.S. and Canada where the expected life span is 77 years, a student completing college at the age of 22 has spent two-sevenths of his or her life learning and then enters the workforce to reap the monetary gain from that education. In Malawi, where the life expectancy is now 36 years, a similarly apportioned life would imply children leave school at the age of ten to enter the labour force. Those concerned about child labour in third world countries should stand up and take notice.

THE LARGEST HIV-POSITIVE POPULATIONS

	Millions infected	Per cent of population 15-49 with HIV/AIDS
India	5.7	0.9%
South Africa	5.5	21.5%
Nigeria	2.9	5.4%
Mozambique	1.8	12.2%
Zimbabwe	1.7	24.6%
Tanzania	1.4	7.0%
Kenya	1.3	6.7%
United States	1.2	0.6%
Zambia	1.1	16.5%
Congo, Democratic Republic	1.0	4.2%
Uganda	1.0	7.1%
Remaining Sub-Saharan Africa	6.8	4.1%
Remaining World	7.2	0.3%

Source: UNAIDS/WHO 2006 Report on the global AIDS epidemic

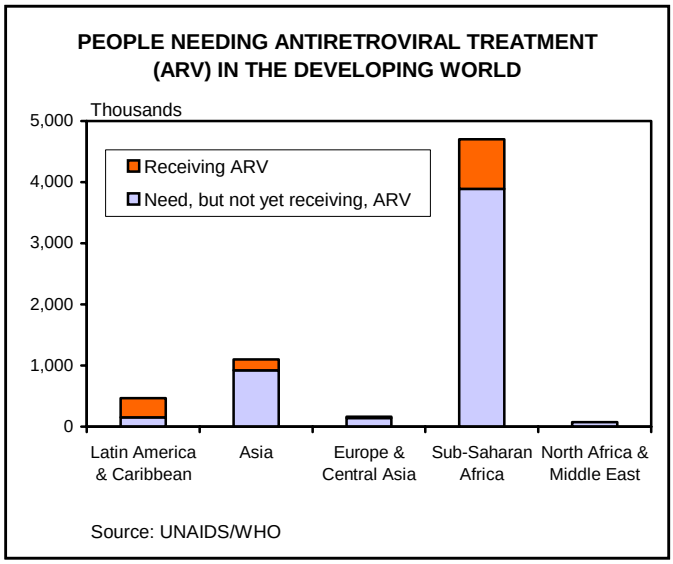
Intergenerational Effects: Breakdown in Family Transfers of Knowledge and Values

Perhaps the most difficult costs for economists to assess are those that result from the disruption and destruction of the social fabric of a country. AIDS has created more than 15 million orphans (children having lost one or both parents), with 80 per cent of these in Sub-Saharan Africa. This has led one in six families in Sub-Saharan Africa to take in at least one orphan. In losing their parents as teachers and role models, these children lose the primary mechanism society uses for passing on knowledge. To compound this, these African orphans are 22 per cent less likely to attend school than children who have not lost their parents to AIDS. Moreover, because of the average time lag of 10 years separating infection and death in developing countries, the number of orphans is expected to continue to increase and surpass 20 million by 2010.

The costs to the economy far exceed just the cost of caring for these orphans. New research exploring poverty and changes in family structure in the U.S. has found that while only seven per cent of households with two parents fall below the poverty threshold, more than 40 per cent of households with only one parent are poor. In fact, the doubling of the per cent of families headed by a single mother over the last twenty years directly led to a 3.7 percentage point increase in national poverty rates. In a country like the U.S. where three-quarters of HIV-positive women have children under the age of 18, the connection between poverty, children, and AIDS is difficult to escape. In the developing world such as Sub-Saharan Africa, where 10 to 20 per cent of children have lost one or both parents to AIDS and social safety nets are not as effective, escaping a future of poverty can be well nigh impossible.

The Costs of Caring for the Ill

Outside of the indirect losses that result from children leaving school, the direct financial losses of treating AIDS are more tangible but not any less substantial. In Uganda, two-thirds of those affected by AIDS must sell property in order to pay for medical care. In Cote d'Ivoire in spite of having half the family income, a family with an HIV positive member spends four times as much on medical expenses as a family that has no HIV-positive member. The



costs of treatment and care fall on those least able to afford these expenses. On average, an individual in the developing world infected with HIV could spend $5,000 to $12,000 in NPV terms over the course of their life.

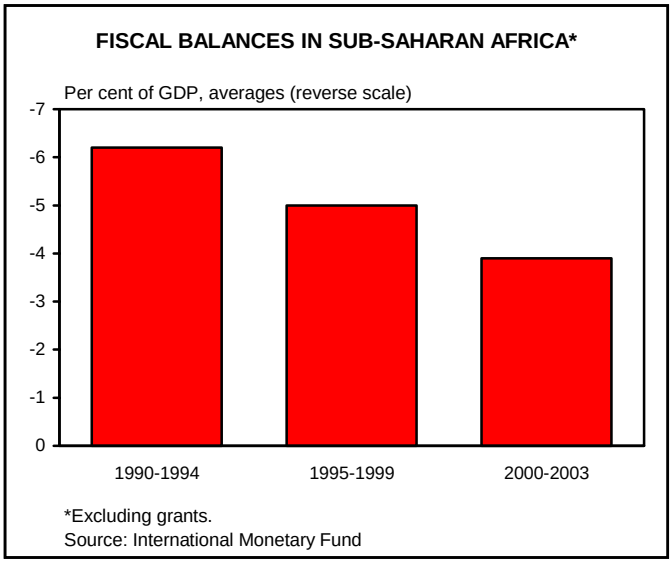
As of 2005, it is estimated that only 10 to 20 per cent of people in low- and middle-income countries who would benefit from antiretroviral drug treatments were receiving them. These treatments do have higher costs and would provide an even bigger financial strain on these families. On the other hand, they could extend the productive lives of those infected and minimize the impact on the families' earnings.

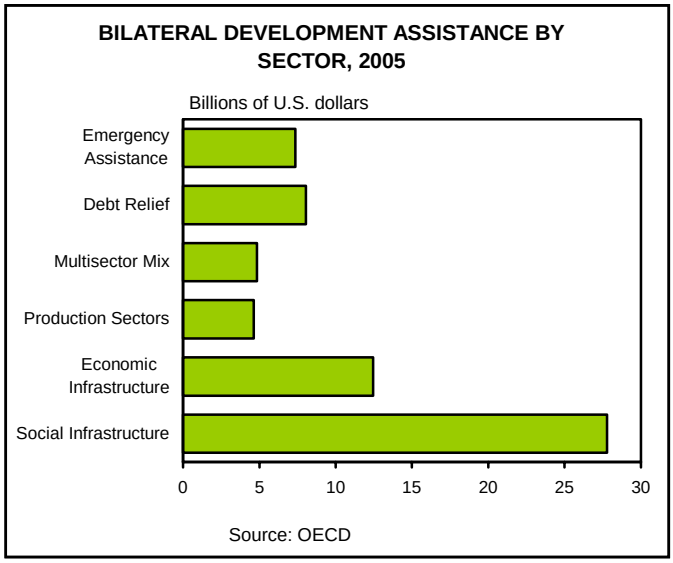
The limited availability of antiretroviral treatments in developing countries is another painful example of the complications of poverty for AIDS victims. While the cost of these treatments has been prohibitive, even when financially viable, the medical profession has historically limited the distribution of these drugs to individuals in poor countries. Before recent medical advances made a once-a-day pill possible, effective treatments required patients to take the proper dosages of an assortment of pills throughout the day. With the HIV virus rapidly mutating, there is a risk that a drug-resistant strain of HIV could develop in individuals who do not follow this drug regimen properly. This has limited the availability of these drugs to communities – such as developing countries – deemed to be at a high risk of not properly following through with medical treatment. While innovations in drug research have simplified these drug "cocktails," this is yet another example of why the spread and impact of HIV and AIDS has been most heavily felt among those already marginalized.

The AIDS crisis in some nations is so large that international assistance can have some unintended negative consequences for economies and finances. Because of the relatively small economic size of many nations affected, the sudden demand for medical supplies has in some cases led to inflation in the health sector exceeding that in the general economy. This is made even more acute when transportation and delivery infrastructure hampers the timely delivery of needed supplies. Indirectly, when the inflow of international aid makes up a large percentage of the poor country's GDP, this inflow can actually cause the exchange rate of the developing nation to appreciate. This in turn increases the costs to the national economy by making the developing nation's exports more expensive.

Government Finances

The fiscal budgets of developing countries were strained even before the AIDS epidemic grew to mammoth proportions. Weak governments and poor infrastructure limit tax revenues and increase the likelihood of corruption. Exacerbating this, governments in less-developed countries have traditionally had higher levels of poverty, illness, and illiteracy to contend with. When faced with a crisis as large as AIDS, these nations have limited abilities to follow developed countries and pay for increased social spending through increased taxes. This is particularly true when AIDS devastates the younger, working-age population, shrinking the tax base. Instead, governments in developing countries must divert spending from





programs aimed at addressing education, economic development, and other health and welfare expenditures that provide for long-term economic well-being and instead spend money to manage an existing crisis.

Many individuals rightly point to the strain developing countries face in meeting their obligations to repay international debt. This international attention has led to the total elimination of multilateral debts of 19 of the poorest nations of the world already with a further 10 to 20 impoverished nations expected to receive debt relief in the future. The savings on principal and interest costs helps undoubtedly, but the domestic factors that led to the debt in the first place carry on. For one, because of the inability to easily raise revenues or cut spending to much-needed development projects, the governments of many African nations must spend more than they earn in a year. If this shortfall cannot be filled by taxes, the government must either take on new debt or rely on international charity in the form of grants.

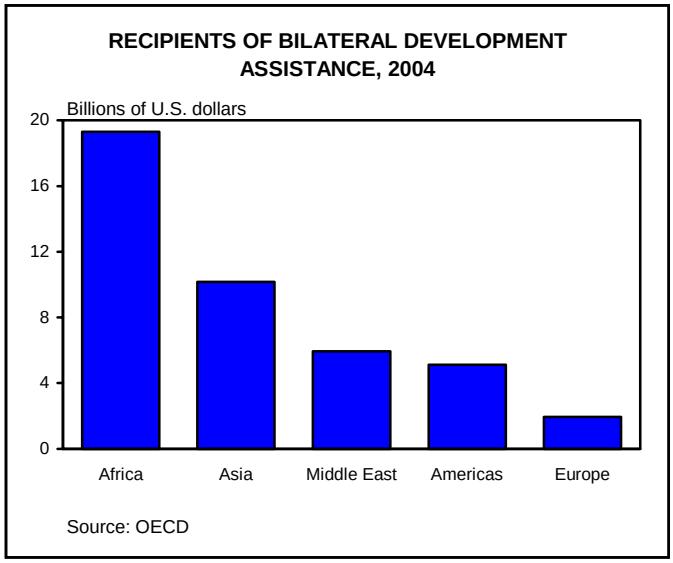
Some of the poorest nations must examine national priorities. Sub-Saharan Africa's combined military budget exceeds eight billion dollars a year – slightly more than the entire international community provides for the fight against AIDS in all developing countries – and military spending exceeds $11 billion in those countries where HIV infects more than one per cent of the population. In light of this, annual debt service payments for Sub-Saharan Africa of $15-$20 billion dollars are still certainly an issue. However, if the international community mobilized to resolve the security situation in these regions on par with its mobilization to forgive the debt, even more government spending could be brought to bear in fighting AIDS. So while eliminating these debts will provide a temporary reprieve, unless the underlying causes of staggering poverty, corruption, inefficiency, war, and insufficient international grants are addressed, debt relief will be little more than a cough drop.

Market Failures

The cost of AIDS is enormous for individuals, societies, nations, and the world. These costs include not only the financial burdens of treating current victims of HIV and AIDS, but are shared by those not directly infected and will continue to cascade through economies for generations to come. But individuals' decisions concern perceptions of personal risks and rewards and have a limited ability to "price in" these broad costs for society.

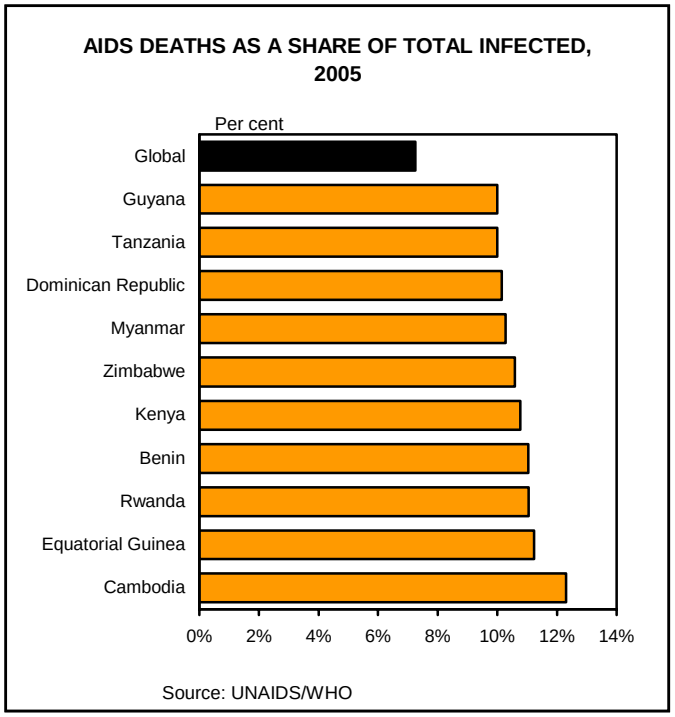
In cases where individual decisions fail to factor in general welfare, governments can influence the choices people make through changes to prices or regulations. For example, one justification for government taxes on alcohol and tobacco is a judgment that in excess, these products can be dangerous not only for the individual consuming them, but costly in terms of alcohol-related accidents, future medical treatment, or involvement of legal authorities. A tax on these products raises prices and lowers individuals' purchases, thereby reducing the externalities or at least creating a source of funds to pay for them.

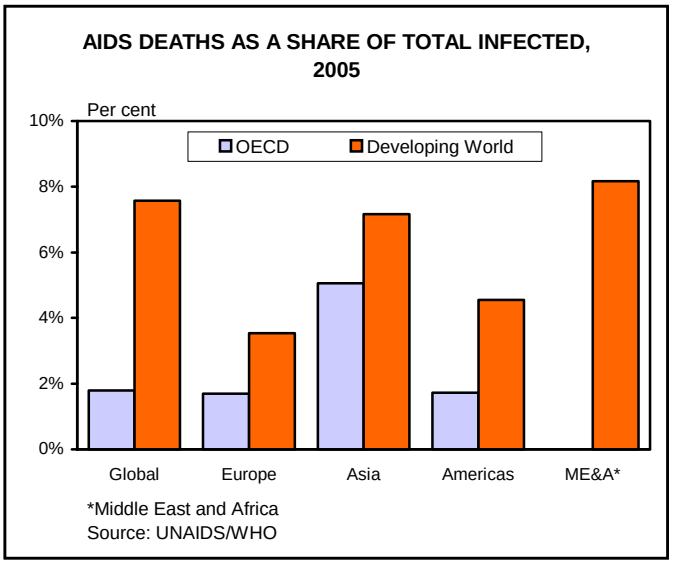
The most pressing market failure for governments to address is the continued lack of education. Only one in four Somali teenagers has heard of AIDS and only one in a 100 knows how to protect herself from HIV infection.



In Ukraine, 40 per cent of teenagers have never heard of AIDS or believe it can be transferred through supernatural means. Part of this educational lapse is a direct result of the current epidemic itself. In India, children are not taught about AIDS until they are over the age of 15; however, as we have seen, by this stage one-third of boys and two-thirds of girls are no longer in school. This helps to explain why more than 80 per cent of married Bangladeshi women have not heard of AIDS. If governments do not ensure that basic information about AIDS reaches the population, these individuals have no hope of factoring in the potential cost of AIDS to themselves, let alone the costs to others. Of course, universal education on the prevention and treatment of AIDS is a serious challenge in poorer countries with high levels of illiteracy and weak public service infrastructure.

A second pressing market failure is that adequate health care supplies for the prevention and treatment of HIV and AIDS do not reach those most likely to benefit. Those who are most at risk are generally least able to afford medications. The disease is focused on poor people who do not have the savings to afford expensive treatments. Most developing countries also do not have the resources or infrastructure to provide these services. Compounding this, those nations most afflicted have already lost the older generation that would normally have provided for their children.



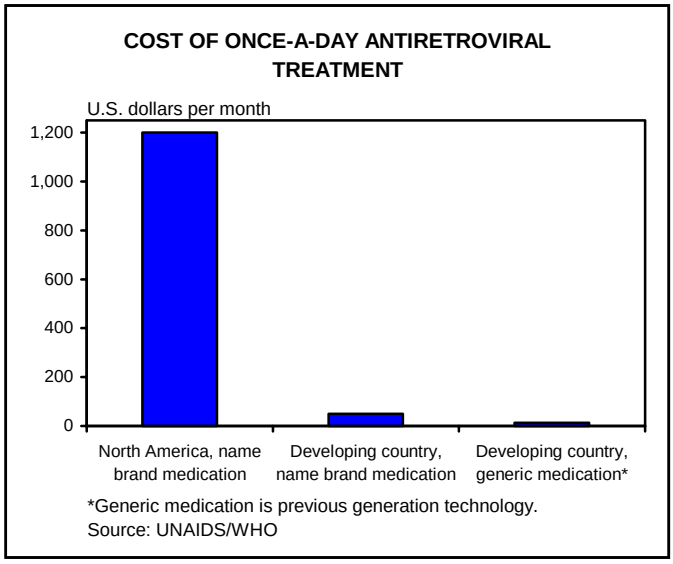


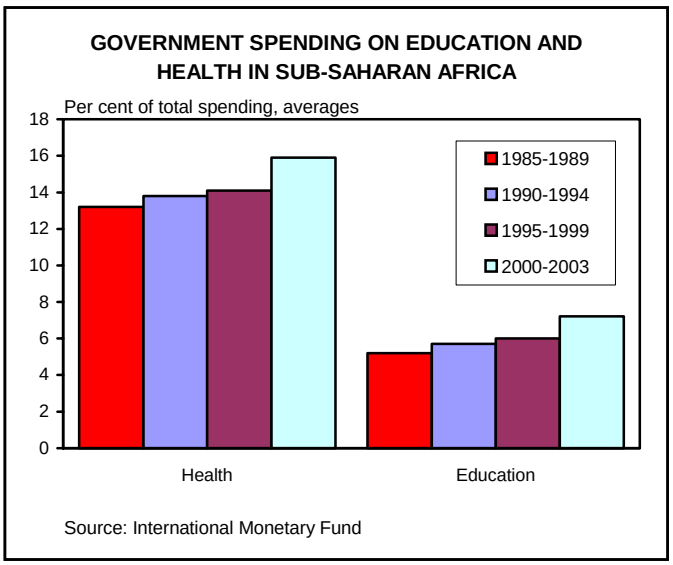
The role of the pharmaceutical industry is also afflicted with market failures. Research into treatments and a cure for AIDS requires a tremendous amount of time, energy, and financial investment. For an individual company, the size of these up-front research costs must be made without any certainty of economic return. Because of the complexity of the AIDS virus, this research has proven even more expensive. In spite of the size of the personal and financial losses caused by AIDS, a strict assessment of the research costs and potential returns for the individual company can show that the firm may not be able to recoup its early investments. Market behaviour could dictate that research should not be undertaken. In these circumstances, governments must step in and provide subsidies to research in order to reduce these upfront costs for firms. In 2005, the U.S. government provided $3 billion dollars for research and the Canadian government provided $21.5 million for just this reason. Through subsidizing prices or promising to purchase a certain amount of medication, governments can ensure that these drugs reach those least able to afford them.

The market realities of drug research for developing economies are much more difficult than for wealthier nations. An HIV/AIDS sufferer in North America can spend over $14,000 a year on drug "cocktails" that stagger numerous pills over the course of every day. Only a fraction of this price could hope to be met by a pharmaceutical company selling to the developing world, even with government subsidies and international assistance. In fact, in July of this year, the U.S. Food and Drug Administration

approved a new once-a-day antiretroviral pill which not only simplifies treatment, but will be sold for $1,200 per month in the U.S. – the same price as the current underlying medications – and will be sold in the developing world for $50 per month. This is still about four times more expensive than generic once-a-day pills currently available in the developing world but based on last-generation drugs. This leaves poorer nations with a choice between efficacy and price.

In the interest of lowering the costs of HIV/AIDS drugs, it is only natural that there is a hot debate over relaxing drug patent laws and allowing generic drugs to flourish. There is certainly an intuitive appeal to this, but patent laws are another way governments increase incentives to conduct research by guaranteeing those that ultimately discover something are able to profit from their investment. Without that guarantee, fewer discoveries would be made. But the global nature of the AIDS crisis has revealed the impotency of national laws in the face of epidemics that do not respect the same borders. Manufacturers in countries such as Brazil and India are able to sell HIV/AIDS drugs at just 5 to 50 per cent of the full proprietary price. These companies do not have the same research costs to recoup, however, and care must be taken to ensure that the incentives to continue AIDS research are not dampened. This is all the more important because research into effective drug treatments for the developing world are still moving forward and drugs that may work today might be impotent in the future should the virus become drug-resistant. Nevertheless, it is well within the power of governments in the developed world to ensure these incentives for research remain intact, particularly once they assess the true costs of not delivering.





What Can and Should Be Done

There are tremendous costs associated with the fight against AIDS. Many in the industrialized world have insulated themselves by thinking that the crisis in the developing world will have little effect on them. Ignorance will only increase the future price tag. Fortunately, the tools for minimizing many of these costs already exist. Below are the responses we feel develop from the previous discussion and hold the best chance for preventing the spread of AIDS, minimizing its economic costs and lessening the human suffering.

- *Increased financing and distribution of antiretroviral drugs for the developing world.* These life-extending drugs can minimize the economic losses from AIDS. By ensuring the older generation survives to teach and nurture the young, this is also the only possibility many of the worst-infected countries have of avoiding economic, social, and political collapse. Further funding and support is needed for the continued research and provision of treatments suitable for poorer nations.
- *Do not forget the marginalized in wealthy nations.* The transmission of HIV in the developed world is secondary to the driving factors of poverty and marginalization. Further support for research, treatment, and education — which accounts for the unique obstacles faced by this constituency — would lead to the largest reduction in HIV infection and direct economic costs for those

living in these nations. Poverty has implications for physical health, mental health, addictions, and economic well-being. Policy failures in any one field ultimately trickle into the others.

- *A reassessment of the future costs to developed countries.* The bill for these costs is likely to fall on industrialized nations. Rather than seeing this as humanitarian aid driven only by altruistic motives they should see it for what it is: a necessary investment in the future economic well-being and security of the industrialized world. Canadians and Americans are well-aware that retiring baby boomers will create a tremendous strain on fiscal budgets in 10 to 20 years. They should be similarly well aware of the added strain a collapse of the developing world will cost them.
- *Further partnerships and coordination between national governments, pharmaceutical companies, corporations, NGOs and the international community*. AIDS is too large a problem to leave to any one sector. Corporations have increased their involvement, and the recent publicity for Warren Buffett's donation to the Bill and Melinda Gates Foundation demonstrates that tremendous resources are ready and willing to be committed. The broader the community actively engaged against AIDS, the less market failures will hinder delivering results.
- *A reassessment of national priorities in the developing world.* Education on transmission, treatment, and prevention of AIDS is sorely lacking in the developing world. Additionally, without systematic testing, 90 per cent of those unknowingly infected will continue to infect others. This testing must be matched with appropriate counseling and safeguards to avoid discrimination, violence, and further costs. While increasing funding for treatment can extend life, only prevention can ensure individuals can live a long, productive life. This prevention will not occur when the overwhelming share of people in the developing world still do not understand or even know of the existence of AIDS.
- *Leadership from the bottom up.* The perception of corruption in developing countries has limited international assistance. The realities of corruption have compromised the fight against AIDS. Developing countries must ensure progress is not hindered before it even starts.
- *Addressing security in the developing world.* Developing countries are not beholden to the industrialized world to make progress against AIDS. The developing world itself could match the amount of international funding for AIDS if security concerns of those countries most affected by AIDS were addressed. The lack of security and level of violence seen in these countries should also serve as a further wake-up call to the industrialized world. The economic and social deterioration will only continue unless hope is restored.

Don Drummond, SVP & Chief Economist
416-982-2556

Richard Kelly, Economist
416-982-2559