Putting it Together: AIDS and the Millennium Development Goals

"*Making the right to development a reality for everyone and freeing the entire human race from want*." –United Nations Millennium Declaration[i]

"*How we fare in the fight against AIDS is crucial. Halting the spread is not only a Millennium Development Goal in itself; it is a prerequisite for reaching most of the others. Only if we meet this challenge can we succeed in our other efforts to build a humane, healthy and equitable world. Let us ensure we are equal to it*." –Kofi Annan, Secretary-General, United Nations[ii]

In September 2000, 189 governments from around the world signed the Millennium Declaration and committed to achieving sustainable reductions in all dimensions of extreme poverty. To track progress against this visionary global compact, the Millennium Development Goals (MDGs) were established as eight quantifiable and shared priorities to be achieved by 2015. Although each MDG is tracked separately, the reality is that they are strongly interlinked.

A key factor in determining whether countries can attain the MDGs is their response to HIV/AIDS. This is because HIV/AIDS not only has severe health repercussions – and thus one of the MDG targets is to halt and reverse the epidemic – but because AIDS is a major threat to other development goals. The pandemic's scale will make it difficult for many countries to achieve their targets to lower poverty rates, ensure that all children complete primary education, reduce child mortality, improve maternal health, and curb the global tuberculosis epidemic.

[[Include same "*Millennium Development Goals*" and "HIV at a glance"[iii] figures]]

Goal: Eradicate extreme poverty and hunger
Target: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day

HIV/AIDS increases poverty
Nations suffer at the macroeconomic level
A range of studies suggest that AIDS can lower GDP growth by up to 1.5% per year.[iv] In a "*typical*" African country with 20% HIV prevalence, the rate of GDP growth could be 2.6% lower each year than it would have been in the absence of AIDS, due to a reduction in growth per capita and a slower rise in population. At the end of a 20-year period, GDP would be 67% lower than it would have been without AIDS.[v]

Households face revenue losses and heavy costs
Because of the high medical and other costs of HIV-related illness and death, and because AIDS often kills working-age adults, the epidemic can have a significant household-level impact. Studies from Thailand and South Africa demonstrate that poverty is higher among AIDS-afflicted households than among families without HIV-

infected members.[vi,vii] In rural areas of five high-prevalence countries, there is a correlation between AIDS deaths and declining household wealth. Adult AIDS deaths in Kenya, for instance, have a significant impact on both crop income and value of household assets.[viii]

A study from Botswana suggests that average income per capita by 10% over the next ten years due to HIV/AIDS. It also predicts a 6% rise in households below the poverty line, with income loss twice as large among the poorest households as for the population as a whole.[ix]

These effects will escalate over time

The long-term impact of AIDS, both at a macroeconomic level and for individual households, can be expected to accelerate. Scarce household resources and family income reductions during severe illness force parents to choose immediate consumption over long-term investments in the next generation's human capital (e.g. school fees). As a result, children orphaned by AIDS who reach working age earn reduced incomes and possess less capital to invest in the future of their own children.[x] The increasing number of children who become orphans due to AIDS can also be expected to raise poverty levels over time since orphans add to the economic burden of their adoptive families and communities.

Box 1. Orphans - statistics and predictions[xi],[xii]

- 15 million children have been orphaned by
- AIDS worldwide
- 8 in 10 live in sub-Saharan Africa
- The proportion of orphans under 15 years of age is as high as 17% of all children in some countries
- By 2010, there may be as many as 18 million children orphaned by AIDS in sub-Saharan Africa alone

[[Figure: Probability of two parents surviving over time]][xiii] [would need to add a call-out in the text]

Goal: Eradicate extreme poverty and hunger
Target: Halve, between 1990 and 2015, the proportion of people who suffer from hunger
HIV/AIDS worsens the nutritional status of children

There is growing evidence of an important link between child nutrition, food security and HIV/AIDS. HIV prevalence is strongly negatively correlated with increasing calorie and protein consumption in 44 sub-Saharan countries.[xiv] Evidence suggests that child nutrition rapidly deteriorated in the presence of high HIV prevalence during a 2002 drought in southern Africa. Changes were much smaller during non-drought periods and in areas with lower HIV prevalence.[xv]

Orphaned children are more likely to live in poverty conditions and receive inadequate nutrition than non-orphans. For example, a study from Kenya shows that the weight-for-height scores were almost 0.3 standard deviations lower for orphans than for non-orphans.[xvi] In Zimbabwe, orphans were significantly more likely to be underweight than children whose parents were both alive. And in Lesotho, almost 40% of children under four who had lost both parents were underweight, compared to approximately 16% of non-orphans (Figure X).[xvii]

[[Figure X: Underweight prevalence among children under four, Lesotho]][xviii]

Goal: Achieve universal primary education
Target: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling
AIDS compromises efforts to reach universal primary education

AIDS reduces the demand for schooling
Children affected by AIDS may drop out of school because they can no longer afford fees or because their families rely on them to contribute economically to the household or provide care for ill family members. A study from Tanzania shows that schooling was delayed for young children (7-10 years) who had lost their mothers.[xix] In Zimbabwe, 65% of all children aged 13-15 years had completed primary school, but the completion rate for maternal orphans was only 53%.[xx]

Data from Indonesia show that 14% of children who had recently lost a parent dropped out of school between ages 6 and 10, whereas only 7% of non-bereaved children did. In Mexico, maternal death caused a statistically significant 2.3% increase in dropout rates in the first six months following a mother's death; higher levels of household consumption did not reduce this effect.[xxi]

AIDS also hampers countries' ability to supply education
Absenteeism and mortality of teachers and other staff are growing problems in AIDS-affected areas. Data from a comprehensive study of South Africa’s public school system show that the total number of in-service deaths grew by 30% between 1997 and 2004, and a quarter of all teacher attrition during this period was due to death and illness.[xxii]

Losing teachers can lower the quality of learning and prevent children from obtaining a basic education.[xxiii] In poor countries, administrators face substantial challenges in finding qualified teachers to replace those who died. Even when replacement teachers are readily available, the death of a teacher imposes costs (for temporary and permanent replacement, as well as for training) on education systems that are already fiscally burdened.[xxiv]

Goal: Reduce child mortality
Target: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate
AIDS has a negative impact on child mortality

AIDS is a growing contributor to childhood deaths
The challenge of achieving the child mortality MDG in the presence of HIV is illustrated in the nine highest HIV-prevalence countries in Africa, all of which are "off track" for reaching the MDG, and in five of which under-five mortality actually increased between 1990 and 2003 (Figure X).[xxv] One study estimates that by 2015, up to 90% of under-five deaths in Botswana will be directly or indirectly caused by HIV/AIDS.[xxvi]

[[Figure X: Change in under-five mortality rate in select countries with high HIV prevalence, 1990-2003]]

AIDS increases child mortality directly and indirectly
HIV, nearly always acquired through perinatal transmission, accounted for about 570,000 child deaths in 2005.[34] Sixty percent of infected children die before their fifth birthday.[35]

Child mortality can be attributed to AIDS even for uninfected children, since families and communities weakened by AIDS render children more susceptible to illness and death from other causes. Several studies show that children born to HIV-infected mothers are approximately three times more likely to die than children born to uninfected mothers. This effect lasts throughout the childhood years, but the risk of dying is highest during the years immediately before and after a mother's death, suggesting that the mother's illness and demise has a strong effect on the child's well-being.[xxvii,xxviii]

The effect of AIDS on child mortality is increasing
An analysis of the HIV-related risk of dying before age five in 42 countries in sub-Saharan Africa estimates that in 1999, HIV accounted for 7.7% of under-five mortality,[xxix] up from 2% in 1990. A more recent analysis estimates that in 2002 nearly 10% of all under-five deaths in sub-Saharan Africa could be attributed to HIV/AIDS.[xxx]

These figures, furthermore, average the rates across many countries. When the analysis broke down HIV-related proportional attributable child mortality for individual countries for 1999, countries with high prevalence showed the effect of HIV even more strongly (Figure X). For instance, in Botswana and Zimbabwe, both of which have seen increases in all-cause child mortality since 1990, the percentage of under-five deaths attributable to HIV/AIDS was estimated at 42.4% and 35.1% respectively. In Namibia, where all-cause

child mortality has decreased, HIV/AIDS contributes substantially to the under-five mortality rate, accounting for approximately 26.8% of under-five deaths.[xxxi]

[[Figure X. HIV-related population proportional attributable risk of dying before age five, sub-Saharan Africa, 1999]][xxxii]

A study on the long-term impact of HIV and orphanhood on child mortality in rural Malawi, where approximately 10% of pregnant women were HIV-positive at the time of the study, estimated that 18% of under-five deaths in this population were attributable to HIV.[xxxiii] On the basis of pooled data from community-based studies in Uganda, Tanzania and Malawi, another study estimates that, in a population with adult HIV prevalence of 11%, the fraction of child mortality attributable to maternal HIV infection was 15.7%.[xxxiv]

Goal: Improve maternal health
Target: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio
HIV/AIDS worsens maternal health

Due to the additional risks that HIV-positive mothers face, the HIV epidemic could further limit progress toward achieving the MDG target to reduce maternal mortality, particularly in sub-Saharan Africa and Southern Asia, where more than 80% of maternal deaths occur.[xxxv]

Pregnant women who are infected with HIV are at higher risk for prenatal and childbirth complications because of suppressed immunity. These complications include miscarriage, anemia, postpartum hemorrhage, and puerperal sepsis, in addition to indirect causes during and after pregnancy, such as malaria or pneumonia.[xxxvi,xxxvii]

Thus, maternal mortality ratios for women infected with HIV can be substantially higher than for uninfected women. For example, the maternal mortality rate for HIV-positive mothers in Durban, South Africa between 1996 and 1998 was more than twice the rate for uninfected mothers.[xxxviii] Similarly, another study shows the rate of maternal deaths among HIV-positive women to be three times higher than the rate among uninfected women in Rakai, Uganda.[xxxix] In South Africa, the proportion of maternal deaths due to indirect infections (including AIDS) increased from 23% to 31% over the period 1998-2001, making these infections the leading cause of maternal mortality.[xl]

Goal: Combat infectious diseases
Target: Have halted by 2015 and begun to reverse the incidence of major diseases
HIV/AIDS undermines global efforts to control tuberculosis

The epidemics of HIV and tuberculosis (TB) are closely intertwined. Of the 40 million people currently living with HIV/AIDS worldwide, it is estimated that nearly one-third are also infected with TB.[xli] Because of HIV-related immune suppression, HIV-positive individuals who carry the TB bacillus are more susceptible to active TB than uninfected carriers.

The risk of acquiring TB doubles soon after infection with HIV and continues to increase during subsequent years.[xlii,xliii] One study estimated that 9% of the estimated 8.3 million new adult TB cases worldwide in 2000 were directly attributable to HIV.[xliv] In addition, HIV infection makes it harder to treat active TB successfully.[xlv] Thus TB rates are actually increasing in high-HIV- prevalence areas of sub-Saharan Africa (Figure X), and the spread of HIV in sub-Saharan Africa is primarily responsible for driving the number of active TB cases upwards by 6% per year.[xlvi]

[[Figure X. Tuberculosis case notification rates, 1980-2003]][xlvii]

A recent review on progress toward the MDGs argues that the AIDS epidemic represents the greatest emerging threat to TB control.[xlviii] One analysis finds that if sub-Saharan Africa and Eastern Europe were excluded from global statistics, under current trends the TB prevalence rate could be cut in half between 1990 and 2015.[xlix]

Long term control of the HIV pandemic requires a truly comprehensive approach, including investing in better preventive technologies

AIDS affects countries' fundamental development performance and exerts detrimental effects on many MDGs, making it difficult if not impossible for many countries to achieve their MDG targets. More than ever, world leaders must ensure a comprehensive and integrated approach to AIDS.

Looking at the time between today and the MDGs' 2015 target date, it is essential that the delivery of existing interventions for HIV prevention, treatment and care be dramatically expanded and strengthened. At the same time and looking beyond 2015, it is equally essential to ensure increased and strategically targeted investments in future AIDS technologies - including drugs, diagnostics and prevention, notably vaccines and microbicides, which offer the best hope to end the pandemic and its deleterious effects.

Governments, donors and civil society need to commit to increased funds for HIV research and product development and build stronger political support, especially for the deeper involvement of developing countries. The international community must also take steps to promote expanded industry participation and a more coordinated and active scientific effort. Such actions are needed today and must be maintained in the years to come.

[i] UN General Assembly, fifty-fifth session. “Resolution adopted by the General Assembly: United Nations Millennium Declaration” (A/RES/55/2). 18 September 2000.

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