

# Universal Access by 2010: Scaling Up for Success

Policy Paper



Photo: UNAIDS/A.Gutman

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International  
AIDS Society

Stronger Together

# 1.0 Introduction

## LEADERSHIP AND ACCOUNTABILITY: THE UNIVERSAL ACCESS COMMITMENT

This is a defining moment in global health: 2010 is the deadline established by the international community to achieve universal access to HIV prevention, treatment and care for all those in need. The commitment was first made in 2005 at the Group of Eight (G8) Summit in Gleneagles, Scotland. It was endorsed by all United Nations (UN) Member States three months later at the UN Millennium Review Summit, and incorporated, with a firm commitment to monitor progress toward the universal access goal, in the 2006 Political Declaration on HIV/AIDS.

Significant progress has been made towards universal access in recent years. That progress remains fragile, however, and is now threatened by inadequate financial and political support. The 2010 G8 Summit (25–26 June) in Muskoka, Canada, represents a unique opportunity for wealthy nations to recommit to attaining universal access and the health-related Millennium Development Goals (MDGs). Immediately following the G8 Summit, the Group of 20 (G20) Summit (26–27 June) in Toronto, Canada provides a similar opportunity for the G20 to demonstrate leadership and accountability to achieve the universal access goal. African nations, which account for more than two-thirds of the global epidemic, must also be held accountable for the 2001 Abuja Declaration commitment to dedicate at least 15% of their national budgets on health, which most have failed to meet.

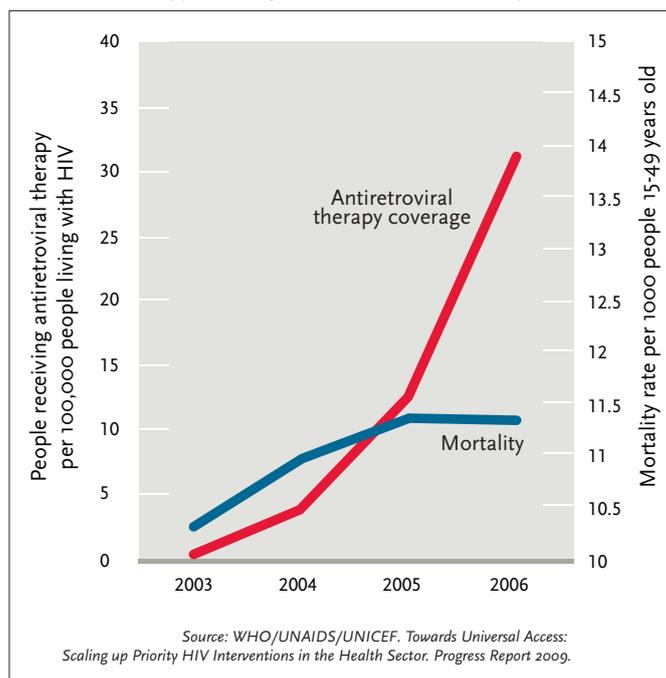
Among the principal goals for international financing for AIDS is ensuring that the Global Fund to Fight AIDS, Tuberculosis (TB) and Malaria secures the \$20 billion it needs to continue to fund the country-driven, performance-based programmes that have already put 2.5 million people on HIV treatment and saved the lives of approximately 4.9 million people to date.<sup>1,2</sup> The Global Fund is facing a widening gap between available funding and the needs being expressed by recipient countries. The 2010 Global Fund replenishment meetings, where donors will make pledges to cover anticipated needs between 2011 and 2013, is a critical opportunity to ensure that recent momentum on AIDS is not lost.

The **International AIDS Society (IAS)** is the world's leading independent association of HIV professionals, with over 14,000 members working in 190 countries. It acts as the independent global voice of health care workers, researchers, policymakers, educators, advocates and others, with a focus on bringing the evidence and the professional experience of its members to shape policy and practice. For over 20 years, the IAS has served its membership and the HIV field by facilitating knowledge exchange through its conferences, meetings and summits, by supporting policy dialogue and advocacy on critical issues, and by disseminating and promoting the evidence required to expand and improve the delivery of high-quality, well-resourced HIV research, prevention, treatment and care programmes.

Bilateral aid programmes also play an important role in the AIDS response; an evaluation of the US President’s Emergency Plan for AIDS Relief (PEPFAR) indicates that in just three years (2004–07) PEPFAR cut AIDS mortality by 10.5% in its 15 focus countries, averting an estimated 1.2 million deaths.<sup>3</sup> The population-level impact of antiretroviral therapy (ART) scale up is particularly evident among high-burden countries such as South Africa, where there is a clear correlation between access to ART and a reduction in all-cause mortality (see Figure 1).

These remarkable results demonstrate what is achievable through international collaboration, commitment and investment.

**Figure 1: Antiretroviral therapy coverage and all-cause mortality in South Africa, 2003–2006**



## NEW TREATMENT GUIDELINES COULD DRAMATICALLY REDUCE HIV INCIDENCE, ILLNESS AND DEATH

Studies clearly demonstrate that early treatment with Highly Active Antiretroviral Therapy (HAART) extends the life-expectancy of individuals with HIV and reduces health care costs,<sup>4,5,6</sup> adding a powerful additional argument for increased HIV investments that should resonate with political leaders in the current economic climate.

Updated World Health Organisation (WHO) clinical guidelines on ART for adults and adolescents now recommend initiation of ART for people with HIV who have CD4+ cell counts of  $\leq 350$  cells/mm<sup>3</sup>, and for all patients co-infected with HIV and TB, regardless of clinical symptoms.<sup>7</sup> In 2009, a major trial in Haiti found substantially higher rates of mortality and morbidity among people who deferred starting HIV treatment (below 200 cells/mm<sup>3</sup>), as opposed to those who started earlier (below 350 cells/mm<sup>3</sup>).<sup>8</sup> Evidence also supports the cost-effectiveness of this strategy because it reduces hospitalizations and the need for non-ARV (antiretroviral) medications

and other services associated with later initiation of treatment.<sup>9</sup> ART programme rollout in low and middle-income countries is also correlated with significant declines in TB among both HIV-infected and uninfected populations, further strengthening the argument that investing in HIV will result in a wide range of associated health and economic benefits.<sup>10</sup>

Implementing the new WHO treatment guidelines will reduce illness, save lives and ultimately drive down health care costs. Yet despite the many health, economic and social benefits of ART scale up, increasing reports – outlined in detail in Section 2.0 – indicate that stock-outs and rationing related to shortfalls in ART financing are already occurring with patients eligible under the previous (2006) treatment guidelines, which recommended ART initiation for individuals presenting with less than 200 CD4+ cells/mm<sup>3</sup>. As initiation with ART late in disease progression is the single largest cause of post-treatment mortality, this situation is a crisis in the making.

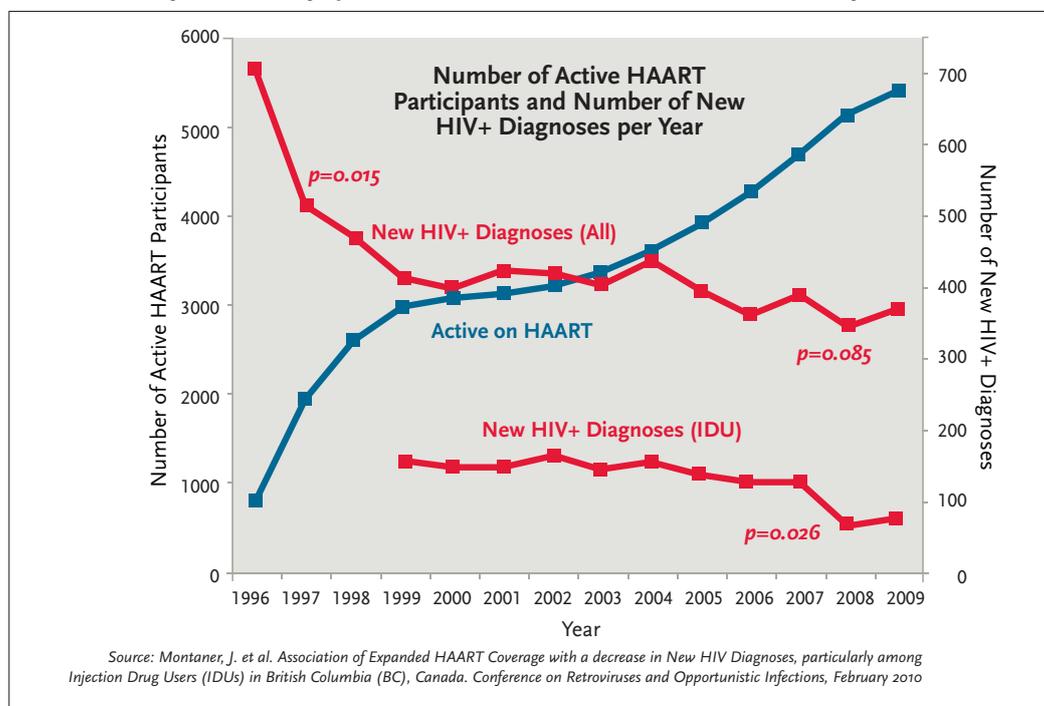
## HARNESSING THE FULL POTENTIAL OF HAART

During the past five years it has become clear that the benefits of treatment extend beyond saving the lives of individuals with HIV. The lower a person's viral load, the less likely they are to transmit HIV.<sup>11,12</sup> Antiretroviral therapy plays a key role in decreasing HIV transmission, and as a result the value of the original universal access commitment has dramatically increased. New evidence has now been generated to show that reducing virus levels with antiretroviral therapy similarly reduces the risk of HIV transmission in a variety of settings:

- Data presented at the 2010 Conference on Retroviruses and Opportunistic Infections (CROI 2010) demonstrated a 92% reduction in transmission among sero-discordant heterosexual couples on treatment in an African cohort.<sup>13</sup>
- Antiretroviral therapy has been shown to reduce HIV transmission at the population level. In Taiwan, the initial roll out of HAART was associated with a 53% reduction in new HIV diagnoses between 1997 and 2002.<sup>14</sup> In British Columbia, Canada, new yearly HIV infections decreased by approximately 50% between 1996 and 1999, coinciding with the introduction of HAART.
- In San Francisco a substantial increase in HIV testing and treatment between 2004 and 2008 was accompanied by a decline in new HIV diagnoses, a decrease in the average viral load in people living with HIV, and a decline in HIV incidence of around one-third.<sup>15</sup> During this period the proportion of people diagnosed with HIV linked to care rose to 80%, and by 2008 90% of these patients were receiving antiretroviral therapy. Treatment was suppressing viral load to undetectable levels in 75% of these patients by 2008. As a result of all these factors the average viral load in the community fell significantly, by around one-third between 2005 and 2008.
- Antiretroviral therapy has been shown to reduce HIV transmission among injection drug users.<sup>16</sup> Analysis of two prospective cohorts of people who use injection drugs (PUIDs) in Vancouver has shown that the average viral load among HIV-infected drug users in the preceding six months was strongly associated with an individual's risk of HIV infection, independent of unprotected sex and syringe sharing. Over the same period the use of antiretroviral therapy rose from 42.5% in 1996 to 69.6% in 2007 among cohort members.

Across the province of British Columbia HAART coverage increased steadily from approximately 2,500 to 5,000 patients between 2004 and 2009.<sup>17</sup> This was associated with a decrease in the number of new HIV infections diagnosed, and a 50% decrease in new HIV infections diagnosed among PUIDs.

**Figure 2: Scaling Up HAART Associated with Reductions in New HIV Diagnoses**



## CAPITALIZING ON HIV INVESTMENTS

The significant expansion of HIV services over the last decade is one of the most successful global public health responses ever mounted. HIV investments are starting to pay enormous dividends, not only in substantial progress in reducing HIV transmission and treating those infected, but also in progress towards reaching interrelated health and development goals, including the MDGs agreed by the international community in 2000. Global public health priorities such as improving child health (MDG 4) and reducing maternal mortality (MDG 5) – have also enormously benefited from HIV investments (see Figure 3), which have built health systems infrastructure, trained and increased human resources for health, and strengthened health system capacity to address HIV and other urgent health priorities.

**Figure 3: Impact of HIV Investments on Child Health**

- Infant mortality in South Africa declined 30% between 2001 and 2007 following implementation of ART prophylaxis to prevent vertical transmission
- 340,000 babies were born HIV-free as a result of vertical transmission prevention programmes supported by PEPFAR alone
- Mortality in *uninfected* children of parents living with HIV in Northern Uganda decreased by 81% in one study following ARV scale up, and the number of orphaned children dropped by an estimated 93%.

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The recent impressive scale up of AIDS services provides a blueprint for how to mount an innovative, effective response to a global health crisis: establishing timelines, setting concrete, measurable targets and developing innovative financing and delivery systems to maximize the impact of investments. Recent operations research and community-based studies also demonstrate new approaches to integrating HIV and other health and social services such as TB care; integrating HIV testing, counselling and treatment referral with other sexual health and reproductive services and antenatal care; and integrating HIV, hepatitis C virus (HCV) and evidence-based harm reduction interventions (including needle and syringe programs (NSP) and opioid substitution therapies (OST)) for people who use injection drugs.

Despite these successes, a recent report of the Organization for Economic Cooperation and Development (OECD) indicates that wealthy nations are currently falling billions short of their commitments to universal access and the achievement of the MDGs.<sup>18</sup> Universal access will not be achieved this year because financial commitments have not been scaled up to deliver the needed HIV prevention, treatment and care interventions. In fact, the gap between the resources committed and the resources required is substantial and growing.

At the same time, some suggest that the global response to AIDS has received a disproportionate level of donor support compared to other health and development issues, or that resources should be reallocated to other important goals, such as tackling hunger, poverty, and climate change.

This argument often ignores the interrelatedness of key health and development goals. AIDS is the leading global killer of women of reproductive age and remains one of the leading causes of adult and child deaths in middle and low-income countries.<sup>19</sup> As evidence in Section 7.0 demonstrates – it will be impossible to improve maternal health or child health, reduce poverty or achieve other MDGs without significant new financial and political support for AIDS responses.

As evidence in this paper makes clear, a retrenchment would seriously jeopardize existing HIV investments. Treatment interruptions, for example, would allow drug resistance to emerge, with resulting increases in morbidity and mortality and increased costs as patients would need to be switched to more expensive second-line drug regimens. Rather than reducing investments in universal access and squandering successes to date, public and private sector funders should increase their commitments to these remarkably effective public health strategies.

The scale-up of AIDS financing to achieve universal access has been complicated by the global economic crisis, with low- and middle-income countries cutting domestic AIDS budgets and high-income countries flatlining or threatening to reduce bilateral aid programmes. Yet it is during economic downturns that increased investments in overseas development assistance (ODA) are most critical for low and middle-income countries. There is no evidence that the financing governments and private donors allocate to health and development goals cannot be expanded. As the recent multi-billion dollar bailouts of financial institutions makes clear, decisions about whether or not to finance universal access are a question of political priorities rather than resources.

While ODA and domestic funding remain central to financing universal access efforts, the urgent need to sustain progress also requires consideration of additional innovative financing

mechanisms to increase resources for global health and development. The Financial Transaction Tax (discussed in Section 2.0) is one of several innovative proposed options for securing additional, long-term financing for AIDS and other health and development goals.

The 2011-2013 Global Fund Replenishment period and the 2010 G8 and G20 summits provide donors with the first joint opportunity to act on this new evidence, by ensuring support for sufficient resources so that countries can take their AIDS programmes to scale to meet the needs of those already infected with HIV and to slow the course of the epidemic.

## 2.0 Financing the Response: Meeting Universal Access Commitments

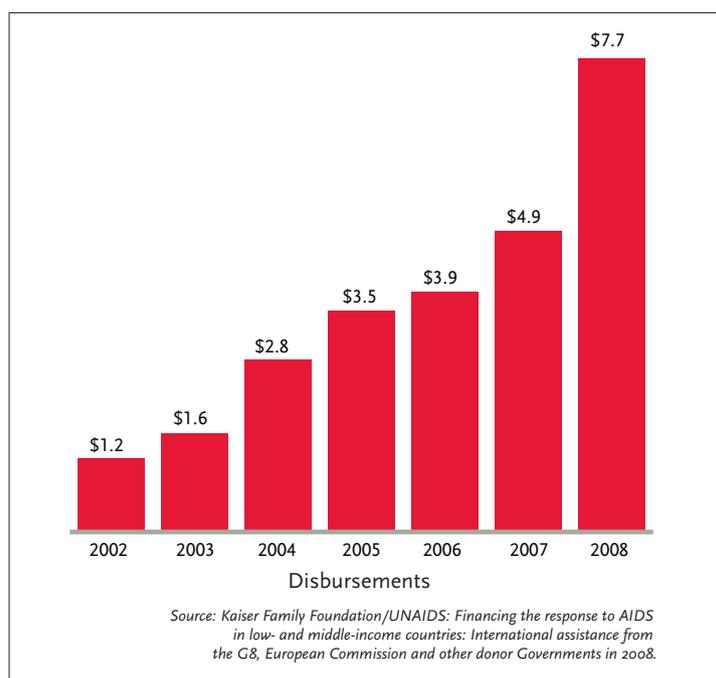
Under-financing the global response to AIDS has proven disastrous in the past (see Figure 4). The lack of an early, well-financed and effective response to AIDS in the 1980s and 1990s provided an opportunity for this epidemic to grow rapidly when a sustained, global response could have prevented the spread of HIV and the resulting impact on the health, economies and communities of the world's poorest nations.

Recent increases in dedicated AIDS financing, however, particularly over the last five years, have produced impressive gains across a wide range of health, development, economic and social indicators. Increases in the number of people on HIV treatment tracks the increase in donor financing for AIDS. In 2008 alone, funding for HIV-specific ODA from wealthy countries grew to US\$7.7 billion - a 56% increase from 2007 (see Figure 5).<sup>20</sup> The United Nations Population Division (UNDP) recently estimated that if recent progress against HIV and other infectious diseases continues, life expectancy in the world's poorest countries will increase from 56 years today to 69 years in 2050.<sup>21</sup> In the coming year world leaders have the opportunity to build on this momentum in funding and address the growing gap between available funding and immediate need, in order to turn the tide of the epidemic.

### Figure 4: The Historical Impact of AIDS on Development

- In the 1980s, only four countries experienced backward movements on the Human Development Index. As the HIV pandemic spread across the world, hard-won development gains were undone. By the end of the 1990s, the figure had risen to twenty-one.
- The quantitative and qualitative extent of the epidemic reversed a trend of steady increases in the Human Development Index that had been achieved in the 1970s. Not surprisingly, AIDS has been described as 'the single greatest reversal in human development'.

Figure 5: International AIDS Assistance: Trends in G8/EC & Other Donor Government Assistance, 2002–2008



## HIV, HEALTH AND THE IMPACT OF THE ECONOMIC CRISIS

More than half of African countries already under-spend on health. A 2009 study by the African Union indicated that few had met their Abuja commitment to allocate 15% of their national budget to health.<sup>22,23</sup> In March 2009 the Global Fund announced a several billion dollar shortfall. Malawi, for example, which relies heavily on the Global Fund to meet universal access goals, is now facing a 50% shortfall in the funding it needs to meet universal access targets by 2013.<sup>24</sup>

The global economic recession has pushed 46 million people into poverty and eroded the health status of economically vulnerable populations worldwide. Infant deaths in developing countries may be 200,000 to 400,000 per year higher on average between 2009 and the MDG target year of 2015 than they would have been without the financial crisis.<sup>25</sup> A joint UNAIDS/World Bank study in June 2009 (with 71 countries reporting) summarized the impact of the global recession on HIV programmes:<sup>26</sup>

- 31% of countries expected HIV treatment programmes to be affected by the economic crisis by the end of 2009.
- 34 countries (representing 75% of the global HIV burden) indicated that HIV prevention programmes were at the highest risk of being affected.

These impacts are already evident. Médecins Sans Frontières (MSF), a non-governmental organization responsible for delivering treatment to more than 170,000 people with HIV in approximately 30 countries, has reported stock-outs and budget cuts to treatment programmes as a result of the recession, with middle-income countries particularly vulnerable.<sup>27</sup> MSF's recent report, *Punishing Success*, indicates:

- Swaziland, Botswana and Tanzania have already reduced their ART coverage goals, citing budget constraints
- Stock-outs of ARVs in Free State Province, South Africa, resulted in treatment interruptions for those already enrolled. A moratorium on new enrollees, caused in large part by a domestic budget shortfall, caused approximately 3,000 deaths and potential drug resistance among those enrolled

It is precisely during economic downturns that HIV and other health and development investments are most critical. Economic crisis increases communities' vulnerabilities both to acquiring HIV and to dealing with the epidemic's impact. Commitments to universal access made by the international community in 2005 and 2006 were not conditional on strong economic growth.

Encouragingly, global economic forecasts are improving. The International Monetary Fund's (IMF) economic growth estimations and forecasts for 2010 in the November update of the World Economic Outlook report were increasingly optimistic:<sup>28</sup>

- global growth for 2009 was revised from -1.3% to -1%, representing an upward revision of almost 25%
- forecasts for 2010 growth were revised from 1.9% to 3%, an upward revision of just over 55%
- economic growth in emerging economies – such as India and China – is expected to reach 5% in 2010, up from 1.75 % in 2009.

These recent economic projections undermine claims among major global economies – including many G20 nations – that flatlining or reducing ODA or domestic health budgets is warranted, particularly when compared with the trillions of dollars in public revenues provided to the financial institutions that were at least partly to blame for the recent recession.

## OPPORTUNITY, ACCOUNTABILITY AND INNOVATION

### *The increasing role of the G20 nations*

The growing political influence of the G20 is particularly relevant to the prospects for achieving universal access. Among the G20 members are some of the countries with the highest HIV burden or expanding epidemics, as well as countries with valuable experience in managing their epidemics with relative success. Cultivating political leadership for universal access within the increasingly important G20 nations will require building an appreciation among these nations of how HIV impacts on their collective political and fiscal priorities.

While the world's wealthiest nations – the G8 – must continue to be held accountable for their 2005 universal access commitment, the upcoming summits in Canada also present an opportunity to broaden the responsibility and accountability for financing universal access commitments. Together, G20 members represent a much larger sector of the global population, including important emerging economies such as India, China and Brazil. The expertise these countries bring to both the domestic and international response to the epidemic makes a clear case for and increased role in health and development for the G20.

### The need for innovative financing

The scope of the epidemic and the required response have driven remarkable innovations in global health financing, beginning with the establishment of the Global Fund itself in 2002. More recent financing innovations include UNITAID, a non-profit organization that leverages price reductions for diagnostics and medicines, thereby accelerating the pace at which such commodities are made available to low and middle-income countries. A modest airfare levy among participating countries (from US\$1 for economy class tickets to between \$10 and \$40 for business class tickets) supports 78% of the organization's financial base. Since its founding in 2006, UNITAID has committed over US\$730 million to support 16 projects in 93 countries, demonstrating how innovative approaches that have little impact on consumers can generate substantial revenue for public health priorities.<sup>29</sup>

In September 2009, developed and developing country leaders met as part of the International Health Partnership's (IHP's) High-Level Task Force for Innovative Health Financing for Health Systems, committing to a series of initiatives designed to increase revenue for health spending focused on maternal and child health.<sup>30</sup> One potential source of sustainable, long-term financing for health and development that is gaining increased high level support is the financial transaction tax (FTT)—a modest levy on financial transactions proposed by several world leaders including Gordon Brown, Angela Merkel and Nicholas Sarkozy.<sup>31</sup> Even a more modest currency transaction levy (CTL) of 0.005% on currency transactions—one of the proposals that emerged from the IHP's Task Force—would raise \$33 billion annually without disrupting currency markets.<sup>32</sup> Innovative financing options such as these could play an important role in securing the necessary long-term resources to sustain scale up for universal access, alongside increased ODA and domestic spending.

## THE IMPACT OF FAILING TO BRING FINANCIAL INVESTMENTS FOR UNIVERSAL ACCESS TO SCALE

Along with the significant benefits of scaling up HIV prevention, treatment and care, a clearer picture is also emerging of the consequences of failing to continue scaling up AIDS financing. Research recently carried out as part of aids2031 (a consortium of organizations including academic research centres) modelled the impact of various investment scenarios on the future course of the pandemic. The model included a “current trends” scenario, in which interventions continue to grow at current rates to reach approximately two-thirds of universal access targets by 2015;<sup>33</sup> and a “rapid scale up” scenario in which financial commitments continue to grow and political commitments to those targets remain strong. A summary of the impact of these scenarios on vital indicators, summarized below, demonstrates the enormous differences in AIDS deaths if current (flatlining or modestly increased) funding trends continue compared to rapidly scaled-up investments:

Figure 6: Projected Scale up Trends on Vital Indicators

	Current trends	Rapid scale up
Number of new infections annually in 2015	1.9 million <sup>34</sup>	1.3 million <sup>35</sup>
Number of AIDS deaths between 2009-2031	+ 45 million <sup>36</sup>	39 million <sup>37</sup>
Number of life years gained between 2009-2031	c. 137 million <sup>38</sup>	234 million <sup>39</sup>

National studies from high-burden countries show similar results. The lack of serious political and financial commitment to tackle HIV in South Africa in the past, for example, has saddled the country with one of the largest HIV burdens of any country in the world, with an estimated 5.7 million people living with HIV.<sup>40</sup>

Modelling conducted in 2009 by UNAIDS indicated that if full investments were made in country-level universal access targets by 2010 that:

- the number of new HIV infections averted in 2009-2010 alone would be 2.6 million;
- the number of deaths averted over that year would be 1.3 million; and
- incidence of HIV over that year would be cut by nearly 50%.

Failure to fully fund ART programmes or downsizing existing programmes would also reduce the impact of ART on HIV transmission, the evidence for which is outlined above and in the IAS paper “Will We End the Epidemic?”<sup>41,42</sup> Other potential effects of underfunding ART programmes include the potential for drug resistance as a result of treatment interruptions due to stock-outs. Even short term interruptions in treatment may jeopardize the lives of millions, as most people who do not resume treatment will die within one to two years of stopping treatment.<sup>43</sup> There are also cost implications for patients who must, as a result of drug resistance, move to second-line treatments to prevent disease progression; second-line drug regimens are 5 to 10 times more expensive than first line therapy in nearly all low- and middle income countries.<sup>44</sup>

Financing shortfalls for HIV programmes can also be expected to have grave consequences for global efforts to prevent and treat tuberculosis. HIV/TB co-infection levels are as high as 80% in some sub-Saharan African countries.<sup>45</sup> Individuals with immune systems compromised by HIV have a 10% annual risk of developing TB (compared to a 10% lifetime risk for those without HIV).

International efforts to control TB have the potential to save 14 million lives by 2015, and a 2008 World Bank study indicated that the economic benefits of investing in TB control relative to a “no-DOTS scenario” exceeded costs by a factor of 15 in all of the 22 countries heavily affected by TB.<sup>46</sup> Given the prevalence of HIV/TB co-infection, these important public health and economic benefits will likely be forgone if efforts to scale up HIV prevention and treatment stall.<sup>47</sup>

## 3.0 Progress on Treatment, Care and Support

### TESTING AND COUNSELLING

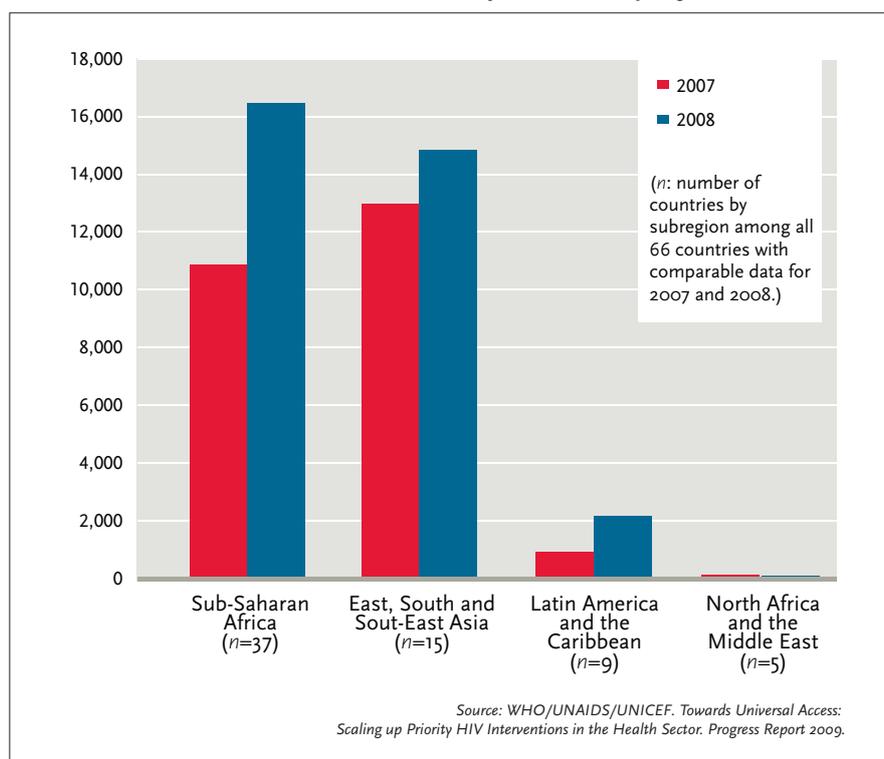
Establishing knowledge of HIV serostatus through testing and counselling is essential to increasing access to appropriate treatment and care programmes, and can be a helpful vehicle to deliver HIV prevention, and other sexual and reproductive health messages. Scaling up ART programmes is strongly linked with increases in testing and counselling coverage. Conversely, motivating individuals to get tested is challenging if treatment is unavailable.

Progress in testing and counselling coverage has increased markedly; the median percentage of respondents aged 15-49 living with HIV in low- and middle-income countries who reported having an HIV test and receiving the results increased from approximately 15% to 39% between 2005/06 and 2007/08.<sup>48</sup> The number of tests provided more than doubled between 2007 and 2008 in 39 low- and middle-income countries that reported comparable data for those years.<sup>49</sup>

- In Ethiopia, the number of individuals who received testing and counselling increased from just 1.9 million in 2007 to 4.5 million in 2008.<sup>50</sup>
- In Tanzania, the number of women and men who reported having received an HIV test and the results in the 12 months prior to the survey more than doubled between 2005 and 2008.<sup>51</sup> A similar increase was found among men in Uganda between 2004 and 2006; for women, the figures tripled over the same period.<sup>52</sup>
- The number of reporting countries with HIV testing and counselling policies in place increased from 70% to 90% from 2007 to 2008.<sup>53</sup>

Despite progress in increasing access to HIV testing and counselling, the percentage of people with HIV around the world who are aware of their HIV status remains low. Seven population-based surveys conducted in 2007 and 2008 revealed that the mean percentage of people living with HIV who were aware of their status was only 40%.<sup>54</sup>

**Figure 7: Reported number of health facilities providing HIV testing and counselling services in low- and middle- income countries with comparable data, by region, 2007 and 2008**

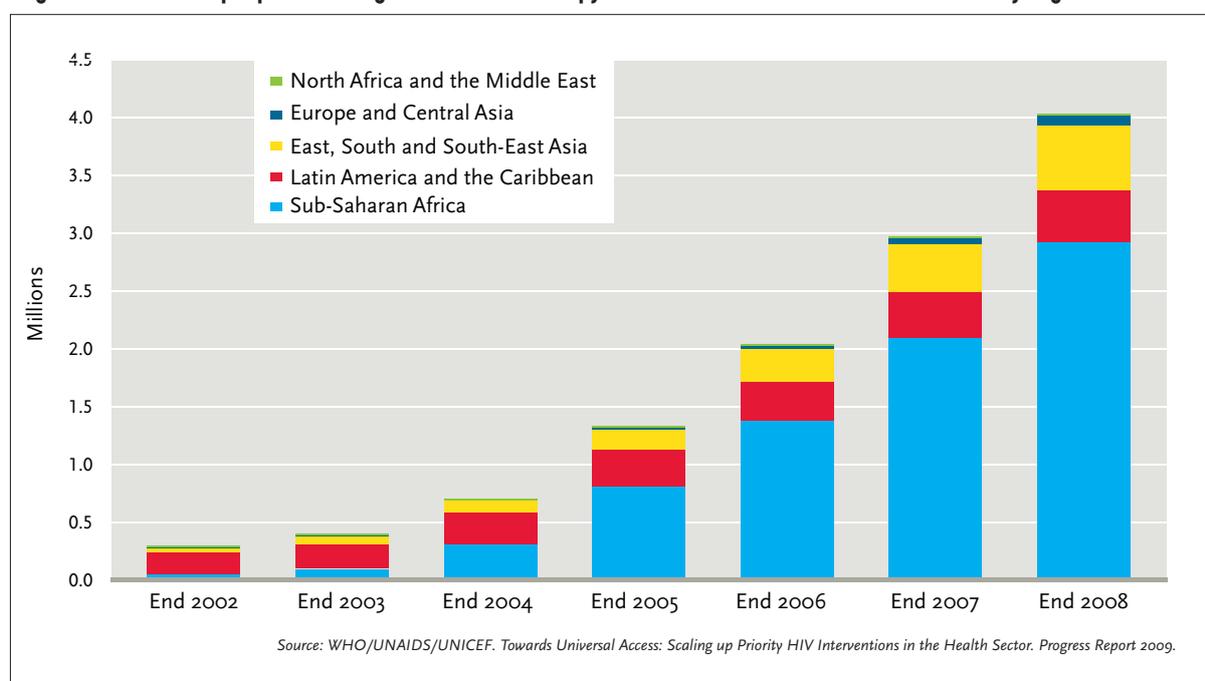


Increasing HIV testing and counselling in 2010 and beyond will be essential to ensuring that those infected with HIV engage with health services as early as possible. As many of the gains in testing and counselling coverage have not been evenly distributed, scaling up financing and improving access for populations at high-risk for HIV infection, including MSM, PUIDs, sex workers and migrant populations, will be particularly important.<sup>55</sup>

## TREATMENT AND CARE

The scale-up of ART and related care has been one of the most impressive accomplishments in the AIDS response of recent years: from 400,000 on ART in low- and middle-income countries at the end of 2003 to more than 4 million people receiving ART by the end of 2008.<sup>56</sup> The regional breakdown in Figure 7 highlights the scale of this achievement — as well as substantial regional variation in coverage.

**Figure 8: Number of people receiving antiretroviral therapy in low- and middle- income countries, by region, 2002–2008**



It is now also recommended that women living with HIV begin ART therapy when they are 14 weeks pregnant and throughout 12 months of breastfeeding, reflecting evidence that such strategies can both keep women alive and virtually eliminate vertical transmission. WHO also now recommends phasing out the use of stavudine (d4T) in favour of zidovudine (AZT)- or tenofovir (TDF)-containing regimens, as these less-toxic combinations will improve treatment adherence and efficacy and ultimately optimize investments in ART programmes.

## MANAGING LONG-TERM TREATMENT NEEDS

In July 2009, the United Kingdom's All-Parliamentary Group on AIDS published a report on the long-term challenges of providing ARVs to the estimated 55 million people in the developing world who will be infected with HIV by the year 2030<sup>57,58</sup> and recommended a number of steps to enable broad generic production of ARVs:

- Developing partnerships between originator and generic companies such as those between Gilead and generic manufacturers in India;
- Ensuring governments use their influence to limit the adoption of clauses in trade agreements that curtail Trade-Related Aspects of Intellectual Property (TRIPS) flexibilities that are needed to improve access to medicines;<sup>59</sup>
- Ensuring that major purchasers of ARVs such as the Global Fund can stimulate reductions in prices by making advanced commitments to purchase large volumes and by taking steps to improve the forecasting of demand.<sup>60</sup>
- Ensuring that governments maintain existing flexibilities in their ability to issue compulsory licenses and other aspects of the current TRIPS agreement beyond the current TRIPS deadline.

## 4.0 Progress On Prevention

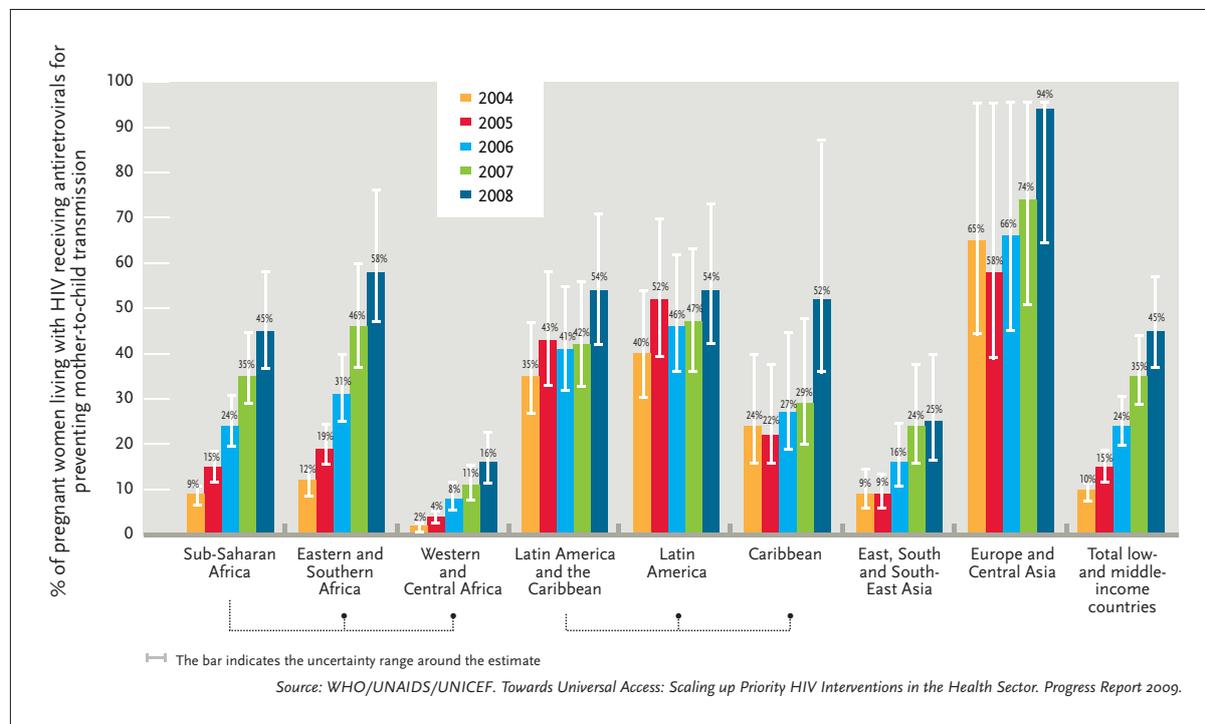
Globally, the number of new HIV infections decreased by 17% from 2001 to the end of 2008; progress has been even more marked in sub-Saharan Africa, where the burden of HIV is highest.<sup>61</sup> Both research data and programmatic experience indicate that 'combination prevention' is the most effective approach to reducing HIV transmission.<sup>62,63</sup> The term 'combination prevention' denotes the use of a concurrent, multi-pronged HIV prevention strategies that may include structural interventions (e.g., establishing an enabling legal and policy environment), biomedical interventions (e.g., opioid substitution therapy, combination ART prophylaxis to prevent vertical transmission, medical male circumcision) and individual, small group and community behavioural interventions (e.g., peer education, distribution and promotion of male and female condoms). A number of effective, evidence-based HIV prevention interventions tailored for specific populations over the past 25 years have been vital in slowing the pace of the epidemic. Despite clear evidence of the impact of these interventions, however, coverage levels are poor and few interventions are on track to become universally available.

### *Prevention of vertical transmission*

ART prophylaxis can reduce vertical transmission rates to below 1%. In several high-income countries, HIV transmission to infants has been eliminated. In 2008, 45% of pregnant women living with HIV in low- and middle-income countries received ARVs to prevent vertical transmission and for their own health, up from only 10% in 2004.<sup>64</sup> However, an increasing proportion of pregnant women are receiving optimal HAART regimens (rather than suboptimal single-dose ARVs designed exclusively to prevent vertical transmission) and coverage of PMTCT (prevention of

mother to child transmission) programmes varies substantially between countries, with some of the poorest coverage rates in the highest burden countries.<sup>65</sup>

**Figure 9: Percentage of pregnant women with HIV receiving antiretrovirals for preventing mother-to-child transmission of HIV in low- and middle- income countries by region, 2004–2008**



### Male circumcision

Medical male circumcision can provide 60% efficacy in preventing sexual transmission of HIV from women to men. Since 2007, WHO has recommended that this low-cost intervention be scaled up as part of a comprehensive, integrated HIV prevention package that includes counselling, condom use and HIV testing.<sup>66</sup> Mathematical modelling suggests scale-up of male circumcision could reduce HIV incidence between 30% and 50% over 10 years.<sup>67</sup> To date, however, only Kenya is taking substantial steps to scale up this intervention.

### Harm reduction for people who use injection drugs

Extensive evidence of how to prevent HIV transmission among people who use injection drugs (PUIDs)<sup>68</sup> has existed for more than two decades. UN agencies, including WHO, UNAIDS and the United Nations Office on Drugs and Crime (UNODC) have issued guidelines endorsing a comprehensive package of harm reduction services that identify nine proven interventions, including:<sup>69,70</sup>

- needle and syringe programs (NSP)
- opioid substitution therapy (OST, such as methadone and buprenorphine)
- peer outreach and education programs

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Despite overwhelming evidence of efficacy, coverage of prevention services for PUIDs remains patchy. Of 92 low and middle-income countries reporting to WHO on their harm reduction services, only 32 had NSP and only 26 had OST programs. NSPs distributed a median of 24.4 syringes per injecting drug user per year in Europe and Central Asia and 26.5 in East, South and South-East Asia – both far below the internationally recommended target of 200 syringes per injecting drug user per year.<sup>71</sup> OST remains illegal in Russia and access to these harm reduction interventions remains limited in other parts of Eastern Europe and Central Asia, where unsafe injecting practices are the primary drivers of the expanding HIV epidemic.<sup>72</sup> Laws and policies that prohibit or limit access to interventions for PUIDs present barriers to preventing not only HIV, but also HCV, sexually transmitted infections (STIs) and other blood-borne pathogens.

At the structural level, lack of an enabling legal and policy environment, and of the strategic health information needed to target interventions appropriately, has proven particularly challenging to efforts to deliver prevention interventions to key populations such as PUIDs, men who have sex with men (MSM), sex workers and migrant populations that lack the legal and societal protections that make effective HIV prevention possible. Despite the knowledge and evidence accumulated across more than 25 years, access to proven HIV prevention interventions is blocked by legal and policy barriers in many countries. Lack of access to prevention is exacerbated by inadequate resourcing to bring interventions to the scale required to meet universal access goals.

### **MSM**

Globally, MSM populations have among the highest HIV prevalence and poorest coverage of prevention interventions among key populations, particularly in generalized epidemics.<sup>73</sup> A South African study found HIV prevalence of 50% in an MSM population in Johannesburg, compared to 12% of predominantly heterosexual men in KwaZuluNatal.<sup>74</sup> MSM populations in sub-Saharan Africa are beginning to be recognized as ‘an important, previously undocumented, component of many national epidemics’.<sup>75</sup>

More than 30 of the 47 countries in sub-Saharan Africa criminalise same-sex activity between consenting adults with penalties that include lengthy imprisonment and, in some cases, capital punishment. In April 2009, Burundi enacted its first laws criminalising consensual same-sex contact.<sup>76</sup> Uganda is considering legislation that would criminalise homosexuality and introduce the death penalty for repeat ‘offenders’, those who are HIV-positive, or those who engage in same-sex acts with people under 18 years of age.

In this disturbing legislative and policy context, it is not surprising that few countries in sub-Saharan Africa report prevention coverage data on MSM. Only Nigeria and Burkina Faso did so in the most recent 2009 Progress Report, and these two nations reported median coverage of only 21%. Globally, the median prevention coverage figure for MSM is not much better at 28%.

A recent review of both randomized controlled trials and observational studies of a range of prevention interventions confirmed that addressing multiple determinants of human behaviour - including knowledge, motivation, interpersonal relationships and societal norms - are key to the behavioural change required to reduce HIV transmission.<sup>77</sup> The review also reinforced the need for such efforts to be backed by strong political support and community engagement. If universal

access targets are to be met, scaling up financing for evidence-based HIV prevention interventions must be accompanied by legal and policy reform for PUIDs, MSM and other vulnerable populations.

Gaps in prevention also highlight the need for increased investment in HIV prevention research. For the first time since this epidemic began, a Phase III vaccine trial has demonstrated a modest level of efficacy.<sup>78</sup> Scaling up the search for an effective vaccine or other biomedical prevention intervention, such as pre-exposure prophylaxis (PrEP) and microbicides, will be critical to defeating this epidemic.<sup>79,80</sup>

## 5.0 The Impact of HIV Investments on Health Outcomes, Maternal and Child Health and Health Systems

A substantial body of evidence shows that scaling up HIV investments towards the universal access goal has had a broadly positive impact on a wide range of health systems indicators and population health outcomes in low and middle-income countries. HIV investments have reduced morbidity and mortality at a population level in many high burden countries in Africa. Overall mortality across 12 of PEPFAR's 15 focus countries is estimated to have declined by an average of 6.3% nationally *per year*.<sup>81</sup> Recent research has also demonstrated the impact of HIV investments on other epidemics:

### **Tuberculosis**

- The expansion of ART in a South African township was correlated with a decline of more than 75% in annual notification of TB co-infection.<sup>82</sup>
- In another high HIV prevalence South African township, new TB cases fell by 60% in HIV-positive people in just 3 years, contributing to a 20% decline in TB cases in the township between 2005 and 2008.<sup>83</sup>

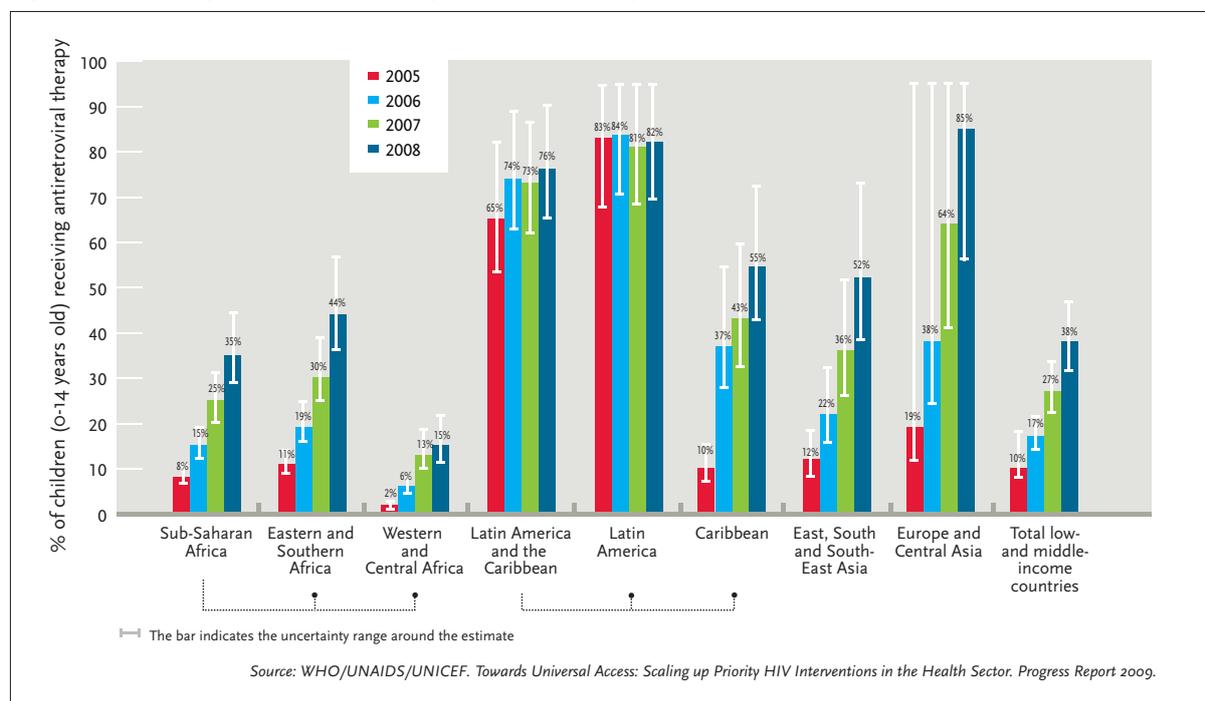
### **Maternal and Child Health**

Some of the clearest impacts of HIV investments have been on maternal and child health: AIDS continues to be the leading cause of death among women of reproductive age worldwide.<sup>84</sup> In hyper endemic countries maternal and child mortality rates are strongly associated with HIV – a study from Zimbabwe found that HIV accounted for over a quarter of reported maternal deaths. A five-year audit of maternal mortality in South Africa showed that maternal deaths were six times higher among women living with HIV.<sup>85</sup> ART rollout has reduced morbidity and mortality among women, reduced vertical transmission and improved the health of infants and children.

- In Botswana, infant mortality declined and life expectancy increased following the expansion of HIV prevention and treatment services.
- An 83% reduction in non-HIV infant mortality was found in Eastern Uganda following the introduction of ART.
- A 57% reduction in under-2 child mortality was seen in KwaZulu-Natal Province in South Africa following ART access scale-up.

- A study in Western Kenya found that the use of ART reduced the probability of an HIV-infected child being diagnosed with incident TB by 85%.<sup>86</sup>

**Figure 10: Percentage of children receiving antiretroviral therapy in low- and middle- income countries, 2005–2008**



### Health Systems Impact

Despite often-expressed concerns that ‘vertical’ or disease-specific programmes produce health system ‘distortions’, a number of studies have demonstrated that HIV investments and the scale-up of HIV interventions using the public health approach are expanding health care capacity across a number of areas. The use of standardized drug regimens, and simplified clinical guidance has enabled rapid scale up and improved service delivery.<sup>87</sup> Other key aspects of health systems, including service delivery, financing, governance, health workforce, health information systems and supply management systems are all potentially influenced and improved by such initiatives.

A recent review of the impact of global HIV initiatives indicated that these initiatives have strengthened health care systems in low- and middle-income countries.<sup>88</sup> Improved planning and buy-in from government and civil society has led to national health policies and programming that often seek to integrate other health initiatives with effective HIV campaigns. Investment in health infrastructure such as the creation and improvement of health facilities and the employment and training of health workers as part of the scale up of HIV services has been associated with:

- A 35% decrease in adult mortality in Malawi;
- Reductions in hospitalizations by 76% among populations studied in South Africa and Uganda.<sup>89</sup>
- Improved clinical and laboratory monitoring, pharmacy capacity and management.<sup>90</sup>
- Positive impacts in terms of human resources for health, and more effective health management information and procurement systems.<sup>91,92</sup>

Innovations in the delivery of health services as a result of HIV investments are also enabling low-income countries to reach universal access targets. Data from Malawi has demonstrated that a variety of measures, including task shifting, decentralization of care to health centres, improved community infrastructures for health and community involvement helped that country meet universal access targets for ART (with 78% programme retention) by the end of 2007.<sup>93</sup>

There is no evidence that investing directly in generic health system strengthening activities would provide the same extensive, positive population-level health outcomes, and stronger health systems that HIV investments have produced. A recent report from the World Bank's Independent Evaluation Group examined 'sector-wide approaches' (SWAps) to improve health outcomes in six countries: Bangladesh, Tanzania, the Kyrgyz Republic, Malawi, Nepal and Ghana. The report notes, "Except for the SWAp in the Kyrgyz Republic, [SWAps] have not substantially strengthened the health sector's results focus or accountabilities."<sup>94</sup>

## 6.0 The Impact of HIV Investments on Broader Economic, Social and Development Indicators

AIDS has been responsible for enormous setbacks in development, and the epidemic must be adequately addressed to ensure a foundation for development, poverty reduction and gender equity moving forward. AIDS responses are also key to achieving MDGs that are not explicitly health-related, but in which health plays a critical role. There is abundant evidence that efforts to achieve MDG 1 (end extreme poverty and hunger), MDG 2 (achieve universal primary education) and MDG 3 (promote gender equality and empower women) are unlikely to be achieved by 2015 without universal access to HIV prevention, treatment and care.

### *Economic growth and security*

The impact of AIDS on economic growth in G20 nations makes an unequivocal case for early and strong investments in HIV interventions:

- Macroeconomic modelling in South Africa predicts that the country's economic labour supply will have declined by 12.8% by 2010.<sup>95</sup>
- Studies into the long run economic costs of HIV in South Africa estimate that if the country's epidemic is managed ineffectively, the country's economy could shrink by half within just four generations.<sup>96</sup>
- A Brazilian study indicated that that nation's highly successful ART rollout resulted in savings of \$1.2 billion in healthcare costs.<sup>97</sup>

One of the severest effects of the HIV pandemic has been the extent to which it has not only worsened the lives of millions already living in poverty, but pushed people newly into poverty as well. A study of HIV-affected households in Malawi showed that the negative impact of HIV on household incomes took up to 18 months to stabilize, with the new income stabilising at half the household's pre-HIV levels.<sup>98</sup> HIV is expected to increase the rate by which households become impoverished by 0.5% per year in high-prevalence countries such as Botswana.<sup>99</sup>

### **Food security**

Infection with HIV threatens food security and may lead to nutritional deficiencies through decreased food intake, malabsorption and increased excretion of nutrients. People living with HIV require 10% more calories daily if they are asymptomatic and 20-30% more if they are symptomatic.<sup>100</sup> A woman's HIV illness has been shown to impact the nutrition of their children, irrespective of whether the children are infected or not.<sup>101</sup>

### **Education**

AIDS threatens the achievement of MDG 2, relating to universal primary education, by diminishing the demand for education and eroding both existing and potential human resources for education. Given the critical role of education in the overall process of development, this has significant ramifications for the entire human development agenda.<sup>102</sup> Evidence from a number of African countries shows decreased school enrolment rates, reduced school attendance and higher rates of drop out among children whose homes are affected by AIDS,<sup>103</sup> due to the impoverishing effects of AIDS on household incomes, discrimination against HIV-affected families and the increased burden of household and caring duties on girls and boys due to HIV illness.<sup>104</sup>

- In a Ugandan study, 26% of children stated that their attendance at school had declined because their parents were ill.
- Many studies have found that orphanhood also has a significant impact on the attainment of education.<sup>105</sup> For example, one study from Tanzania found that a child not enrolled in school by the time of a mother's death would attain 54% less schooling by adulthood. A UNICEF study conducted in 2003 found that school enrolment rates for orphans were 13% lower than for non-orphans.<sup>106</sup>
- Entire schools in the Democratic Republic of Congo have reportedly had to close as a result of the impact of AIDS on teaching staff.<sup>107</sup>
- By 2015, Caribbean nations are expected to lose nearly 12,000 teachers due to AIDS, representing 13% of all attrition among teaching resources.<sup>108</sup>

### **Gender equality**

Gender inequality increases the vulnerability of women and girls to HIV infection in many settings around the world<sup>109</sup> and increases already-alarming gaps in gender equality that threaten to undermine the broader development agenda. For example, girls are more likely to be pulled out of school to perform caring roles related to the HIV illness of a family member.<sup>110</sup> Girls and women are also more likely to suffer blame and stigmatization for the infection of family members, as well as the loss of property and other essential assets following the death of husbands due to HIV.<sup>111</sup>

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## 7.0 The 2010 Watershed: Choosing to Succeed or Fail

The G8, G20 Summits and Global Fund replenishment meetings in 2010 represent an opportunity and a stark choice for the international community. Will political leaders meet the commitments they set in 2005? Will they continue and expand the scale up of the global response to HIV – and through HIV to other diseases of low and middle-income countries? Or will they allow the enormous financial and human investments already made in the global response to AIDS go to waste? AIDS, like few other diseases, reflects humanity's social fault lines, and the willingness of the international community to address a disease that disproportionately affects the poor and disenfranchised.

The G8 and G20 Summits in Canada and the Global Fund replenishment will be a barometer of whether the international community in general – and wealthy nations in particular – are willing to meet their commitments and be accountable for their promises. How the international community follows through on its commitments to universal access and the MDGs is a harbinger of future progress and our collective capacity to stay the course on global health and development issues that are not easily or quickly solved.

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