



# Children and AIDS

Fifth Stocktaking Report, 2010

# CHILDREN AND AIDS: FIFTH STOCKTAKING REPORT, 2010

**This *Children and AIDS: Fifth Stocktaking Report* is dedicated to the memory of Thembi Ngubane.**

**Cover photo:** Thembi Ngubane, 19 years old in the photograph, with her boyfriend and their 16-month-old daughter outside Thembi's home in Cape Town (South Africa). At 17, Thembi became pregnant and chose to be tested after learning that a former boyfriend had become ill. She discovered she was HIV-positive, then enrolled in a PMTCT programme. Her baby was born HIV-free. Later, she became an active peer educator, promoting the use of prevention services among young people. In 2006, Thembi and her AIDS diary were featured in a documentary broadcast by National Public Radio in the United States. In 2009, she died of drug-resistant TB, at the age of 24. © UNICEF/NYHQ2006-1376/Pirozzi

UNAIDS, the Joint United Nations Programme on HIV/AIDS, brings together the efforts and resources of 10 UN system organizations to the global AIDS response. Co-sponsors include UNHCR, UNICEF, WFP, UNDP, UNFPA, UNODC, ILO, UNESCO, WHO and the World Bank. Based in Geneva, the UNAIDS secretariat works on the ground in more than 75 countries worldwide.

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# I. INTRODUCTION

For nearly three decades, HIV and AIDS have been devastating individuals and families with the tragedy of untimely death and medical, financial and social burdens. Although children's concerns have always been present within the great spectrum of need associated with HIV, they have to some extent been overshadowed by the very scale of the epidemic in the adult population.

Thanks to improved evidence and accelerated action, however, the story of how the AIDS epidemic is affecting children is being rewritten.

No longer a sidebar crowded out by the broader compelling narrative of HIV and AIDS, children are now central to strategies and actions to avert and address the consequences of the epidemic. It is estimated that more than 1,000 babies continue to be born with HIV every day, many of them destined to die before age two if they do not receive medication.<sup>1</sup> Mothers are still dying. Adolescents are still becoming infected with HIV because they have neither the knowledge nor the access to services to protect themselves, and those infected at birth are struggling to reconcile their emerging adulthood with their HIV-positive status.

But advocacy and investment on behalf of children have had an impact, and the goal of virtual elimination of mother-to-child transmission by 2015 appears within reach. In 2005, for example, only 15 per cent of HIV-positive pregnant women in low- and middle-income countries received antiretrovirals for the prevention of mother-to-child transmission (PMTCT) of HIV; in 2009, 53 per cent of women in need received antiretrovirals for PMTCT.<sup>2</sup> In 2005, only 75,000 children under 15 in need received antiretroviral treatment. Today, that figure is approximately 356,400, around 28 per cent of those in need.<sup>3</sup> In 2005, 5.2 million young people aged 15–24 were living with HIV; today, an estimated 5.0 million are.<sup>4</sup> Before 2005 in many sub-Saharan African countries, children who had lost both



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parents to AIDS were much less likely to be in school than children whose parents were alive; today, in most places they are almost equally likely to be in school.<sup>5</sup>

Efforts to help children are, of course, part of the broader response to the AIDS epidemic. Work to provide prevention, treatment, care and support for children affected by AIDS has contributed to better approaches – and results – in a variety of areas: women needing and getting treatment for their own health; new adult infections identified through services for the prevention of mother-to-child transmission; the role of fathers and men generally in HIV prevention, treatment and care; outreach to socially excluded populations; renewed focus on social welfare and child protection systems; and increased attention to the vulnerability of girls and young women, to name a few.

However, for every problem solved or advance made, new challenges and constraints have arisen. PMTCT services are established – but they are not fully utilized. Progress has been made towards targets – but it has been inequitable. More children are diagnosed with HIV early in their lives – but their test results may not be picked up, they may not be enrolled in treatment, and many of them are likely to die. So a deeper story must necessarily be told.

As the response to AIDS moves forward, it needs to address emerging, sometimes complicated, ‘second generation’ issues to assure quality, coverage and equity and to drive the demand for services that will lead to universal access for children, and for everyone. Eliminating mother-to-child transmission of HIV requires adopting a holistic approach that builds on the maternal and newborn health platform and ensures impact.

- Maternal and child health systems must be functioning and must offer all relevant services for effective follow-up of HIV-infected pregnant women and their babies.
- Families must be able to pay for their children’s transport to clinics for follow-

**Table 1: Essential statistics, 2005 and 2009**

	2005		2009	
	Per cent	Number	Per cent	Number
HIV-positive pregnant women in need of ARVs for PMTCT	15	1,500,000 (est.)	53	1,400,000 (est.)
Women assessed for ART eligibility for their own health	–	–	51	457,000
Infants receiving early infant diagnosis	–	–	6	88,200
Infants receiving antiretroviral prophylaxis	12	173,200	35	483,300
Children under 15 years old receiving ART	7	75,000	28	356,400
Children under 15 years old in need of ART	–	1,000,000 (est.)	–	1,270,000 (est.)
Initiation of cotrimoxazole prophylaxis within two months of birth	–	–	14	187,500
Young people (15–24 years old) living with HIV	–	5,200,000 (est.)	–	5,000,000 (est.)
New infections among young people (15–24 years old)	–	–	–	890,000 (est.)

**Note:** The statistics in this table refer to low- and middle-income countries except for the number of young people (15–24 years old) living with HIV, which is global. All numbers are reported except where indicated as estimates.

**Main sources:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*, WHO, Geneva, September 2010.

**Additional sources:** Number of HIV-positive pregnant women receiving ARVs for PMTCT is from WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report*, April 2007, WHO, Geneva, 2007. Number of infants receiving ARV prophylaxis is from WHO and UNICEF, *A Report Card on Prevention of Mother-to-Child Transmission of HIV/AIDS and Paediatric HIV Care and Treatment in Low- and Middle-Income Countries: Progress on scaling up, 2004–2006*, WHO, Geneva, November 2007. Estimated numbers of young people living with HIV are from UNAIDS, 2010.

up, and able to buy or grow food to keep their children healthy.

- Health-care workers must be given a mandate and incentives for the integration and linkage of services, as well as for task-shifting to achieve greater workforce effectiveness where health systems resources are limited.
- Gender roles, gender inequality, gender-based violence and barriers to access to services must be addressed in order to reduce girls’ and women’s disproportionate vulnerability to HIV infection.
- Deep-seated ‘cultural scripts’ that dictate how women and men negotiate sexual behaviour must be well understood and, in some cases, changed;<sup>6</sup> the social and structural drivers of HIV infection must be addressed alongside biomedical interventions in order to have a lasting positive impact on prevention.
- A sustainable way to provide lifelong care and treatment for all children must be found; a generation of adolescents living with HIV is coming of age, necessitating new pathways to prevention, care and support that specifically address their needs.
- Obstacles to preventing tuberculosis (TB)-HIV co-infection among children (and their parents) must be overcome; isoniazid preventive therapy is one such preventive measure, as is the expansion of antiretroviral therapy (ART).
- Young people must be engaged in the fight against AIDS, given their important role in behaviour change and service uptake.

These are only a few examples of how efforts to save and improve the lives of women and children have evolved into policy and programme work that addresses the very cornerstones of development. This points the way for the AIDS response to take its place as a necessary, but specific, part of country-led efforts to achieve not only MDG 6 – halt and reverse the spread of the HIV epidemic – but all the Millennium Development Goals (MDGs).

## **Equity: Universal access means serving those who are hard to reach**

While children in general have benefited enormously from the substantial progress the AIDS response has made, there are millions of women and children who have been passed over because of inequities rooted in gender, economic status, geographical location, education level and social status.

Women, children and adolescents who are poor, living in rural areas or at the margins of society should have as much access to the benefits of the AIDS response as those who are wealthy, living in urban areas, well-educated and in the cultural mainstream. Strategies designed to reach only the more accessible populations can never be optimal. Everyone, everywhere has the right to the highest available standard of health. Unfortunately, in the AIDS response, as in other MDG areas, overall progress towards goals has often masked inequities in achievement.

Data from all regions of the world indicate disparities between rural and urban populations as well as disparities related to poverty or such social factors as women's financial dependence and young people's lack of access to services. Health indicators most likely to reveal inequalities include the number of women making antenatal care visits to medically trained personnel, the proportion of home births and skilled attendance at delivery, and the extent of women's unmet contraceptive needs;<sup>7</sup> birth registration is another indicator where there is significant disparity. Yet the services related to maternal and reproductive health that correspond to

these inequalities are important entry points for HIV-related prevention, treatment and care.

Strengthening health systems is important to ensure a more effective and sustainable response, and the offer of HIV testing and counselling must increase markedly if universal access goals are to be met. But in themselves these components are not sufficient to ensure access and equity. In fact, evidence shows that simply adding resources to existing health systems can exacerbate inequalities in health outcomes that already exist between rich and poor.<sup>8</sup> Investments in social protection systems may help mitigate this, by enabling women's and children's access to services.

## **The evidence: Much is known about children and AIDS**

Despite the many gaps, the knowledge base of evidence on children and AIDS has improved tremendously in a few short years. The body of scientific evidence and programme evaluation has grown to the point where clarity is emerging on how, exactly, countries can create their paths to universal access.

An accumulation of evidence led the World Health Organization (WHO) in 2010 to revise guidelines on the use of antiretrovirals for preventing mother-to-child transmission and on ART for HIV infection in adults and adolescents and in infants and children.<sup>9</sup> These guidelines represent a new standard of treatment based on highly efficacious regimens. New guidelines on infant feeding in the context of HIV reflect WHO's recommendation that HIV-exposed infants be breastfed for at least 12 months with appropriate ARV prophylaxis in country settings where breastfeeding is the safest infant feeding option. WHO also recommends intensified TB case finding and isoniazid preventive therapy for people living with HIV.<sup>10</sup> The United Nations Educational, Scientific and Cultural Organization (UNESCO) and others recently issued the first-ever sexuality education technical guidance focused on children and young people in school and out-of-school contexts;<sup>11</sup> and UNICEF and partners issued an updated guidance document on the care, protection and support of children affected by HIV and AIDS.<sup>12</sup> In 2010, WHO also issued guidance on preventing intimate partner violence and sexual violence against women, including girls and adolescents.<sup>13</sup>

Guidance, however, is only part of the solution. It is still difficult to talk about sexuality with children in school and at home, or about intimate partner violence. Where women's access to finances is limited, it has an impact on their independence; stigma and discrimination towards people living with HIV (or whose behaviour puts them at risk for HIV) still lead to their disparagement and criminalization rather

than their treatment and care using the best evidence-informed methods.

Efforts to accelerate action towards achieving the health-related MDGs must position HIV as a central element of the strategy – particularly in the hardest-hit regions of Africa, South Asia and the Caribbean and in sub-national concentrated epidemics that often affect the most marginalized in society. It is important to demonstrate how success in fighting HIV depends on and contributes to improved systems for mothers, children and families and has a positive impact on all the MDGs.

In sub-Saharan Africa, 9 per cent of maternal mortality is due to HIV and AIDS,<sup>14</sup> and in some countries AIDS contributes significantly to under-five mortality. In Eastern Europe, stigma, social exclusion and criminalization compound the distress of women and children at the margins of society and increase their vulnerability to HIV and AIDS. In that context, HIV interventions provide a relevant gateway to work with the most marginalized, especially those who are often neglected by health campaigns in urban areas.<sup>15</sup> It is critically important to drive demand from the bottom up – by empowering communities through the use of communication and by addressing stigma – so that interventions are accessed in an equitable manner.

There continues to be a gap between the level of funding needed to accelerate progress towards HIV-related goals and the level of funding available. The United States, the largest global funder of the AIDS response, has folded the President's Emergency Plan for AIDS Relief (PEPFAR) into its broader Global Health Initiative. The Global Fund to Fight AIDS, Tuberculosis and Malaria is likewise encouraging proposals to strengthen health systems to improve results for AIDS, TB and malaria.



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Increasing funds for maternal, newborn and child health and reproductive health services will have an important, positive impact on HIV and AIDS outcomes. But if overall resources are fixed, and if the number of people newly eligible for access to treatment is limited, then this could disproportionately affect mothers identified during PMTCT and their newborns, the very people whom higher-quality, integrated services should benefit. Integration of AIDS-related services into the maternal, newborn and child health continuum requires more money for both.

The elimination of new HIV infections and AIDS-related deaths in children is possible, but it will require vision, leadership and system-wide improvements in health-care delivery, as well as deep-seated social change and continued implementation of best practices. In all four of the *Unite for Children, Unite against AIDS* priority areas – the four 'Ps' of preventing mother-to-child transmission, providing paediatric care and treatment, preventing infection among adolescents and young people, and protecting and supporting children affected by HIV and AIDS – integrating interventions into existing systems without losing the capacity to address the specific needs of children affected by AIDS is a challenge.

Reaching the poorest, most marginalized and least served has been at the core of successful AIDS programming. That imperative is even greater in an era of static resources and ever more complex competing priorities. The AIDS-free generation that is now in sight can be achieved – but only if we accelerate the scale-up of proven measures, and only if we see them as part of a rights-based, results-focused drive to reach all those in need.

## II. PREVENTION OF MOTHER-TO-CHILD TRANSMISSION

*Virtual elimination of mother-to-child, or vertical, transmission of HIV by 2015 has now become a reachable goal. Many countries in Eastern and Southern Africa, Latin America, East Asia, and Central and Eastern Europe are close to meeting the 2010 universal access target for PMTCT coverage. However, high coverage has not necessarily resulted in low transmission. The goal of virtual elimination of vertical transmission requires re-focusing on outcomes and impact.*

The body of scientific and programmatic evidence has grown tremendously since the first clinical trials demonstrated the efficacy of antiretroviral drugs in reducing mother-to-child transmission of HIV. Building on this evidence, remarkable progress has been made in providing HIV prevention, care and treatment services to women and children in low- and middle-income countries.

In 2010, WHO revised guidelines on PMTCT, HIV and infant feeding, and antiretroviral therapy (ART), calling for the provision of highly efficacious antiretroviral regimens for PMTCT, including ART for pregnant women in need of treatment for their own health, and, for the first time, prophylaxis to mother or baby during breastfeeding, where breastfeeding is judged to be the safest option.<sup>16</sup> The revised guidelines offer an opportunity for even more dramatic achievements in averting new HIV infections in infants and improving maternal and child health and survival.

Equally important, programme data from several countries in sub-Saharan Africa, Asia and Latin America demonstrate that universal access to PMTCT services is feasible with strong political leadership and commitment, harmonized partnerships and sound programming. In May 2010, at a workshop in Nairobi co-hosted by the Global Fund, the Joint United Nations Programme on HIV/AIDS (UNAIDS), the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA) and WHO, representatives from 20 countries highly affected by the epidemic met to review their PMTCT targets and strategies, adapt them to the revised WHO guidelines and reprogramme their existing Global Fund grants to give additional resources to the goal of virtual elimination.<sup>17</sup>

Yet, despite remarkable gains in coverage and uptake of PMTCT services, and despite the strong momentum towards virtual elimination, AIDS is still one of the leading causes of death among women of reproductive age globally and one of the major causes of maternal mortality in generalized epidemic settings.<sup>18</sup> Global initiatives to improve maternal and child health outcomes related to Millennium Development Goals 4, 5 and 6 – such as the Secretary-General's Global Strategy for Women's and Children's Health, launched in September 2010, and the 'H4+' commitment by WHO, UNICEF, UNFPA, the World Bank and UNAIDS to reducing maternal and newborn mortality in the most affected countries – highlight PMTCT as a priority, particularly in countries with a high HIV burden.

Routine, voluntary HIV testing and counselling of all pregnant women is the key entry point for PMTCT services. The proportion of pregnant women tested for HIV in low- and middle-income countries increased from 7 per cent in 2005 to 26 per cent in 2009. By the end of 2009, 27 out of all low- and middle-income countries had already reached the



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In low- and middle-income countries in 2009, 53 per cent of pregnant women living with HIV received antiretrovirals (ARVs) to prevent mother-to-child transmission of HIV, compared to 45 per cent in 2008.<sup>21</sup> In sub-Saharan Africa, this proportion increased from 45 per cent in 2008 to 53 per cent in 2009. One of the most significant increases occurred in Eastern and Southern Africa, where the proportion jumped from 58 per cent in 2008 to 68 per cent in 2009. In West and Central Africa the increase was from 16 per cent to 23 per cent over the same period.<sup>22</sup>

About one third of infants born to HIV-positive mothers receive ARVs for PMTCT; coverage has increased only slightly, from 32 per cent in 2008 to 35 per cent in 2009 in low- and middle-income countries.<sup>23</sup> For many countries, 80 per cent coverage was the universal access target for both HIV testing and the provision of highly efficacious ARVs for PMTCT. Reaching the goal of elimination of mother-to-child transmission requires a more substantial effort – towards universal testing and at least 95 coverage of ARVs for PMTCT – particularly for countries with generalized epidemics.

UNAIDS has made PMTCT one of its priority outcome areas and has called for the virtual elimination of mother-to-child transmission by 2015 ('virtual elimination' meaning that less than 5 per cent of children born to HIV-positive mothers are infected). To ensure accountability and monitor progress towards this goal, the 10 UNAIDS co-sponsors, under the leadership of UNICEF, WHO and UNAIDS, developed a business case for PMTCT that sets out three bold results to be achieved by 2011 in 10 of the 22 countries with the greatest number of HIV-positive pregnant women: attain at least 80 per cent coverage of effective ARVs for PMTCT; provide antiretroviral treatment to at least 50 per cent of HIV-positive pregnant women eligible for treatment for their own health under the 2010 WHO guidelines; and reduce by 50 per cent the current unmet need for family planning among all women.<sup>24</sup>

Reaching the new goal of virtual elimination will require full implementation of the United Nations comprehensive approach to PMTCT, including primary prevention of HIV among women of childbearing age; prevention of unintended pregnancies among women who are HIV-positive; prevention of HIV transmission from HIV-positive women to their infants; and the provision of appropriate treatment, care and support to HIV-positive women and their children and families.

Preventing new HIV infections among women of reproductive age and eliminating the unmet need for family planning among women living with HIV are two essential components of PMTCT, yet they often receive limited attention due to the lack of clear operational guidance and appropriate resources. To date, most programmes have focused primarily on HIV testing and counselling and the provision of ARVs for PMTCT.

2010 UNGASS (United Nations General Assembly Special Session on HIV/AIDS) target of 80 per cent of all pregnant women having access to HIV testing and counselling.<sup>19</sup>

In some high-burden countries of sub-Saharan Africa (Botswana, Namibia, South Africa and Zambia) and in some countries of Central and Eastern Europe (Russian Federation and Ukraine) and East Asia (Thailand), HIV testing rates in pregnant women are above the 80 per cent target. In Latin America and the Caribbean, 57 per cent of pregnant women received an HIV test in 2009 compared to 29 per cent in 2005.<sup>20</sup>

Most countries with low prevalence and concentrated epidemics are still grappling with the best way to identify the greatest number of pregnant women living with HIV. In this regard, national programmes may decide to adopt more-focused approaches targeting settings with the highest HIV prevalence and the presence of such key populations as sex workers or injecting drug users, rather than testing all women receiving antenatal care.



## Virtual elimination means doing better what we already know how to do

Country experiences show that reaching the goal of virtual elimination of mother-to-child transmission of HIV requires closing gaps in geographic coverage, in efficacy and quality, and in the demand for PMTCT services. All of these require better use of existing resources, new investment and new ways of thinking about service delivery.

Such factors as rural location and income level can hinder access to services for the prevention of mother-to-child transmission, and such uneven access is a key bottleneck to universal access in low- and middle-income countries. Many countries with generalized epidemics initially launched their PMTCT programmes in health facilities that

had the human resources and infrastructure to deliver the services; they are now grappling with how to extend and integrate these services at the primary care level in maternal and child health services, which will be an important pathway to achieving universal access.

Effective decentralization of service delivery must be accompanied by devolution of responsibility and authority to sub-national management teams. South Africa has recently initiated nationwide decentralization and devolution to primary care centres as a central strategy for PMTCT. In 2009, Côte d'Ivoire, with support from UNICEF, costed a national scale-up plan with population-based targets. All 83 health districts of the country's 19 regions subsequently developed integrated operational plans that include PMTCT, paediatric HIV care and treatment, and other child survival interventions.

## Quality interventions are the cornerstone of virtual elimination of mother-to-child transmission

The revised WHO guidelines on PMTCT, HIV and infant feeding, and ART are a call for improving the quality of PMTCT services. Providing the quality of services that will



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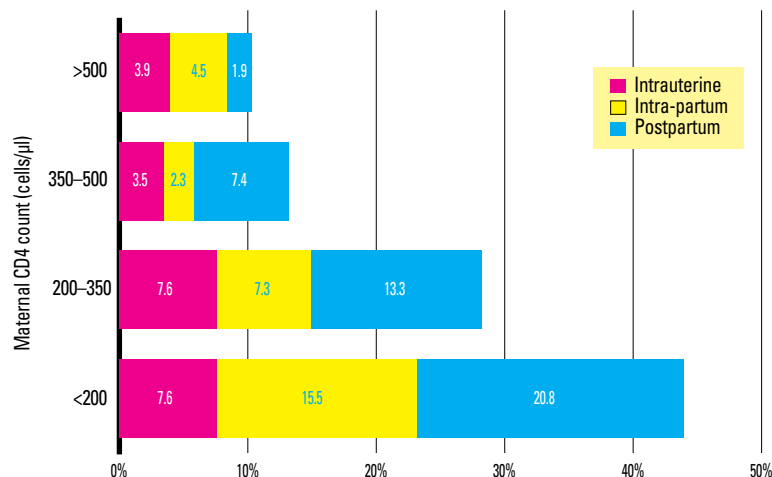
reduce mother-to-child transmission rates to lower than 5 per cent requires improving immunological assessment of all HIV-positive pregnant women for their ART eligibility through the use of CD4 counts, offering highly efficacious ARV regimens for PMTCT, promoting safer infant feeding and supporting early infant HIV diagnosis at 6–8 weeks of age followed up with ART for HIV-infected infants.

Countries are changing their national guidelines to reflect the new international guidelines, but some are still struggling to move to highly efficacious ARV regimens. In 2009, for example, the Democratic Republic of the Congo, India and Zimbabwe were still using single-dose nevirapine as the predominant ARV prophylaxis for PMTCT; they are now moving to adopt the new international guidelines.<sup>25</sup>

Pregnant women living with HIV at an advanced stage of disease have a higher risk of transmitting the virus to their infants. A recent study from Zambia found higher rates of mother-to-child transmission in women eligible for treatment for their own health according to the new (2010) WHO eligibility criteria, which recommend treatment for pregnant women with severe or advanced clinical disease or with a CD4 count at or below 350 cells per cubic millimetre, regardless of symptoms (*Figure 1*). The study found high rates of maternal deaths as well: Women eligible for treatment accounted for 88 per cent of maternal deaths at 24 months post delivery.<sup>26</sup>

The same study also found that initiating ART in pregnant women in need of treatment for their own health would prevent 92 per cent of maternal deaths and 88 per cent of perinatal and post-natal infections.<sup>27</sup> Yet in low- and middle-income countries, only about half of pregnant women who tested positive for HIV were assessed in 2009 for their eligibility for ART for their own health.<sup>28</sup>

**Figure 1: Mother-to-child transmission rates in women with low CD4 counts, during pregnancy, labour and breastfeeding**



Source: Adapted from Kuhn, L., et al., 'Potential Impact of New WHO Criteria for Antiretroviral Treatment for Prevention of Mother-to-Child HIV Transmission', *AIDS*, vol. 24, no. 9, 1 June 2010, pp. 1374–1377.

Measurement of CD4 is rarely done in primary facilities where the majority of pregnant women are seen. The CD4 FACScout technology requires well-trained personnel and expensive equipment with recurrent costs for reagents and maintenance. Yet low-cost, point-of-care CD4 machines are becoming available, and their use in lower-level facilities could revolutionize the case management of HIV-positive persons. Such options need urgent field validation, taking into consideration key issues such as management oversight, quality assurance, human resource needs and capacity development, and the recurrent costs of maintaining the machines.<sup>29</sup>

The virtual elimination of mother-to-child transmission of HIV requires equitable access to more efficacious ARV regimens. This in turn entails the bridging of programme areas – HIV and AIDS; sexual and reproductive health; maternal, neonatal and child health and survival services (including nutrition and immunization); and malaria and TB prevention and treatment.



One innovation expected to expand the use of more efficacious regimens for PMTCT is the mother-baby pack. Developed by UNICEF and WHO with support from UNITAID and other partners, the pack contains ARVs for women, nevirapine syrup for infants for six weeks and the antibiotic cotrimoxazole for mothers and infants; it is intended for use in communities where delivery is frequently at home or outside of health facilities. Use of the pack can reduce stockouts and better engage

health providers in care plans for pregnant women living with HIV, including improved adherence to treatment and follow-up HIV care, earlier and more frequent antenatal care visits, and post-natal care. Phased implementation of the mother-baby pack that began in pilot districts of Cameroon, Kenya, Lesotho and Zambia in 2010 will be evaluated for greater scale-up in 2011.

### Attention to the economic, social and cultural barriers that prevent women from making use of available services can help increase demand

The availability of effective PMTCT services does not guarantee that women will take advantage of them. Globally, a significant proportion (79 per cent) of pregnant women have at least one antenatal care visit.<sup>30</sup> The proportion drops through the continuum of care, however, with fewer women having at least four antenatal care visits or delivering at health facilities. This pattern of drop-off is mirrored in PMTCT programmes. Consequently, a large proportion of pregnant women living with HIV do not receive all the interventions and services necessary to keep themselves healthy and their babies HIV-free.

In several countries with generalized HIV epidemics and with PMTCT services available in most antenatal care and delivery services (Botswana, Namibia, South Africa and Swaziland) uptake of HIV testing is over 80 per cent.<sup>31</sup> In other countries where facility coverage of ARVs for PMTCT among identified women is relatively high – such as Ethiopia – the majority of pregnant women are unreached because only a limited proportion of them make antenatal care visits and deliver in health facilities; they are not even identified as needing services.

Various social, cultural and economic factors still hamper the use of PMTCT services in resource-limited settings. Obstacles include the high cost of antenatal and delivery care services, long waiting time, inability to pay for transportation to health centres, lack of partner support and

HIV-related stigma and discrimination. Studies conducted in Cambodia and Zambia revealed that user fees, long distance, lack of transport and poor quality of care hampered women's ability and desire to deliver in a clinic.<sup>32</sup> Similarly, user fees had prevented women from using maternity services in Malawi; the introduction of free maternity services at one rural hospital in 2005–2007 led to a 42 per cent increase in antenatal care visits and an increased ratio of hospital deliveries to antenatal care attendees.<sup>33</sup> In India and elsewhere, stigma has been shown to prevent women from making use of available PMTCT services.<sup>34</sup>

Women who receive information about PMTCT at health facilities are often forced to make rapid decisions about HIV testing and ARVs for PMTCT at many stages. This situation is even more complex for pregnant adolescents, who might face isolation, discrimination and an unfriendly environment at the health centre, as well as legal barriers to testing or making health decisions. The specific needs of adolescent girls in the context of PMTCT within health facilities, in schools and at the community level need special attention, as do the needs of pregnant women who use drugs or are engaged in commercial sex work. Delaying marriage and the age at which young people start having sex, programmes to prevent adolescent pregnancy and HIV, and the promotion of adolescent-friendly health services are among the strategies that can help meet the needs of adolescent girls.

Engaging communities – including women living with HIV and their male partners – is necessary for increasing awareness, creating demand, alleviating stigma and discrimination, strengthening adherence to treatment and providing psychosocial support. The centrality of men to the delivery of all services related to PMTCT requires that men be partners in creating demand for PMTCT services and paediatric HIV care, support and treatment, and in the promotion and provision of broader maternal, newborn and child health services. Testing of male partners, as part of couples testing and counselling, is key to preventing the next cycle of new infection among young women. Couples testing and counselling has been brought to scale in Rwanda, with important results for reducing infection in sero-discordant couples (in which one partner is HIV-positive and the other is not),<sup>35</sup> although in most countries it is all too rare.

In India in November 2007, the Andhra Pradesh AIDS Consortium started a peer counselling project to improve maternal health services and actively identify and follow up with HIV-positive pregnant women and their infants. Fifteen people living with HIV were trained in HIV prevention, counselling, and data collection and reporting, and were then posted to integrated counselling and testing centres at private medical schools in 12 districts of the state. By December 2009, the project had seen increases in the percentages of peer counsellor referrals of women tested at the centres (from 6 per cent to

35 per cent) and of HIV-positive women delivering at the private medical schools (from 36 per cent to 87 per cent).<sup>36</sup>

In Zambia, multiple interventions (providing services, integrating PMTCT into maternal and child health structures, mobilizing community leaders and cultivating male involvement) led to significantly increased uptake across a broad range of PMTCT services, from acceptance of HIV testing, counselling, receipt of test results and ARV prophylaxis for PMTCT, to the referral of women in need to clinical care. Equity in urban and rural access and the integration of services through all levels of the maternal and child health-care spectrum, down to the community level, has had a positive impact.<sup>37</sup>

Implementing innovative approaches such as social insurance, cash transfers and vouchers to improve access to maternal, newborn and child health services (including PMTCT) can also be instrumental in improving uptake of PMTCT services, including antenatal and post-natal follow-up services.

### Understanding the costs of PMTCT programming is crucial

The 2010 WHO guidelines calling for earlier initiation of treatment in pregnant women living with HIV and for ARV prophylaxis throughout the period of breastfeeding have significant financial implications. Ramping up the other components of PMTCT – such as primary prevention of HIV among women of childbearing age, preventing unintended pregnancies, safer delivery and infant feeding, and long-term treatment for the mother’s own health – also has financial implications.

The Clinton Foundation has developed a tool to guide costing of the different ARV options recommended by the new guidelines, and UNAIDS, WHO and the United States Agency for International Development (USAID) have modelled programme costs for implementing them. Other studies are examining the cost implications of integrated HIV and sexual and reproductive health services – one such



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study is being carried out in Kenya, Malawi and Swaziland in collaboration with the International Planned Parenthood Federation, the London School of Hygiene & Tropical Medicine and the Population Council, with funding by the Bill & Melinda Gates Foundation.

Everywhere, there is an urgent need to make health spending more effective and efficient. One important way to do this is through the establishment of innovative funding mechanisms for sub-national activities. Allocation of substantial local resources complemented by external funding is crucial to increasing access to and improving the quality of HIV services for women and children and to fully integrating these services with sexual and reproductive health. Côte d’Ivoire and Uganda have developed national scale-up plans and district operational plans, but there are no national systems in place to facilitate the allocation of funding from donors and partners to sub-national structures to implement these plans.

### THE WAY FORWARD

Elimination of vertical transmission of HIV requires measuring the impact of PMTCT interventions, not just the inputs and coverage that have been the main indicators up to now. Addressing the needs of mothers, children and families requires effective integration with and links to sexual and reproductive health, maternal and newborn care and child survival services, as well as to improved sanitation facilities, home water treatment, handwashing with soap, and malaria and TB interventions. Effective PMTCT services and implementation of the new WHO guidelines require pregnant women to use existing maternal and child health services earlier and more frequently. Treating parents eligible for treatment – those most likely to transmit the virus – will also reduce AIDS-related illness and delay death, thus reducing orphanhood and giving a new AIDS-free generation better care.

### III. PAEDIATRIC CARE AND TREATMENT

*To ensure that HIV-infected children and adolescents do not progress to AIDS and die, it is necessary to identify them early, provide them with timely access to care and treatment, and document and follow their progress. Scale-up of early infant diagnosis has demonstrated both the promise and the challenge of treating paediatric HIV.*

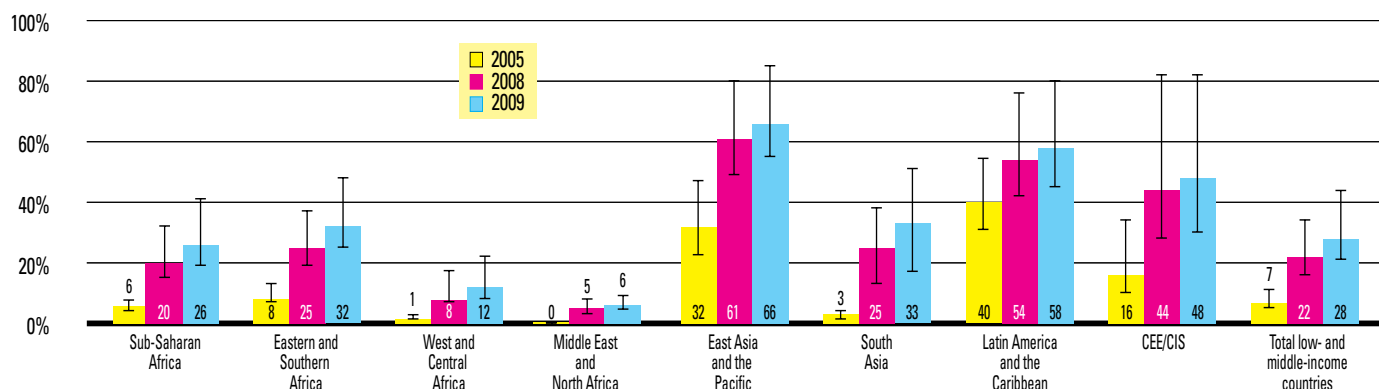
In 2010, WHO issued new recommendations by which many more children with HIV – including all those under age 2 – will be immediately eligible to initiate antiretroviral treatment. At the same time, increased opportunities to identify children living with HIV have resulted from greater availability of routine HIV testing for children, including early infant diagnosis services, with new policy guidance issued in 2010 that clarifies requirements for testing of infants and young children in health facilities.<sup>38</sup> There is also greater awareness of the growing epidemic of HIV among adolescents, many of them long-term survivors who were infected as newborns.

New guidelines and better methods to identify children have created opportunities to start many more children on life-saving treatment. However, new data reveal that this potential remains largely unrealized. In 2009, there were 2.5 million children under age 15 living with HIV. Although the number of children in low- and middle-income countries receiving ART increased from 275,300 in 2008 to 356,400 in 2009, this is still only 28 per cent of the 1.27 million children currently estimated to be in need under the new guidelines.<sup>39</sup> Treatment coverage among adults is higher, at 37 per cent.<sup>40</sup> But the true gap between adults and children is far greater, because with no intervention, about 50 per cent of children infected with HIV die before their second birthday. Clearly, countries need to accelerate efforts to address this disparity.

#### Paediatric HIV testing is the gateway to care and treatment

The first step in increasing access to treatment is to expand testing for children through all available avenues. Young children typically make many more visits to health facilities than adults and thus should be easier to identify as HIV-infected through the routine offer of testing. For that reason, it is feasible to significantly increase the number of HIV-infected children identified in hospitals, through lower-level health clinics, such as those providing immunization

**Figure 2: Percentage of children under 15 in need receiving antiretroviral therapy, 2005–2009**



**Note:** The bar indicates the uncertainty range around the estimate.

**Source:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*, WHO, Geneva, September 2010.

services, and through community-based programmes that care for severely malnourished children.

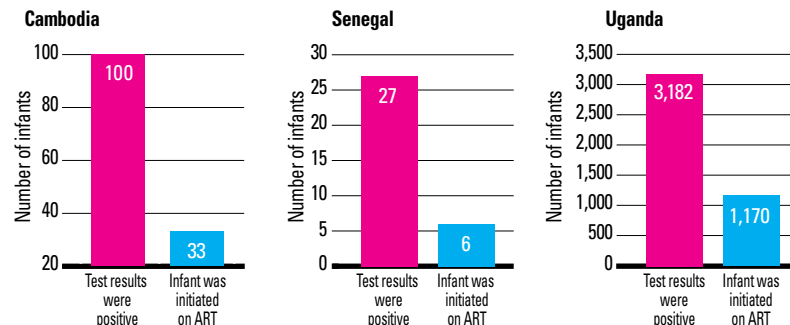
Another approach to case finding is to proactively offer testing to the children of adults enrolled in HIV care and treatment services and to the siblings of children in PMTCT programmes. Several programmes using such strategies have achieved substantial increases in the numbers of children undergoing treatment. Efforts to optimize paediatric testing by using multiple entry points such as these can identify many more children with HIV.

Health providers at all levels of care need to be made aware of the urgency of identifying children living with HIV and should be equipped to play their essential role in ensuring that children are routinely offered HIV testing. Given the severe shortage of nurses and other clinicians at many health facilities, task-shifting – or using lay counsellors for testing and counselling – can enable many more children to be reached. When a programme in Malawi used lay counsellors to implement as standard a routine testing algorithm of eight simple steps, the proportion of children tested increased from 6 per cent to about 65 per cent, and the number of children enrolled in treatment improved dramatically.<sup>41</sup>

Early testing and initiation of treatment is crucial to improving infant survival and reducing neurocognitive impairment and developmental delay, which can be caused by viral replication in the brain before treatment is started. However, early identification of HIV-infected infants requires virological testing that typically needs to be processed off-site. While the availability of early infant diagnosis services has increased dramatically in many countries, coverage in low- and middle-income countries still remains low, at only 6 per cent.<sup>42</sup>

Success requires strengthening the follow-up of HIV-exposed infants – from PMTCT through child health services – to ensure early diagnosis and care. Available data from a multi-country review indicate that

**Figure 3: ART initiation of infants testing positive for HIV**



Source: UNICEF analysis of Ministry of Health data collected between August and December 2009.

about one quarter to one third of infants who tested positive were initiated on ART (Figure 3). Some of them never received their test results, reflecting the lack of efficient mechanisms to link infants with treatment and services.<sup>43</sup>

These data clearly demonstrate that investments in early infant diagnosis need to go beyond support for laboratory systems. Efforts must be intensified to reduce loss to follow-up by improving care planning, counselling, case management and mother-infant pair tracking at the service-delivery sites and in surrounding communities. A paradigm shift is needed by which early infant diagnosis and services are integrated into broader efforts to improve the care of HIV-exposed infants. Community health workers, for example, can be enlisted to help ensure that test results are acted upon and to support adherence.

Uganda and some other countries are already taking steps to address these issues, with many sites subsequently showing dramatic improvements in referral and initiation of care and treatment.<sup>44</sup> Innovations in using text messaging to expedite the return of test results to health facilities and mothers are also showing early promise, and new point-of-care diagnostics for early infant diagnosis are on the horizon, a few of which will be field-tested in 2011. Accelerating the testing and roll-out of these innovations will complement other efforts to reduce loss to follow-up of infants.

### Removing systemic, social and financial barriers can improve treatment access and outcomes in children

To achieve universal access to HIV treatment, HIV treatment sites will need to be decentralized to lower-level facilities within or close to communities; maternal and child health clinics are ideal settings for this purpose. With the proper training of providers, paediatric treatment can be

decentralized to lower-level health centres, yet the lack of providers trained in paediatric treatment remains one of the most common barriers limiting children's access to treatment.

Progress in decentralizing paediatric treatment to lower-level facilities and in training providers at all HIV treatment sites to treat infants and children as well as adults has been unacceptably slow. In many settings, paediatric ART is relegated to specialized facilities located in urban areas or high-volume centres. National programmes need to be more assiduous in monitoring the proportions of children relative to adults enrolled in specific sites, and they need to take strong actions to ensure that those with disproportionately low enrolment of children rectify this disparity. Using a family-centred model of care in which service delivery is simplified by providing care to mothers, their children and families is one approach that may improve enrolment and retention in care.

A recent review of ART adherence in children in low- and middle-income countries found that adherence was as good as or better than in affluent countries,<sup>45</sup> dispelling any argument that expansion of paediatric ART should be limited based upon concerns about adherence. However, wide differences in mortality rates and loss to follow-up still exist between sites and regions, with sites in the West Africa region having the worst outcomes – 9 per cent of children die within 18 months of initiating treatment and an additional 24 per cent are lost to follow-up.<sup>46</sup> One factor associated with poorer outcomes was the requirement by some programmes that families pay for lab tests, underlining the importance of continued efforts to eliminate user fees at the point of care.

HIV-infected children co-infected with TB have particularly poor outcomes. These children have much higher mortality during TB treatment than children with TB not infected with HIV. Providing ART concurrently with TB



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treatment, rather than waiting for TB treatment to be completed first, is now recommended to improve outcomes.

Women with TB have a high probability of transmitting TB infection to their infants, increasing the risk of child mortality, especially in children who are HIV-infected. In a study in Pune (India), TB increased the probability of death 2.2-fold for HIV-positive women and 3.4-fold for their infants, compared to HIV-positive women who did not develop TB.<sup>47</sup> Infants born to women with TB face the threat of both vertical and horizontal transmission of TB, as well as higher rates of intrauterine growth retardation, premature birth and low birthweight. Anti-TB drugs are not specifically formulated for children, making treatment challenging.

Further research is urgently needed to identify ways to improve outcomes in children who are infected with both HIV and TB. New WHO guidelines for intensified tuberculosis case finding and isoniazid preventive therapy (IPT) for people living with HIV in resource-constrained settings strongly recommend at least six months of IPT for children and adults, including pregnant women.<sup>48</sup>

### Basic preventive care is crucial

Scaling up simple and proven preventive interventions is essential to increasing the survival of children living with HIV. Such basics include providing the antibiotic cotrimoxazole to all HIV-exposed infants, case management of such common infections as pneumonia and implementation of the new WHO infant feeding guidelines. According to the latest global estimate, cotrimoxazole coverage among HIV-exposed infants was only 14 per cent in 2009.<sup>49</sup> Cotrimoxazole is much simpler to implement than early infant diagnosis, and it could save the lives of children who may not have timely access to either early infant diagnosis or ART – so increasing coverage of this simple, life-saving intervention should be a priority.

In addition, ensuring that all HIV-exposed infants benefit from routine

### Sustaining HIV-related services in emergencies: Haiti, 2010

Effective prevention, treatment, care and support services for people living with HIV depend on the reliability of service provision and continuity of access. Such continuity was sorely strained in Haiti in the aftermath of the earthquake that hit that country in January 2010.

Prior to the earthquake, in 2009, an estimated 120,000 people in Haiti were living with HIV. Adult HIV prevalence was 1.9 per cent, and 61 per cent of HIV-positive people aged 15 and above were women. In 2009, 12,000 children were living with HIV. Several organizations were active in providing services for people living with HIV.

The earthquake took the lives of nearly 217,000 people, injured 300,000 and displaced more than 1 million from their homes. It devastated lives and strained the lifeline of HIV-related services. In 2009, around 26,000 people were on ART, but after the earthquake the Ministry of Health estimated that fewer than 40 per cent of them had been able to access treatment, according to a 2010 UNAIDS report. In the three most affected departments, where around half of all PMTCT services were provided, the majority of service providers were severely affected. The mass post-earthquake displacement also increased the vulnerability of the affected population to HIV infection.

While the two primary treatment providers in Haiti, GHESKIO and Partners in Health, did an excellent job of continuing clinic-based services, including ART and PMTCT, there was no service or organization responsible for tracking down missing patients or for such community-based activities as prevention, supporting families, distributing condoms or providing AIDS information in displaced persons camps. AIDS had been poorly mainstreamed into the existing United Nations clusters that were guiding the emergency response, according to the UNAIDS report, and there is a clear understanding among key players that the post-disaster situation should be handled differently.

Sources: Joint United Nations Programme on HIV/AIDS, *Helping Haiti Rebuild Its AIDS Response*, UNAIDS, Geneva, February 2010, pp. 6–7; UNAIDS, 'Joint UNAIDS Mission to Haiti: Synthesis report', 20–28 March 2010 (internal document). Additional data are from UNAIDS, *Global Report on the AIDS Epidemic 2010* (forthcoming); World Health Organization, Joint United Nations Programme on HIV/AIDS and United Nations Children's Fund, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*, WHO, Geneva, September 2010, p. 115.

preventive services, such as immunization, mosquito nets and safe water, is crucial. In Lilongwe (Malawi), a package of household water treatment materials provided to HIV-positive pregnant and lactating women for a six-month period beginning in October 2008 not only greatly reduced the reported incidence of diarrhoea among the infants whose mothers received it but was also associated with improved



attendance of mothers and children at follow-up appointments.

## Children need access to essential commodities

The new WHO guidelines recommend that all HIV-positive children under 24 months of age start ART immediately upon diagnosis; they contain more aggressive recommendations for the initiation of treatment in children above age 2. These recommendations will help keep children in the system once they are diagnosed – but they also mean that many more children will require treatment immediately.

The guidelines also call for the use of protease inhibitors in children who were exposed to NNRTIs (non-nucleoside reverse transcriptase inhibitors, such as nevirapine or efavirenz) through interventions to prevent mother-to-child transmission. Protease inhibitors are out of reach for many households in low-income countries because they are expensive and because some require refrigeration, and they are not available in tablets that can be divided and given easily to children. Although there are new drugs such as raltegravir (Merck) or etravirine (Tibotec/Johnson and Johnson) that might be better options for HIV-positive children than protease inhibitors, these drugs have not been extensively tested in infants, despite the fact that the adult versions have been approved for some time.

Implementing the new guidelines will require increased financial resources, not only because of the larger number of children who will need treatment, but also because the drugs that are required are more expensive and more complex to administer. UNITAID and other large donors are planning to phase out their support for direct procurement of paediatric ARVs and other essential commodities such as those for early infant diagnosis testing, so countries need to develop solid transition plans and take steps to prevent stockouts. Donors must also realize that funding for paediatric commodities will have to be increased

beyond that needed for already-enrolled patients, given that almost all of the children living with HIV will be new to treatment.

Unfortunately, children are often a low priority when it comes to drug development and financing. Paediatric drugs are typically tested and approved many years after the same medicines for adults (if ever). Stakeholders must hold pharmaceutical companies and governments accountable for the timely development and approval of antiretroviral drugs and formulations that meet children's needs. This includes developing better fixed-dose combinations that will be effective in HIV-positive children who have been exposed to nevirapine as part of PMTCT.

Innovative methods of creating incentives for and financing the expedited development of the next generation of paediatric ARV combination regimens also need to be explored, including patent pools, regulatory fast-tracking credits, public-private financial risk-sharing and longer patent-term extensions for companies that develop paediatric ARVs.

## Adolescents living with HIV are a 'hidden epidemic'

There is an opportunity to assist HIV-positive adolescents as they approach adulthood and begin to engage in relationships, initiate sexual activity, consider marriage and perhaps start a family. Whether these adolescents are the long-term survivors of mother-to-child transmission, now grown up, or were infected through sex or injecting drug use during adolescence, this 'hidden epidemic' urgently needs to be addressed by identifying adolescents living with HIV and providing them with care, treatment and support before they progress to AIDS-associated illnesses.

In Zimbabwe, a study of hospitalized adolescents found that almost 50 per cent were infected with HIV, and about 75 per cent of all mortality in hospitalized adolescents occurred in those with HIV.<sup>50</sup> Without access to treatment, it is projected that in South Africa alone, deaths among adolescents who were infected with HIV perinatally would increase from 7,000 per year in 2008 to 23,000 per year in 2030.<sup>51</sup> In low- and middle-income countries, mortality among 10- to 24-year-olds as a whole is largely due to AIDS and tuberculosis (and, specifically in females, to maternal causes).<sup>52</sup>

Many adolescents with HIV do not access treatment because they have never been tested. Legal and policy barriers in many countries require consent from guardians before adolescents can be tested, and this can delay or prevent their being tested and treated in a timely fashion. Reducing the age at which adolescents can consent to testing without the permission of a parent or guardian would increase access to testing.

Additionally, in order to reach a large proportion of the adolescents in need, youth-friendly services should be implemented in a greater variety of settings, including health facilities, communities and schools. Testing of adolescents also needs to be better linked to PMTCT services, voluntary counselling and testing, HIV treatment, and programmes for orphans and vulnerable children. HIV-positive adolescents are often lost between programmes for orphans and vulnerable children and primary prevention programmes for young people.

Once adolescents living with HIV are identified and enrolled in care and treatment, they have specific support needs, including psychosocial and community-based support that extends beyond clinical services. Several small programmes are good examples of how to provide such support, including the Baylor International Pediatric AIDS Initiative Teen Club programme in Botswana, Malawi, Swaziland and Uganda; Africaid's Zvandiri programme in Zimbabwe; the Mildmay Centre in Uganda and the Instituto de Medicina Integral Professor Fernando Figueira in Brazil. Best practices from these programmes need to be more widely disseminated and scaled up to achieve higher coverage.

A global consultation in Kampala (Uganda) in May 2010 highlighted some of the challenges involved in addressing the needs of adolescents: how to best support them in disclosing their status, transitioning between paediatric and adult care and treatment services, acquiring a quality education, adhering to treatment and adopting safe sexual behaviours.<sup>53</sup> Stakeholders now need to take action on the recommendations that issued from the consultation, including those from young people living with HIV.

## THE WAY FORWARD

Infants and most children and adolescents living with HIV need treatment immediately. This fact adds to the urgency to identify them, develop more suitable regimens for them and improve efforts to keep them in the system once they are identified as HIV-positive. The expansion of ART coverage is a powerful strategy to reduce HIV and TB incidence and associated morbidity, and there is now excellent knowledge of how to treat children, as well as sound programmatic examples of how to expand access to testing and treatment.

Antiretroviral treatment strategies that for lack of funding give preference to patients already in treatment would exclude children newly diagnosed with HIV and thereby perpetuate the already large disparity between the proportions of adults and children being treated. Although the need for virological testing makes the diagnosis of HIV in children under 2 years old more logistically challenging, the dramatic health impact of treating these children is known and documented and thus should make initiating treatment an imperative for children under age 2 as well as for other children and adolescents.

## IV. PREVENTING INFECTION AMONG ADOLESCENTS AND YOUNG PEOPLE

*Progress has been made in preventing new HIV infections among young people aged 15–24. In countries where declines in prevalence have been noted, they have been most marked among young people. No single prevention strategy, however, has proved optimal in all circumstances, and many young people remain vulnerable to HIV infection.*

In 2001, 5.7 million young people aged 15–24 were estimated to be living with HIV. At the end of 2009, that number had dropped to 5.0 million. Further, an estimated 890,000 new infections occurred among young people aged 15–24 in 2009.<sup>54</sup> The significant decline in HIV prevalence among young people is linked to clear trends towards safer behaviours and practices including delayed age at first sex, reduction in the number of partners and increased condom use.

In 2010, UNAIDS reported a decline in prevalence among young people of more than 25 per cent in 22 key countries in sub-Saharan Africa between 2001 and 2008. In most parts of the world, new HIV infections are steadily falling or stabilizing.<sup>55</sup> These trends of decline in prevalence among young people are not universal, however.

An estimated 80 per cent of all infections in young people globally are in 20 countries spanning many regions of the world and representing a diversity of epidemic settings.<sup>56</sup> In nine countries in Southern Africa, at least 1 in 20 young people is living with HIV, and in Botswana, Lesotho and Swaziland, more than 1 in 10 young people are living with HIV.<sup>57</sup>

Worldwide, more than 60 per cent of all young people living with HIV are female.<sup>58</sup> Young women still shoulder the greater burden of infection, and in many countries women face their greatest risk of infection before age 25.

UNAIDS co-sponsors recently agreed on a business case to advance prevention efforts among young people, a key part of the UNAIDS Outcome Framework set forth in 2009. The business case stresses the need for simultaneous action to improve young people's comprehensive knowledge of HIV and their access to condoms, HIV testing, and counselling on risk reduction.

**Table 2: Young people aged 15–24 living with HIV, 2009**

Region	Female	Male	Total
Eastern and Southern Africa	1,900,000	780,000	2,700,000
West and Central Africa	800,000	340,000	1,100,000
South Asia	150,000	170,000	320,000
East Asia and the Pacific	59,000	71,000	180,000
Latin America and the Caribbean	120,000	130,000	250,000
CEE/CIS	52,000	29,000	81,000
Middle East and North Africa	62,000	32,000	94,000
<b>Total</b>	<b>3,200,000</b>	<b>1,700,000</b>	<b>5,000,000</b>

**Note:** The estimates are provided in rounded numbers, but because unrounded numbers were used in the calculations, there may be discrepancies between the totals.

**Source:** Unpublished estimates from UNAIDS and WHO, *2010 Global Report on the AIDS Epidemic* (forthcoming).

## Programmes need to confront the reality of new infections in young people

The key modes of HIV transmission in young people are unprotected sex and injecting drugs using unsafe needles. Globally, sexual transmission – whether heterosexual or between males – accounts for over 80 per cent of all new infections.<sup>59</sup> The epidemic has begun to stabilize in some countries with generalized epidemics in which transmission is largely through heterosexual relationships. But it continues to grow in the Central and Eastern Europe and Commonwealth of Independent States (CEE/CIS) region, where transmission is primarily via unsafe needles. The CEE/CIS region is home to nearly 1 in 4 of the world's injecting drug users.

Data from 148 countries where injecting drug use has been identified found HIV prevalence ranging from 20 per cent to 40 per cent in five countries and over 40 per cent in the nine countries with the worst HIV epidemics in drug-injecting communities.<sup>60</sup> Young injecting drug users are at an extremely high risk of infection through needle sharing, often coupled with other high-risk behaviours, such as transactional sex. Yet these young people often avoid services because their behaviour is typically illegal (*see box*).

Sex, sexuality and injecting drug use among young people are highly sensitive topics. As a consequence, prevention programmes that provide an appropriate range of quality services designed specifically for young people cannot always guarantee that they will access them. Many of these shortcomings can be directly linked to the stigma and discrimination associated with high-risk behaviours and with HIV itself.

The biological changes that take place during adolescence are linked to adolescent risk-taking, which in turn can lead to HIV infection and other risks. Injecting drug use very often begins during adolescence, and many countries are seeing the age of initiation of

## Caring for the least: Responding to the underground HIV epidemic in Eastern Europe and Central Asia

In Eastern Europe and Central Asia, a culture of 'blame and banishment' is fuelling an underground HIV epidemic among children and young people at society's margins: children living with HIV, adolescents engaged in risky behaviours, pregnant women using drugs and the more than 1 million children and young people who live or work on the streets.



In July 2010, UNICEF released a report, *Blame and Banishment: The underground HIV epidemic affecting children in Eastern Europe and Central Asia*, that sets out the issues faced by these marginalized and underserved populations. In a region where health structures and law enforcement are overcoming a legacy of authoritarianism and control, meeting the needs and

respecting the rights of these children and young people is challenging.

Young people, effectively banished and unseen because of their place in the social order, are exposed on a daily basis to multiple risks, including drug use, commercial sex and other forms of exploitation and abuse, that increase their odds of contracting HIV. The trends are especially troubling because the region is home to 3.7 million injecting drug users – almost a quarter of the world total. For many, initiation into drug use begins in adolescence.

Existing health and social welfare services are not tailored to adolescents at greatest risk, who are often exposed to moral judgment, recrimination and even criminal prosecution when they seek information on HIV or treatment. To help young people living with HIV or at risk of HIV infection, medical and civil authorities need to establish non-judgmental services that address their special needs. The culture of blame and banishment must be replaced with a response rooted in care and compassion.

Source: United Nations Children's Fund, *Blame and Banishment: The underground HIV epidemic affecting children in Eastern Europe and Central Asia*, UNICEF, Geneva, 2010.

injecting drug use fall below age 15.<sup>61</sup> Data on initiation of sex by age 15 varies significantly across regions, but in developing countries (not including China) that are home to the vast majority of young people living with HIV, 6 per cent

of boys and 11 per cent of girls aged 15–19 report having had sex by age 15.<sup>62</sup>

Early age at first sex and substance abuse among pregnant women have contributed to an increase in paediatric HIV infections as well as significant health complications and mortality in substance-exposed infants and adolescent mothers. Some 16 million adolescent girls (15–19 years old) give birth each year,<sup>63</sup> and the HIV status of these young mothers is the primary source of risk for HIV infection among their babies.

Substance use during pregnancy has a profound effect on the health of the mother, the fetus and the newborn. Exposure to maternal drug use can result in stillbirth, pre-term delivery, low birthweight, neonatal withdrawal syndrome and increased risk of transmission of hepatitis and HIV.<sup>64</sup>

A 2009 regional consultation on substance use among pregnant women in CEE/CIS highlighted the interconnections between HIV, drug use and pregnancy, emphasizing the impact of HIV and drug use on a child's survival and well-being.<sup>65</sup> Yet many of the negative consequences of maternal drug use on children are preventable when systems, interventions and supportive environments are in place. Client-focused approaches that address these populations in a non-discriminatory and respectful manner, together with strong child protection mechanisms, are essential.

## Globally, comprehensive knowledge levels remain too low

Data on comprehensive knowledge of HIV among young people show levels well below the 2010 UNGASS target of 95 per cent and highlight large variations between regions and countries.

Based on population-based surveys conducted between 2005 and 2009, only three countries have attained a level of knowledge of 50 per cent or more in both young men and young women: Namibia, Rwanda and Swaziland. Two of these,

Namibia and Swaziland, have very high adult HIV prevalence, and given this higher risk of exposure, increasing knowledge among young people, complemented by sustained behaviour change, service delivery programmes and enabling policies, will continue to be central to prevention efforts. This combination has already contributed to a 25 per cent decline in HIV prevalence among young people in Namibia.<sup>66</sup>

A 2009 study commissioned by UNESCO on the quality of education and learning outcomes in Eastern and Southern Africa, including HIV and AIDS knowledge, confirmed low knowledge levels among children in the upper-primary school grades despite the existence of good-quality curricula to educate young people about HIV and AIDS.<sup>67</sup> There are many reasons for this, including poor pre- and in-service teacher training, lack of use of participatory learning methods, weak or non-existent support from headmasters and other leaders, few incentives to use classroom time to teach a topic that is not subject to examination, and educators' discomfort around the subject matter.

An important resource for schools, teachers and health educators working with young people to improve the quality and impact of sexuality education is the *International Technical Guidance on Sexuality Education*, developed by UNESCO with UNAIDS, UNFPA, UNICEF and WHO. The guidance was released in 2009 as two volumes, one providing evidence of the positive impact of quality sexuality education on knowledge and key sexual behaviours and the other focusing on content.<sup>68</sup>

Recent reviews of prevention approaches have recommended immediate implementation at scale of two broad approaches to drive changes in behaviours that contribute to exposure and transmission of HIV infection: curriculum-based sexual health programmes led by adults in schools and the use of mass media that are popular with young people.

An example of the latter approach comes from Eastern and Southern Africa, where prevention work focuses on changing behaviours such as early age at first sex, unprotected sex, age-disparate sex, multiple and concurrent sexual partnerships and transactional sex. Beginning in November 2009, *Shuga*, a three-part TV drama produced by MTV in collaboration with UNICEF and PEPFAR, aired in Kenya, where it was complemented by radio and Internet outreach as well as testing and counselling services for young people. Set in Nairobi, the drama about the lives, loves and aspirations of a group of university-age friends had a large audience and a strong impact: 60 per cent of Nairobi youth surveyed had seen the programme, and 90 per cent of the viewers reported that it had affected their thinking around HIV testing, concurrent relationships and stigma.<sup>69</sup> The show was also broadcast in Zambia. Similar dramas, *Tribes* and *Embrace Me*,

were designed and broadcast in Trinidad and Tobago and in Ukraine.

Also in Kenya, in the Nairobi area of Kibera, one of the world's largest informal settlements, an ongoing project is engaging young residents in mapping the physical and health infrastructure of their community using digital techniques and mobile phone applications. The maps identify places where young people have experienced particular threats or abuse and where they feel most vulnerable. One goal is to integrate the data from the maps into the standard planning and reporting of organizations providing health and protection services in the community.<sup>70</sup>

Following a 2008 recommendation by the Commission on AIDS in Asia to improve prevention through better targeting of low-cost, high-impact interventions, several Asian countries have invested in efforts to estimate the size of populations of most-at-risk adolescents. In Nepal, for example, an estimation exercise by the HIV/AIDS and STI Control Board covered 41 out of 75 districts of the country, representing the regions in which higher transmission rates are fuelled through sex work and injecting drug use. The district-level estimates provide a stronger basis on which to inform local programme planning and funds allocation, as well as to improve the targeting and coverage of services.<sup>71</sup>

The media in Latin America have also been important partners in challenging and changing the discourse around stigma and discrimination towards people living with HIV. A regional initiative, *Pasión por la Vida* (Passion for Life) seeks to stimulate discussion of AIDS and other issues among people and political leaders. Two partners at the core of the initiative – the Latin American Media AIDS Initiative and the Communication Initiative Network in Latin America – are working to bring together radio and television broadcasters, journalists and network owners to improve the media's capacity to deal factually and effectively with tough issues surrounding HIV and vulnerability.

**Table 3: Condom use with multiple partners remains low in most countries with a high HIV burden**

Country	Estimated number of people living with HIV, 2009	Percentage of young people (15–24 years old) with multiple partners who used a condom at last sex, 2005–2009	
		Male	Female
Nigeria	3,300,000	56	29
India	2,400,000	32	17
Kenya	1,500,000	67	37
United Republic of Tanzania	1,400,000	37	–
Uganda	1,200,000	45	39
Zimbabwe	1,200,000	59	38
Zambia	980,000	43	42
Malawi	920,000	46	48
Cameroon	610,000	–	68
Côte d'Ivoire	450,000	62	45
Ukraine	350,000	64	63
Swaziland	180,000	67	51

**Note:** 'High HIV burden' refers to countries with HIV prevalence of 15 per cent or more or with an estimated 300,000 or more people living with HIV in 2009. Other countries with a high HIV burden but without more recent data on condom use with multiple partners include South Africa (5,600,000), Mozambique (1,400,000), Ethiopia (980,000), China (740,000), Brazil (730,000), Thailand (530,000), Botswana (320,000), Indonesia (310,000) and Lesotho (290,000). Data refer to the most recent year available during the period 2005–2009.

**Sources:** Estimated numbers of people living with HIV, 2009, are from UNAIDS, *2010 Report on the Global AIDS Epidemic* (forthcoming). Figures on condom use with multiple partners are from AIDS Indicator Surveys, Demographic and Health Surveys and Multiple Indicator Cluster Surveys, 2005–2009.

## Preventing infections in young people requires a commitment to condom programming for older adolescents and their partners

Condom programming for adolescents is not sufficiently developed within country programmes, and use of condoms by adolescent girls in particular remains very low. A key HIV prevention measure, condom use is also a core strategy in responding to the fertility desires of persons living with HIV and remains essential to preventing unwanted pregnancy in young women.

Based on data from 2005–2009, only 47 per cent of the young men and 32 per cent of the young women aged 15–24 in sub-Saharan Africa who reported that they had had sex with multiple partners during the previous 12 months claimed to have used condoms at their last intercourse.<sup>72</sup> While still low, this does represent some progress in condom use and safer sex in young people.

Since 2000, condom use increased by 10 percentage points or more among young women in 11 of 22 countries with trend data and among young men in 11 of 17 countries with trend data.<sup>73</sup> However, most countries do not report on

condom use. Only sub-Saharan Africa and South Asia have sufficient reporting on condom use in young people to assess regional progress.

### Biomedical interventions can play a key role in advancing HIV prevention, but they are only part of the solution

The divergent drivers of the epidemic and corresponding differences in the demography and behaviour of young people at risk make developing a widely effective prevention strategy complex. New techniques that have proven effective in some circumstances may not have an impact elsewhere. For example, male circumcision has proven highly protective of men where heterosexual activity is the main driver of the epidemic. Since 2007, when WHO and UNAIDS recommended that male circumcision be included in HIV prevention strategies, 13 Eastern and Southern African countries have been identified as priority countries for programmes.<sup>74</sup> In Kenya, large-scale roll-out has begun. Microbicides may soon offer comparable protection to young women, and recent trial results of a tenofovir-based gel as providing an additional female-initiated prevention option are promising. These biomedical options would have little impact, however, where HIV is spread largely through contaminated needles or male-to-male sex. Their success depends on the sustainability and quality of behaviour-change programmes and health service delivery for young people, which can improve the uptake of services among those at risk of infection.

UNFPA is working to increase access to and demand for condoms among young people through its Comprehensive Condom Programming (CCP) initiative, particularly in the Caribbean. In Trinidad and Tobago, for example, UNFPA has provided technical support to partners working with young people to ensure that aspects of CCP are mainstreamed

into their HIV prevention programmes. UNFPA also had a lead role in introducing the second-generation female condom (FC2) in the English- and Dutch-speaking Caribbean; its Female Condom Initiative includes specific programmes for youth.

New evidence and programme experience have strengthened global interest in two other approaches to prevention. One entails social transfers. A randomized trial in Malawi (2007–2009) offered cash payments to girls on condition that they remained in school; its results showed an improvement not only in school attendance but also in outcomes such as reported sexual behaviour, pregnancy and child marriage (see page 25).<sup>75</sup>

The other approach is ‘treatment as prevention’. Because antiretroviral treatment lowers viral loads of HIV-positive individuals, it has formed the basis of a global effort to eliminate mother-to-child transmission, including during breastfeeding, and transmission between sero-discordant couples.

Both approaches are very promising, but the challenges and costs of their application and scale-up remain formidable.

## THE WAY FORWARD

HIV is not highly contagious. It is transmitted through sexual activity with an infected person and contact with infected blood, as can happen with the sharing of needles; individuals and societies have some control over these modes of transmission. The ways to prevent HIV infection are known. But prevention information and programming should be delivered through a continuum of age- and context-appropriate programmes, with linkages between services, to respond to the needs of young people. And the participation of young people in identifying and addressing their needs is essential to an informed response.

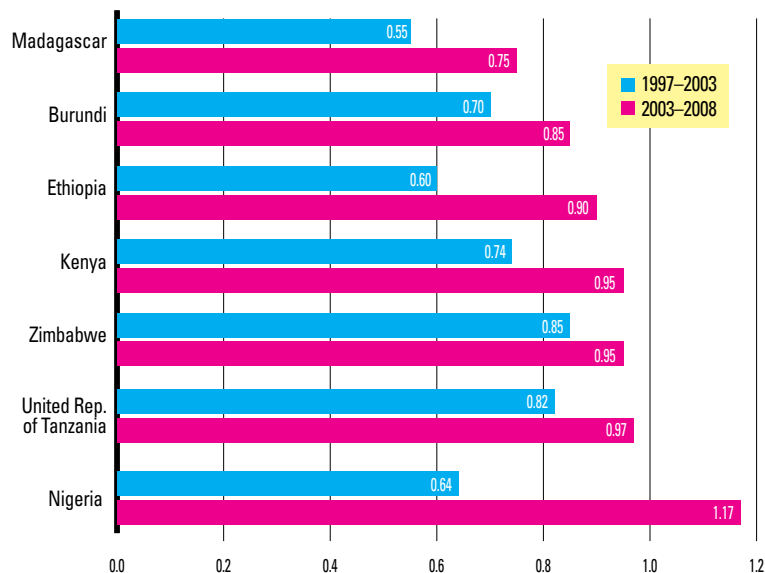
There is great opportunity for success in preventing HIV infection in young people. Integrated services that are better targeted to reach the most vulnerable, removal of barriers to access, better data disaggregation, monitoring and evaluation of programmes, and attention to outcomes called for in the UNAIDS Outcome Framework will help countries meet their accountability to young people by focusing on achieving three measurable results by the end of 2011: increasing comprehensive knowledge of HIV to at least 80 per cent of young people in and out of school; doubling the number of young people reporting condom use during their last sexual intercourse; and doubling the use of HIV testing and counselling services among young people.

## V. PROTECTION, CARE AND SUPPORT FOR CHILDREN AFFECTED BY HIV AND AIDS

Over the last three decades, there has been growing interest and investment in the protection, care and support of children affected by AIDS. National monitoring data on children affected by AIDS indicate that the investments are now paying off, notably in reducing educational inequalities between orphans and non-orphans.

Most countries in sub-Saharan Africa have made significant progress towards parity in school attendance for orphans and non-orphans 10–14 years old (*Figure 4*). In 27 out of 31 countries in sub-Saharan Africa that report data for at least two points in time, school attendance among children who have lost both parents has increased.<sup>76</sup>

**Figure 4: Trends in orphan and non-orphan school attendance ratios in selected sub-Saharan countries where the ratio has increased by at least 0.10 points, 1997–2008**



**Note:** The orphan school attendance ratio is the ratio of the percentage of children 10–14 years old who have lost both parents and are currently attending school to the percentage of non-orphaned children of the same age, both of whose parents are alive and who are living with at least one parent and attending school, for the years 2005–2009.

**Source:** AIDS Indicator Surveys, Demographic and Health Surveys and Multiple Indicator Cluster Surveys, 1997–2008. Burundi and Ethiopia data are from 2000 and 2005; Kenya data are from 1999 and 2003; Madagascar data are from 1997 and 2003–2004; Nigeria data are from 2003 and 2008; United Republic of Tanzania data are from 2003 and 2007–2008; and Zimbabwe data are from 1999 and 2005–2006. The earlier Madagascar figure (1997) is based on small denominators (typically 25–49 unweighted cases).

Despite these impressive gains, concerns remain about the low coverage of external care and support for households caring for orphans and vulnerable children. In 25 countries where household surveys were conducted between 2005 and 2009, a median of 11 per cent of households were receiving external support (*see table on page 45*). The number of children in need is large, but many responses for orphans and vulnerable children remain small-scale and fragmented, and they fail to connect to broader prevention and treatment efforts for children affected by AIDS.

Until now, orphans have been considered a convenient proxy for children affected by AIDS, yet orphanhood is not necessarily a marker of the most vulnerable children, including those living outside of households. There is growing interest in developing more multidimensional indicators of vulnerability that describe not only the extent to which children are affected by AIDS, but also poverty-related vulnerability. UNICEF is leading a review of vulnerability



indicators for orphans and vulnerable children, and together with the Care and Support Working Group of the UK Consortium on AIDS and International Development, it is part of a review of UNGASS care and support indicators to identify robust measures that can be tracked over time in different contexts.

### Who is the vulnerable child?



UNICEF-led research into the factors contributing to child vulnerability has found that whether a child has been orphaned or lives in a household where

an adult is chronically ill is not the strongest marker of a child's vulnerability. Of the factors analysed, the level of education of the household head or the oldest female was significantly associated with child school attendance; better household health and sanitation was significantly associated with less wasting; and greater household wealth was significantly associated with less wasting and better school attendance. Only the level of household wealth consistently predicted vulnerability for children of all ages. It is clear that it is necessary to use multiple variables or factors, including household wealth and other context-specific markers, in defining child vulnerability.

**Source:** Akwara, P., et al, 'Who Is the Vulnerable Child? Using survey data to identify children at risk in an era of HIV and AIDS', *AIDS Care*, vol. 2, no. 9, September 2010, pp. 1066-1085.

**Photo:** Julio Montaner, then-president of the International AIDS Society (IAS), and Dr. Priscilla Akwara, Senior Adviser, UNICEF Statistics and Monitoring Section, at the XVIII International AIDS Conference in Vienna, July 2010, where IAS and the Coalition on Children Affected by AIDS honoured Dr. Akwara and her team with the IAS/CCABA Prize for Excellence in Research Related to the Needs of Children Affected by AIDS.

### Social protection can improve HIV outcomes for children

Social protection can contribute to more equitable development outcomes by reducing the poverty and social exclusion of households and children affected by

the epidemic. It can also contribute to more equitable health outcomes by reducing structural inequalities that drive the epidemic, such as gender inequalities, and helping overcome barriers to access to treatment.

Financial protection, including cash transfers, is one pillar of an effective social protection approach; initiatives to promote access to services and policies and legislation that promote more equitable outcomes and reduce social exclusion are others. These components of an AIDS-sensitive social protection approach are taken from the UNAIDS business case for social protection developed by UNICEF and other UNAIDS co-sponsors. To inform the analysis, UNICEF commissioned work on the state of the evidence on social protection and HIV treatment, prevention, and care and support outcomes.

There is good evidence to demonstrate that scaling up national social protection can have a positive impact on vulnerable households and children affected by AIDS. South Africa has several large national granting schemes that





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benefit AIDS-affected individuals and households without explicitly targeting them. A study in the Free State Province looked at the reach of these granting schemes and their impact on households affected by AIDS and showed that these households had relatively high levels of access to disability and foster care grants. The research also found that five large national grant schemes brought AIDS-affected households up to the same poverty levels as non-affected households.<sup>77</sup>

The impact of cash transfers in mitigating the economic burden of AIDS on vulnerable households and children has been well documented. In addition, there is emerging evidence that such social transfers can help improve adherence to ART. In rural Uganda, patients were provided with cash transfers to cover transportation costs. The results of a randomized controlled trial showed better adherence in the intervention group than the control group, leading the researchers to conclude that modest transfers (\$5–\$8 per month) could improve treatment outcomes in resource-limited rural settings.<sup>78</sup>

Along with cash transfers, livelihood programmes – such as micro-financing, savings and loans, and the provision of agricultural inputs – can have a significant impact on poor households affected by AIDS. For example, a study on the IMAGE project in South Africa (2001–2005) demonstrated a reduction by more than half in the levels of physical and sexual violence in rural villages following the disbursement of loans to women where these were combined with gender and HIV education.<sup>79</sup>

Households and children affected by AIDS face a combination of economic and social vulnerability that can cause social exclusion and widen inequalities. In generalized epidemics, integrated family-based support can help overcome the stigma and psychological or social distress that impede access to a broad range of services.

### **Social protection can help break the cycle of vulnerability that drives new infections in adolescents and adults**

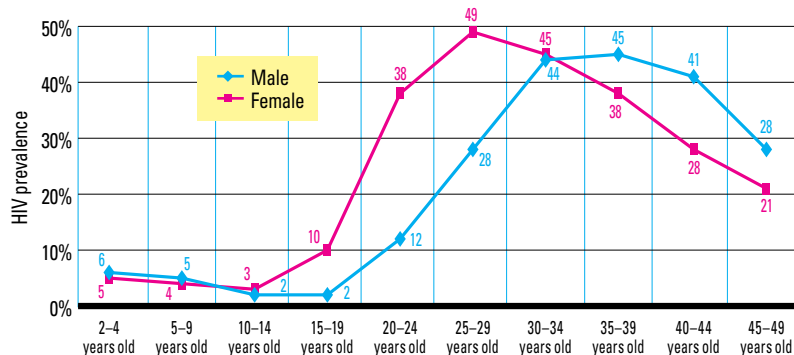
In the context of HIV and AIDS, an important impact of social transfers is getting and keeping children in school. Education can protect girls from HIV infection and confer other important health benefits that are particularly important for girls approaching and entering adolescence. Not only do adolescent girls have a high risk of dropping out of school, but their susceptibility to HIV infection also increases dramatically with age through young adulthood. This is illustrated by sex- and age- disaggregated evidence from Swaziland (*Figure 5*).

A randomized controlled study examining the benefits of conditional (on school attendance) and non-conditional cash transfers for adolescent girls in Malawi revealed substantially increased school attendance among beneficiaries in both the conditional and non-conditional arms of the study (see page 21).<sup>80</sup> The use of cash transfers also led to a significant decline in child marriage, pregnancy and self-reported sexual activity among all beneficiaries. Additionally, the incidence of new HIV infections was found to be 60 per cent lower among girls who were enrolled in school at the start of the study than among girls in the control group. One of the main factors appears to be the age of the male partner – girls apparently were having more sex with boys their own age, posing less HIV risk.

### Strengthening social protection and child protection systems can lead to more effective and more cost-effective responses

Strengthening families caring for AIDS-affected children will not be possible without significant investment in social welfare systems and communities. Responsibilities for orphans and vulnerable children are often spread across government agencies, with

**Figure 5: HIV prevalence by age and sex, Swaziland, 2006–2007**



Source: Swaziland Demographic and Health Survey, 2006–2007.

services delivered by local authorities, non-governmental organizations and faith-based and community groups. This underscores the importance of good coordination and case referrals among providers.

Improving links between state and non-state actors involved in the response to orphans and vulnerable children, and between social welfare and health-sector responses, can improve vulnerable children’s access to prevention, treatment and care services and ensure more equitable outcomes. In Uganda, UNICEF with the support of PEPFAR is working to strengthen the capacity of district and local government and civil society organizations to plan, implement and manage a quality, comprehensive decentralized response to the needs of orphans and other vulnerable children.

Underpinning effective protection systems are strong legal and policy frameworks based on government accountability for protecting all children. The Government of Guyana, with support from UNICEF and PEPFAR, launched its first child protection agency in 2009, accompanied by new legislation and policies to protect children.

Child protection systems also need to be strengthened to ensure the application of the United Nations Guidelines for the Alternative Care of Children, adopted by the General Assembly in December 2009.<sup>81</sup> Building on the Convention on the Rights of the Child, the guidelines provide governments and other implementing and policy partners with a common reference point for establishing alternative care. They place particular emphasis on helping families stay strong, in order to minimize the need for alternative care. Where alternative care is necessary, they reiterate the importance of providing the appropriate type of care in the best interests of the child.

As a response to the global recognition that many child protection systems are not equipped to support the needs of vulnerable children and those affected by AIDS, UNICEF has recently developed a toolkit to map child protection systems.



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The toolkit helps countries assess the capacity and competency of their systems and determine what aspects need to be strengthened and at what cost. Completed in March 2010, the toolkit is being applied in a number of countries in Eastern and Southern Africa in 2010–2011.

In South Africa, the Isibindi programme, supported by UNICEF and USAID, is a good example of how investment in community child protection systems can help vulnerable children and their parents gain access to child support grants as well as to antiretroviral treatment. The Isibindi model of care mobilizes trained child- and youth-care workers from the local community to respond comprehensively to the needs of vulnerable children and their families, many of them affected by AIDS.

Through regular informal home visits, the care workers ensure that children remain in their communities and live with their families.

The global financial crisis and the potential slowdown in the growth of expenditure on AIDS-related programmes – and those benefiting orphans and vulnerable children specifically – have highlighted the importance of using cost-effective approaches to improve the lives of these children. A number of costing studies related to programming for orphaned and vulnerable children show that the costs of delivery of the same service in similar contexts is highly variable,<sup>82</sup> suggesting the potential for efficiency gains. A recent review in Zimbabwe showed that it was much costlier to deliver educational assistance through civil society organizations than through a national public programme of fee exemptions delivered directly to schools.<sup>83</sup> In this case, greater reliance on the public sector had the potential to significantly increase the numbers of vulnerable children reached.



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## Community demand and involvement is crucial to attaining quality and reaching scale

In many places, local and international civil society partners are working with communities to promote an active citizenry that will demand improved services and policies for children. World Vision's Citizen Voice and Action programme, for example, has helped ensure that community members can monitor the quality of public services and access to them. In Cambodia, Family Health International runs a community-based, family-centred programme that engages community assistants as intermediaries between programme beneficiaries and school and other local authorities. In Malawi, the Centre for Youth and Children Affairs, a local non-governmental organization, works at the community and national levels to promote access to justice, improved caregiving and paralegal support for orphans and vulnerable children. The Global Fund's support for community systems strengthening (CSS) aims at improving the accountability of community organizations to their communities and building their capacity to advocate for greater transparency and accountability on the part of public bodies and governments. But there have been relatively few successful CSS grant proposals to date.

One of the greatest challenges remains scaling up services for vulnerable children while retaining their quality. A number of countries, including Ethiopia, the United Republic of Tanzania and Zimbabwe, are looking at ways to develop national quality standards for their responses for orphans and vulnerable children, with support from UNICEF and USAID. UNICEF and Save the Children UK are also working with the Southern African Development Community to support standard-setting for programmes for orphans and vulnerable children in the region.

## Investment in national monitoring and evaluation systems for orphans and vulnerable children remains a high priority

Increasing investment in national monitoring and evaluation systems to assess the coverage, quality and impact of programmes for orphans and vulnerable children remains a high priority. A number of countries, including Cambodia, Ethiopia, India, Kenya, Rwanda and the United Republic of Tanzania, have used the Child Status Index – a measurement of such factors as nutrition and food security, access to education, and psychosocial well-being – an evaluation tool to measure outcomes for children.<sup>84</sup>

In addition to a greater focus on quantitative data, there is a need to hear from children themselves. One recent study that mapped service provision through schools in five AIDS-affected countries in Southern Africa included 'child-friendly' methods that sought children's input in a variety of areas.<sup>85</sup> In some cases, the children's input substantially qualified the findings of the more quantitative and adult-centred portions of the study. For example, teachers and administrators felt that children were safe on their way to and from school, whereas a large proportion of the children themselves reported not feeling safe. Regarding school feeding, in some places administrators said that school feeding programmes were in place, but the children reported they were not.

## THE WAY FORWARD

Children who have lost parents to AIDS will need our attention long after rates of new infection go down. Care and support for orphans and vulnerable children should be seen as part of a cycle of intervention in which the linkages between care and support and primary prevention and access to treatment for HIV-positive young people are paramount.

Investment in social protection and child protection for orphans and vulnerable children is crucial for ensuring more equitable outcomes. Not only can such programmes reduce the economic vulnerability of children who have lost parents or who are living with sick relatives, but they can also be protective and reduce vulnerability to HIV infection, as demonstrated by evidence related to keeping adolescent girls in school.

Cash payments offer incentives for adherence to treatment and the elimination of mother-to-child transmission of HIV. This is one of many AIDS-specific interventions with broad potential for improving the health and welfare of families caring for vulnerable children, whatever the cause of the vulnerability.

## VI. CALL TO ACTION

The welfare of individuals and families affected by HIV depends on their ability to effect change in their health and also on their resilience in weathering the economic and social impact of the disease. In order to do this, national and decentralized systems, whether health, social protection or education, must be strengthened in order to respond to the needs of children affected by AIDS as part of broader health and social protection initiatives.

Virtual elimination of mother-to-child transmission of HIV and universal access goals will not be attained unless countries and communities reach the most marginalized members of society and serve their needs. The disparities in access, coverage and outcomes that exist across age, gender, geographic, wealth and educational spectra cannot be accepted as inevitable, and certainly the AIDS response must seek to eliminate them. HIV does not discriminate, and neither should the AIDS response.

Consequently, this *Children and AIDS: Fifth Stocktaking Report* calls for several concrete actions that can be taken within the next one to three years to accelerate progress for children affected by AIDS:

- 1. Change the PMTCT focus from coverage of ARV prophylaxis to the health of mothers and the HIV-free survival of children.** The virtual elimination of mother-to-child transmission can be achieved by closing gaps in access to and utilization of PMTCT services – including primary prevention of HIV among women of childbearing age, family planning, counselling and testing, and antiretroviral treatment of eligible mothers. This means addressing stigma and discrimination, user fees, transport costs, male involvement and any cultural or social norms that hinder women's ability to make use of relevant services, including family planning. Parallel to this, national governments should develop enabling policies, operational guidelines and tools towards the new targets. They should strengthen management structures and processes and allocate the resources necessary to scale up PMTCT programmes and integrate them into maternal and child health-care systems.
- 2. Make exclusive breastfeeding safe and sustainable.** The combined approach of extending the breastfeeding period for at least 12 months with appropriate ARV prophylaxis in country settings where breastfeeding is the safest infant feeding option can dramatically improve HIV-free survival of children born to HIV-positive mothers. New guidelines on infant feeding in the context of HIV issued by WHO also advise on the extension of breastfeeding beyond six months of age in HIV-exposed children. The new guidelines urge countries to support as the standard of care one of two strategies, based on sociocultural contexts, HIV prevalence among pregnant women and main causes of infant morbidity and mortality.

All partners need to support country implementation of the guidelines.

**3. Identify HIV-positive newborns, children and young people without delay and provide rapid access to ART for those eligible.** Health providers and community-based organizations have a crucial role in identifying children with HIV and bringing them into care in clinics, feeding centres, paediatric wards, immunization visits, schools and outreach programmes. Another highly effective approach is to identify infected children through adults receiving HIV care and treatment. Front-line health workers need better capacity to address the needs of children living with HIV. HIV testing should be made available to all adolescents everywhere, and age-of-consent laws should be removed.

**4. Make children and adolescents central to the development and implementation of promising new prevention initiatives.** Such new biomedical strategies as microbicides and medical male circumcision offer great promise; the efficacy of microbicides must be confirmed and that of medical male circumcision must be reiterated so that young women and young men are empowered to take advantage of them. Access to treatment must not favour those already undergoing treatment to the detriment of those newly identified through PMTCT and other means. Furthermore, national AIDS programmes should incorporate the needs of HIV-positive adolescents into their programming.

**5. Redress low levels of knowledge about HIV.** There is now strong evidence concerning the substantial benefits of well-designed HIV and sexuality education programmes – and no evidence whatsoever that such courses result in undesired sexual behaviour. Curriculum-based, adult-led sexual health programmes in schools should be scaled up rapidly. More evidence will soon be available on the costing and cost-effectiveness of school-based interventions in a range of epidemic



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settings. National, community, religious and other social organizations need to help parents talk to children about sex and relationships, their vulnerability to HIV, where to get a condom and where to go for HIV testing. More also needs to be done to study the link between knowledge and behaviour, perhaps based on similar patterns seen in smoking and other behaviours that put people's health at risk: Why do young people who know about HIV and how to prevent it nonetheless engage in high-risk behaviour?

**6. Increase access of children and adolescents living on the margins of society to health, education and social welfare services.** To reach and help young people living with HIV or at risk of HIV infection, medical and civil authorities need to establish non-judgmental, friendly services that address the special needs of marginalized adolescents. Children and adolescents have a right to the highest attainable standard of health, and those engaged in risky behaviour such as injecting drugs need compassion and care, not the cold arm of the law.

**7. Provide economic support to poor and vulnerable women, children and adolescents.** Cash transfers and livelihood programmes can boost families' incomes and production and improve outcomes for children. Cash transfers have been shown to improve the health, nutritional status and educational enrolment of AIDS-affected and other vulnerable children. They can also enhance access and adherence to treatment and reduce inequities that can exacerbate vulnerability to infection. To ensure sustainability and linkages to social services, cash



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transfers and livelihood programmes should be delivered as part of national social protection systems where possible.

- 8. Prevent violence and abuse of women and girls and enforce laws against it.** Bringing evidence of widespread sexual violence against girls to the attention of those in power is a first step to

detering it. Young people must be empowered to know their own vulnerability and to work with authorities to help reduce it.

Taking these actions can help turn this transformative moment in the AIDS response into a catalyst for greater equity and better outcomes – to the benefit of the millions of children, women and families worldwide who still face, every day, the burden of the epidemic.



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## ANNEX: NOTES ON THE DATA

### DATA SOURCES AND COMPILATION

The data and analyses presented in this *Children and AIDS: Fifth stocktaking report* are derived from information in UNICEF global databases compiled from various sources. These include nationally representative data collected from household surveys such as the Demographic and Health Surveys, Multiple Indicator Cluster Surveys and Reproductive Health Surveys; national programme service statistics collected annually by UNICEF, WHO and UNAIDS through a joint annual reporting form for monitoring the health-sector response to HIV/AIDS (2010); country estimates of HIV care and treatment needs modelled by UNAIDS and WHO in collaboration with countries; and the United Nations Population Division country estimates of the number of annual births.

In 2010, WHO, UNICEF and UNAIDS collected data from national programmes worldwide, both through the 2010 UNGASS reporting process and the Joint Reporting Tool on the Health-Sector Response to HIV/AIDS. The tool typically comprises 46 indicators to track progress towards universal access to HIV prevention, treatment and care, including PMTCT and other HIV interventions for women and children. This year, however, fewer indicators were collected for two reasons. First, as this is an UNGASS reporting year, there was a need to reduce the reporting burden on countries. Second, two of these indicators – the number of HIV-positive pregnant women receiving ARVs for PMTCT and the number of children receiving ART – were collected through the UNGASS process. The Joint Reporting Tool collected data for the 12-month period of January–December 2009, and it replaces the PMTCT and Paediatric HIV Care and Treatment Report Card. Data in this report on HIV-positive pregnant women receiving ARVs and on children receiving ART and cotrimoxazole prophylaxis are the same as in WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*.

### ESTIMATES ON HIV CARE AND TREATMENT NEEDS OF PREGNANT WOMEN AND CHILDREN

In 2010, UNAIDS and WHO refined the HIV and AIDS estimation methodology to reflect more reliable data available from population-based surveys, expanded national sentinel surveillance systems and programme service statistics in a number of countries. Based on the refined methodology, UNAIDS has retrospectively generated new estimates of HIV prevalence, numbers of people living with HIV, paediatric HIV treatment needs and children whose parents have died due to all causes or AIDS for past years. To achieve consistency and establish a comparative measure



of progress, trend analyses must be recalculated using only the new estimates.

Similarly, global estimates of the number of children in need of ART have been refined, and thus coverage rates for 2005, 2006, 2007 and 2008 have been recalculated using these new estimates. The estimates included the most recent data reported by countries from 2009.

The methods and assumptions of the UNAIDS and WHO estimation model continue to evolve and are regularly updated as new data become available. This year, several key changes were made to the assumptions used to estimate paediatric needs; these included more accurate survival curves, improvements in determining progression from infection to treatment need and revised WHO guidelines on ART for infants and children based on new eligibility criteria.

As a result, the estimated proportion of children (aged 0–14) who received ART in 2009 is 28 per cent, lower than

the estimated 2008 coverage (38 per cent) published previously. This change in estimated coverage does not reflect a decrease in the number of children in need of ART receiving treatment – which actually increased. Rather, it is due to changes in both the estimation methodology and the criteria for treatment eligibility that resulted in a substantial increase in the estimated number of children in need of ART and, consequently, a change in ART coverage rates. In light of these changes, 2009 coverage rates should not be compared with those published in these annual stocktaking reports in prior years. For this reason, all prior-year estimates of paediatric ART need have been back-calculated for this year's report.

Overall, the differences between the newly generated estimates and those previously published are not related to trends over time and are therefore not comparable. Nor are other revised estimates comparable to estimates published in previous years. Trends over time may be assessed, however, using UNAIDS methodological revisions applied retrospectively to earlier HIV and AIDS data.

More details about the data, reporting by specific countries and the methodology for HIV estimates can be found in *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010* and at <[www.unaids.org](http://www.unaids.org)>.

## GOAL 1. Preventing mother-to-child transmission of HIV in low- and middle-income countries

	Estimated adult HIV prevalence rate (%) (15-49 years old), end 2009	Antenatal care coverage (%), 2005-2009*	Annual number of births, 2009 (thousands)	Estimated number of HIV-positive pregnant women, 2009 <sup>c</sup>			Reported number of HIV-positive pregnant women who received ARVs for PMTCT, 2009	Estimated percentage of HIV-positive pregnant women who received ARVs for PMTCT, 2009**		
				Estimate	Low estimate	High estimate		Estimate	Low estimate	High estimate
Afghanistan	–	–	1,302	–	–	–	–	–	–	
Albania	–	97	47	–	–	–	–	–	–	
Algeria	0.1	89	723	–	<200	<500	65	–	14 59	
Angola	2.0	80	784	16,000	8,400	25,000	3,053	19	12 36	
Antigua and Barbuda	–	100	1	–	–	–	–	–	–	
Argentina	0.5	99	691	–	<1,000	2,400	2,039 a	–	86 >95	
Armenia	0.1	93	48	–	<100	<100	13	–	65 >95	
Azerbaijan	0.1	77	169	–	<100	<500	11	–	5 17	
Bahamas	3.1	98	6	–	–	–	–	–	–	
Bahrain	–	–	14	–	–	–	–	–	–	
Bangladesh	<0.1	51	3,401	–	<100	<200	7 a	–	4 13	
Barbados	1.4	100	3	–	–	–	–	–	–	
Belarus	0.3	99	96	–	<100	<500	194	–	>95 >95	
Belize	2.3	94	7	–	<200	<500	63	–	22 61	
Benin	1.2	84	349	3,700	1,900	5,800	1,703	46	29 92	
Bhutan	0.2	88	15	–	<100	<100	19 a	–	95 >95	
Bolivia (Plurinational State of)	0.2	86	262	–	<200	<500	105	–	22 83	
Bosnia and Herzegovina	–	99	34	–	–	–	1 a	–	–	
Botswana	24.8	94	48	13,000	6,900	17,000	12,406	>95	74 >95	
Brazil	–	97	3,026	–	3,700	12,000	5,988	–	49 >95	
Brunei Darussalam	–	–	8	–	–	–	–	–	–	
Bulgaria	0.1	–	73	–	<100	<100	9	–	23 82	
Burkina Faso	1.2	85	738	6,500	3,500	11,000	2,084	32	19 60	
Burundi	3.3	92	283	15,000	8,400	21,000	1,837	12	9 22	
Cambodia	0.5	69	367	–	<1,000	3,000	798	–	26 >95	
Cameroon	5.3	82	711	34,000	18,000	50,000	9,092	27	18 50	
Cape Verde	–	98	12	–	–	–	61	–	–	
Central African Republic	4.7	69	154	6,300	3,200	9,500	2,157	34	23 67	
Chad	3.4	–	508	16,000	8,300	29,000	989	6	3 12	
Chile	0.4	–	252	–	<500	<1,000	121	–	15 55	
China	0.1	91	18,294	–	2,600	11,000	1,554	–	14 59	
Colombia	0.5	94	917	–	<1,000	3,900	519	–	13 55	
Comoros	0.1	–	22	–	<100	<100	1	–	10 33	
Congo	3.4	86	126	3,800	1,900	5,600	441	12	8 23	
Cook Islands	–	–	0	–	–	–	–	–	–	
Costa Rica	0.3	90	76	–	<100	<200	31 a	–	17 53	
Côte d'Ivoire	3.4	85	729	20,000	10,000	31,000	11,064	54	36 >95	
Croatia	<0.1	–	42	–	<100	<100	2	–	15 67	
Cuba	0.1	100	116	–	<100	<200	50	–	39 >95	
Democratic People's Republic of Korea	–	–	327	–	<100	<100	–	–	–	
Democratic Republic of the Congo	–	85	2,930	– b	20,000	54,000	2,232	–	4 11	
Djibouti	2.5	92	24	<1,000	<500	1,000	63	10	6 21	
Dominica	–	100	1	–	–	–	2	–	–	
Dominican Republic	0.9	99	224	–	<1,000	3,000	949	–	32 95	
Ecuador	0.4	–	279	–	<500	<1,000	477	–	48 >95	
Egypt	<0.1	74	2,029	–	<200	<500	11	–	3 10	
El Salvador	0.8	94	125	–	<500	<1,000	170 a	–	19 71	
Equatorial Guinea	5.0	–	26	1,400	<1,000	2,300	365	26	16 50	
Eritrea	0.8	–	185	1,400	<1,000	2,200	464	34	21 71	
Ethiopia	–	28	3,132	– b	17,000	51,000	6,721	–	13 40	
Fiji	0.1	–	18	–	<100	<100	5 c	–	28 >95	
Gabon	5.2	–	40	1,900	<1,000	2,900	577	30	20 60	
Gambia	2.0	98	62	–	<1,000	2,000	885 d	–	43 >95	
Georgia	0.1	96	52	–	<100	<100	12	–	19 86	
Ghana	1.8	90	766	13,000	6,900	20,000	3,643	27	18 53	
Grenada	–	100	2	–	–	–	2	–	–	
Guatemala	0.8	93	456	–	<1,000	2,900	440	–	15 56	
Guinea	1.3	88	397	4,600	2,300	7,200	783	17	11 34	
Guinea-Bissau	2.5	78	66	1,600	<1,000	2,400	383	24	16 49	
Guyana	1.2	92	13	–	<100	<500	183	–	88 >95	
Haiti	1.9	85	274	5,000	2,600	7,500	2,960	60	39 >95	
Honduras	0.8	92	202	–	<500	1,300	255	–	20 82	
India	0.3	75	26,787	–	23,000	65,000	11,319	–	17 48	
Indonesia	0.2	93	4,174	–	1,100	4,600	1,916 a	–	4 17	
Iran (Islamic Republic of)	0.2	98	1,390	–	<500	1,300	25 e	–	2 7	
Iraq	–	84	949	–	–	–	0 a	–	–	

## GOAL 1. Preventing mother-to-child transmission of HIV in low- and middle-income countries

	Estimated adult HIV prevalence rate (%) (15–49 years old), end 2009	Antenatal care coverage (%), 2005–2009*	Annual number of births, 2009 (thousands)	Estimated number of HIV-positive pregnant women, 2009 <sup>2</sup>			Reported number of HIV-positive pregnant women who received ARVs for PMTCT, 2009	Estimated percentage of HIV-positive pregnant women who received ARVs for PMTCT, 2009**		
				Estimate	Low estimate	High estimate		Estimate	Low estimate	High estimate
Jamaica	1.7	91	52	–	<200	<1,000	379	–	46	>95
Jordan	–	99	158	–	–	–	0	–	–	–
Kazakhstan	0.1	100	308	–	<200	<1,000	193	–	38	>95
Kenya	6.3	92	1,530	81,000	41,000	120,000	58,591	73	50	>95
Kiribati	–	–	2	–	–	–	0 a	–	–	–
Kuwait	–	–	52	–	–	–	–	–	–	–
Kyrgyzstan	0.3	97	122	–	<100	<500	58	–	23	>95
Lao People's Democratic Republic	0.2	35	172	–	<200	<500	24	–	5	20
Lebanon	0.1	–	66	–	<100	<100	–	–	–	–
Lesotho	23.6	92	59	14,000	8,400	18,000	8,846	64	48	>95
Liberia	1.5	79	149	2,400	1,100	3,700	377	16	10	33
Libyan Arab Jamahiriya	–	–	148	–	–	–	–	–	–	–
Madagascar	0.2	86	695	–	<500	1,100	17	–	1	5
Malawi	11.0	92	608	57,000	31,000	83,000	33,156	58	40	>95
Malaysia	0.5	79	550	–	<100	<1,000	300	–	55	>95
Maldives	<0.1	–	6	–	<100	<100	0	–	0	0
Mali	1.0	70	551	–	2,100	6,700	1,710	–	26	82
Marshall Islands	–	81	1	–	–	–	1 f	–	–	–
Mauritania	0.7	75	109	–	<200	<1,000	68	–	12	37
Mauritius	1.0	–	18	–	<100	<200	41	–	33	>95
Mexico	0.3	94	2,021	–	1,500	4,500	124	–	3	9
Micronesia (Federated States of)	–	–	3	–	–	–	–	–	–	–
Mongolia	<0.1	100	50	–	<100	<100	1	–	10	33
Montenegro	–	97	8	–	–	–	0	–	–	–
Morocco	0.1	–	651	–	<200	<1,000	90	–	13	49
Mozambique	11.5	92	877	97,000	53,000	130,000	68,248	70	51	>95
Myanmar	0.6	80	1,016	–	1,800	5,600	2,398	–	43	>95
Namibia	13.1	95	59	7,700	4,100	11,000	6,744 g	88	61	>95
Nauru	–	95	0	–	–	–	–	–	–	–
Nepal	0.4	44	730	–	<1,000	2,100	56 h	–	3	10
Nicaragua	0.2	90	140	–	<100	<500	91	–	45	>95
Niger	0.8	46	815	–	2,300	7,000	1,737	–	25	74
Nigeria	3.6	58	6,081	210,000	110,000	300,000	44,723	22	15	42
Niue	–	–	0	–	–	–	–	–	–	–
Occupied Palestinian Territory	–	99	150	–	–	–	–	–	–	–
Oman	0.1	–	62	–	<100	<100	9	–	29	>95
Pakistan	0.1	61	5,403	–	1,000	3,700	25	–	1	2
Palau	–	100	0	–	–	–	–	–	–	–
Panama	0.9	–	70	–	<200	<1,000	118	–	19	>95
Papua New Guinea	0.9	79	208	2,000	<1,000	3,000	263	13	9	27
Paraguay	0.3	96	154	–	<200	<500	148	–	38	>95
Peru	0.4	94	605	–	<500	1,700	550	–	33	>95
Philippines	<0.1	91	2,245	–	<100	<500	3	–	1	4
Qatar	<0.1	–	16	–	–	–	–	–	–	–
Republic of Korea	<0.1	–	450	–	–	–	–	–	–	–
Republic of Moldova	0.4	98	45	–	<100	<200	109	–	71	>95
Romania	0.1	–	212	–	<100	<500	152	–	76	>95
Russian Federation	–	–	1,559	–	5,100	16,000	9,380	–	57	>95
Rwanda	2.9	96	413	11,000	5,400	16,000	7,030	65	43	>95
Saint Kitts and Nevis	–	100	0	–	–	–	1	–	–	–
Saint Lucia	–	99	3	–	–	–	6	–	–	–
Saint Vincent and the Grenadines	–	100	2	–	–	–	14	–	–	–
Samoa	–	–	4	–	–	–	–	–	–	–
Sao Tome and Principe	–	98	5	–	–	–	11	–	–	–
Saudi Arabia	–	–	593	–	–	–	–	–	–	–
Senegal	0.9	87	476	–	2,000	5,900	917	–	16	45
Serbia	0.1	98	114	–	<100	<100	2 a	–	3	10
Seychelles	–	–	3	–	–	–	12	–	–	–
Sierra Leone	1.6	87	227	3,300	1,800	5,100	637	19	12	36
Singapore	0.1	–	37	–	–	–	–	–	–	–
Solomon Islands	–	74	16	–	–	–	1	–	–	–
Somalia	0.7	26	402	–	1,000	3,700	0	–	0	0
South Africa	17.8	–	1,085	210,000	120,000	290,000	188,200	88	66	>95
Sri Lanka	<0.1	99	364	–	<100	<100	4	–	9	31
Sudan	1.1	64	1,300	14,000	7,300	22,000	245	2	1	3
Suriname	1.0	90	10	–	<100	<200	83 a	–	82	>95

## GOAL 1. Preventing mother-to-child transmission of HIV in low- and middle-income countries

	Estimated adult HIV prevalence rate (%) (15–49 years old), end 2009	Antenatal care coverage (%), 2005–2009*	Annual number of births, 2009 (thousands)	Estimated number of HIV-positive pregnant women, 2009 <sup>z</sup>			Reported number of HIV-positive pregnant women who received ARVs for PMTCT, 2009	Estimated percentage of HIV-positive pregnant women who received ARVs for PMTCT, 2009**		
				Estimate	Low estimate	High estimate		Estimate	Low estimate	High estimate
Swaziland	25.9	85	35	9,300	5,700	12,000	8,182	88	68	>95
Syrian Arab Republic	–	84	596	–	–	–	2	–	–	–
Tajikistan	0.2	89	195	–	<100	<500	25	–	9	36
Thailand	1.3	98	977	–	4,900	8,300	5,457 f	–	66	>95
The former Yugoslav Republic of Macedonia	–	94	22	–	–	–	0	–	–	–
Timor-Leste	–	–	46	–	–	–	1 a	–	–	–
Togo	3.2	84	215	5,600	2,200	9,400	1,451	26	15	67
Tonga	–	–	3	–	–	–	–	–	–	–
Trinidad and Tobago	1.5	96	20	–	–	–	–	–	–	–
Tunisia	<0.1	96	165	–	<100	<100	3	–	6	25
Turkey	<0.1	92	1,346	–	<100	<200	4 i	–	3	13
Turkmenistan	–	99	111	–	–	–	–	–	–	–
Tuvalu	–	97	0	–	–	–	–	–	–	–
Uganda	6.5	94	1,502	88,000	48,000	130,000	46,948	53	37	>95
Ukraine	1.1	99	468	–	1,200	4,800	3,645	–	76	>95
United Arab Emirates	–	–	63	–	–	–	–	–	–	–
United Republic of Tanzania	5.6	76	1,812	84,000	45,000	120,000	58,833	70	48	>95
Uruguay	0.5	96	50	–	<100	<500	70 a	–	31	>95
Uzbekistan	0.1	99	558	– b	–	–	304	–	–	–
Vanuatu	–	84	7	–	–	–	–	–	–	–
Venezuela (Bolivarian Republic of)	–	–	600	– b	–	–	233	–	–	–
Viet Nam	0.4	91	1,485	–	1,700	4,700	1,372	–	29	79
Yemen	–	47	861	–	–	–	13	–	–	–
Zambia	13.5	94	549	68,000	37,000	94,000	47,175	69	50	>95
Zimbabwe	14.3	93	379	50,000	28,000	69,000	28,208	56	41	>95

### SUMMARY INDICATORS

<b>Africa</b>	3.9 †	72 †	35,762,000 †	1,260,000	810,000	1,700,000	673,300	53	40	83
<b>Sub-Saharan Africa<sup>a/</sup></b>	4.7 †	72 †	32,044,000 †	1,260,000	810,000	1,700,000	673,100	53	40	83
Eastern and Southern Africa	7.2 †	72 †	14,480,000 †	860,000	600,000	1,100,000	584,700	68	53	>95
West and Central Africa	2.7 †	72 †	16,241,000 †	380,000	200,000	560,000	88,100	23	16	44
<b>Middle East and North Africa</b>	0.2 †	78 †	10,012,000 †	16,400	9,600	23,000	530	3	2	5
<b>Asia</b>	0.2 †	79 †	68,469,000 †	73,200	45,000	110,000	23,800	33	22	52
South Asia	0.3 †	70 †	38,008,000 †	46,800	23,000	78,000	11,400	24	15	50
East Asia and the Pacific	0.2 †	90 †	30,460,000 †	26,200	18,000	40,000	12,400	47	31	68
<b>Latin America and the Caribbean</b>	0.5 †	95 †	10,661,000 †	29,900	19,000	41,000	16,200	54	39	83
<b>CEE/CIS</b>	0.5 †	95 †	5,629,000 †	15,100	7,600	22,000	14,100	94	63	>95
Low- and middle-income countries <sup>b/</sup>	–	–	–	1,380,000	920,000	1,800,000	727,600	53	40	79
Developing countries <sup>b/</sup>	0.9 †	79 †	122,921,000 †	–	–	–	–	–	–	–
World	0.8 †	79 †	136,712,000 †	–	–	–	–	–	–	–

### DEFINITIONS OF THE INDICATORS

**Estimated adult HIV prevalence rate:** Percentage of adults (15–49 years old) living with HIV as of 2009.

**Antenatal care coverage:** Percentage of women (15–49 years old) attended at least once during pregnancy by skilled health personnel (doctors, nurses or midwives).

**Annual number of births:** Estimated number of live births in 2009.

**Estimated number of HIV-positive pregnant women:** Estimated number of pregnant women living with HIV as of 2009.

**Reported number of HIV-positive pregnant women who received ARVs for PMTCT:** Number of women testing HIV-positive during visits to antenatal clinics who were provided with antiretrovirals (ARVs) to prevent mother-to-child transmissions.

**Estimated percentage of HIV-positive pregnant women who received ARVs for PMTCT:** Calculated by dividing the reported number of HIV-positive pregnant women who received ARVs for prevention of mother-to-child transmission (PMTCT) by the estimated unrounded number of HIV-positive pregnant women in 2009. The point estimates and ranges are given for countries with a generalized epidemic, whereas only ranges are given for countries with a low or concentrated epidemic. Ranges in coverage estimates are based on plausibility (uncertainty) bounds in the denominator, i.e., low and high estimated number of HIV-positive pregnant women.

### MAIN DATA SOURCES

**Estimated adult HIV prevalence rate:** UNAIDS, *2010 Report on the Global AIDS Epidemic*.

**Antenatal care coverage:** UNICEF, *The State of the World's Children 2010*.

**Annual number of births:** UNICEF, *The State of the World's Children 2010*.

**Estimated number of HIV-positive pregnant women:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*.

**Reported number of HIV-positive pregnant women who received ARVs for PMTCT:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*.

**Estimated percentage of HIV-positive pregnant women who received ARVs for PMTCT:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*.

### NOTES

– Data not available.

\* Data refer to the most recent year available during the period specified in the column heading.

\*\* United Nations General Assembly Special Session on HIV/AIDS (2001) indicator.

a Reporting period is from January–December 2008.

b Estimates of the number of pregnant women living with HIV who need antiretrovirals for preventing mother-to-child transmission are currently being reviewed and will be adjusted, as appropriate, based on ongoing data collection and analysis. Therefore, some countries have requested that only a range, or no needs estimates at all, be published.

c Reporting period is from January–November 2009.

d Reporting period is from January–September 2009.

e Reporting period is from March 2008–February 2009.

f Reporting period is from October 2008–September 2009.

g Reporting period is from April 2008–March 2009.

h Reporting period is from July 2008–June 2009.

i Reporting period is from January–December 2006.

z The needs estimates are based on the methods described in the Annex. The estimates for individual countries may differ according to the estimation methods used.

† Regional averages are calculated only when the population represents 50 per cent or more of the region's total population of interest.

a/ Including Djibouti and the Sudan.

b/ Some estimated numbers for Eastern and Southern Africa and West and Central Africa do not add up to totals for Sub-Saharan Africa because of rounding.

Low- and middle-income countries are classified as such by the World Bank as of July 2007; these 149 countries form the basis for the data analysis in WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*. Developing countries is a UNICEF classification published annually in its *The State of the World's Children* report.

Low- and middle-income country summary estimates are calculated only for indicators taken directly from *Towards Universal Access* (in this table, the estimated number of HIV-positive pregnant women and the reported number and estimated percentage of HIV-positive pregnant women who received ARVs for PMTCT). Developing country and World summary estimates are calculated for all other indicators.



## GOAL 2. Providing paediatric treatment in low- and middle-income countries

	Estimated number of children (0–14 years old) living with HIV, 2009			Estimated number of HIV-positive pregnant women, 2009 <sup>e</sup>			Number of infants born to HIV-positive pregnant women started on cotrimoxazole prophylaxis, 2009	% of infants born to HIV-positive pregnant women started on cotrimoxazole prophylaxis, 2009	Estimated number of children needing antiretroviral therapy based on UNAIDS/WHO methods, 2009 <sup>e</sup>			Number of children (0–14 years old) receiving ART, 2009 <sup>h,i</sup>	Estimated antiretroviral therapy coverage among children (percentage), December 2009 <sup>f</sup>					
	Estimate	Low estimate	High estimate	Estimate	Low estimate	High estimate			Estimate	Low estimate	High estimate		Estimate	Low estimate	High estimate	Estimate	Low estimate	High estimate
Afghanistan	–	–	–	–	–	–	–	–	–	–	–	0	–	–	–			
Albania	–	–	–	–	–	–	–	–	–	–	–	15	–	–	–			
Algeria	–	–	–	–	<200	<500	–	–	–	<100	<500	97	–	36	>95			
Angola	22,000	12,000	35,000	16,000	8,400	25,000	2,435	15	12,000	6,300	18,000	1,548	13	8	25			
Antigua and Barbuda	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			
Argentina	–	–	–	–	<1,000	2,400	2,160 a	>95	–	<500	<1,000	2,000 a	–	>95	>95			
Armenia	–	–	–	–	<100	<100	2	17	–	<100	<100	7	–	54	>95			
Azerbaijan	–	–	–	–	<100	<500	13 a	10	–	<100	<200	3	–	3	9			
Bahamas	–	<200	<1,000	–	–	–	–	–	–	–	–	–	–	–	–			
Bahrain	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			
Bangladesh	–	–	–	–	<100	<200	16	16	–	<100	<200	6 a	–	6	16			
Barbados	–	<100	<100	–	–	–	–	–	–	–	–	–	–	–	–			
Belarus	–	–	–	–	<100	<500	148	>95	–	<100	<200	95	–	77	>95			
Belize	–	–	–	–	<200	<500	–	–	–	<200	<500	80	–	28	66			
Benin	5,400	2,900	7,800	3,700	1,900	5,800	1,473	39	2,700	1,500	4,100	1,135	41	28	77			
Bhutan	–	–	–	–	<100	<100	7 a	58	–	<100	<100	1 a	–	8	33			
Bolivia (Plurinational State of)	–	<500	1,300	–	<200	<500	27 a	10	–	<200	<1,000	50	–	8	28			
Bosnia and Herzegovina	–	–	–	–	–	–	0	–	–	–	–	1	–	–	–			
Botswana	16,000	9,900	20,000	13,000	6,900	17,000	8,232 b	65	9,400	8,200	11,000	8,490 p	90	76	>95			
Brazil	–	–	–	–	3,700	12,000	–	–	– c	8,200	12,000	7,939 a, d	–	65	>95			
Brunei Darussalam	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			
Bulgaria	–	–	–	–	<100	<100	–	–	–	<100	<100	3	–	10	33			
Burkina Faso	17,000	8,100	25,000	6,500	3,500	11,000	1,815	28	8,000	3,900	12,000	1,354	17	11	35			
Burundi	28,000	17,000	40,000	15,000	8,400	21,000	1,332	9	14,000	8,500	20,000	1,596	11	8	19			
Cambodia	–	–	–	–	<1,000	3,000	203 e	12	–	2,800	6,100	3,638	–	60	>95			
Cameroun	54,000	29,000	78,000	34,000	18,000	50,000	8,378	25	28,000	15,000	41,000	3,114	11	8	20			
Cape Verde	–	–	–	–	–	–	67	–	–	–	–	37	–	–	–			
Central African Republic	17,000	8,200	25,000	6,300	3,200	9,500	887	14	7,600	3,600	11,000	724	9	6	20			
Chad	23,000	12,000	35,000	16,000	8,300	29,000	676	4	12,000	6,600	19,000	774 d	6	4	12			
Chile	–	–	–	–	<500	<1,000	–	–	–	<500	<1,000	186 a	–	21	59			
China	–	–	–	–	2,600	11,000	–	–	–	2,100	7,600	1,594	–	21	74			
Colombia	–	–	–	–	<1,000	3,900	–	–	–	1,000	3,400	–	–	–	–			
Comoros	–	–	–	–	<100	<100	–	1	–	<100	<100	1 p	–	14	50			
Congo	7,900	4,000	12,000	3,800	1,900	5,600	548	15	4,000	2,000	5,900	488 a	12	8	24			
Cook Islands	–	–	–	–	–	–	–	–	–	–	–	0 a	–	–	–			
Costa Rica	–	–	–	–	<100	<200	44	38	–	<100	<200	61	–	33	>95			
Côte d'Ivoire	–	32,000	91,000	20,000	10,000	31,000	–	–	29,000	14,000	42,000	4,349	15	10	30			
Croatia	–	–	–	–	<100	<100	–	–	–	<100	<100	3	–	30	>95			
Cuba	–	–	–	–	<100	<200	1 e	1	–	<100	<100	20	–	22	59			
Democratic People's Republic of Korea	–	–	–	–	<100	<100	–	–	–	<100	<100	–	–	–	–			
Democratic Republic of the Congo	–	33,000	86,000	– f	20,000	54,000	396	1	– g	17,000	46,000	4,053 a	–	9	23			
Djibouti	–	<1,000	2,000	<1,000	<500	1,000	22	4	<1,000	<500	<1,000	24	4	2	8			
Dominica	–	–	–	–	–	–	1	–	–	–	–	1	–	–	–			
Dominican Republic	–	–	–	–	<1,000	3,000	–	–	–	<1,000	2,900	782 a	–	27	84			
Ecuador	–	–	–	–	<500	<1,000	–	–	–	<500	1,000	407	–	39	>95			
Egypt	–	–	–	–	<200	<500	–	–	–	<100	<500	27	–	12	36			
El Salvador	–	–	–	–	<500	<1,000	176	34	–	1,100	1,500	300	–	20	28			
Equatorial Guinea	1,600	<1,000	2,600	1,400	<1,000	2,300	–	–	<1,000	<500	1,500	27	3	2	7			
Eritrea	3,100	1,500	5,000	1,400	<1,000	2,200	225 a	17	1,500	<1,000	2,400	324	21	14	45			
Ethiopia	–	–	–	– f	17,000	51,000	1,076	3	– g	27,000	74,000	9,992	–	14	38			
Fiji	–	–	–	–	<100	<100	2 a	20	–	<100	<100	1 q	–	20	>95			
Gabon	3,200	1,700	4,800	1,900	<1,000	2,900	219 a	12	1,600	<1,000	2,500	275	17	11	34			
Gambia	–	–	–	–	<1,000	2,000	99	8	–	<500	1,300	309 a	–	25	88			
Georgia	–	–	–	–	<100	<100	19 a	58	–	<100	<100	28	–	62	>95			
Ghana	27,000	14,000	41,000	13,000	6,900	20,000	–	–	13,000	6,700	20,000	1,617	12	8	24			
Grenada	–	–	–	–	–	–	2	–	–	–	–	3	–	–	–			
Guatemala	–	–	–	–	<1,000	2,900	222 a	13	–	<1,000	2,500	768	–	31	77			
Guinea	9,000	4,300	14,000	4,600	2,300	7,200	801 h	17	4,400	2,100	6,900	674	15	10	32			
Guinea-Bissau	2,100	1,100	3,200	1,600	<1,000	2,400	–	–	1,100	<1,000	1,700	118	10	7	21			
Guyana	–	–	–	–	<100	<500	97 i	>95	–	<200	<500	165 a	–	73	92			
Haiti	12,000	5,700	18,000	5,000	2,600	7,500	448 a	9	5,700	2,700	8,600	1,098	19	13	41			
Honduras	–	–	–	–	<500	1,300	–	–	–	<1,000	1,800	719	–	40	81			

## GOAL 2. Providing paediatric treatment in low- and middle-income countries

	Estimated number of children (0–14 years old) living with HIV, 2009			Estimated number of HIV-positive pregnant women, 2009 <sup>g</sup>			Number of infants born to HIV-positive pregnant women started on cotrimoxazole prophylaxis, 2009	% of infants born to HIV-positive pregnant women started on cotrimoxazole prophylaxis, 2009	Estimated number of children needing antiretroviral therapy based on UNAIDS/WHO methods, 2009 <sup>g</sup>			Number of children (0–14 years old) receiving ART, 2009 <sup>h,i</sup>	Estimated antiretroviral therapy coverage among children (percentage), December 2009 <sup>f</sup>		
	Estimate	Low estimate	High estimate	Estimate	Low estimate	High estimate			Estimate	Low estimate	High estimate		Estimate	Low estimate	High estimate
India	–	–	–	–	23,000	65,000	–	–	–	30,000	76,000	17,952	–	24	59
Indonesia	–	–	–	–	1,100	4,600	25 e	1	–	<1,000	2,600	356 a	–	14	48
Iran (Islamic Republic of)	–	–	–	–	<500	1,300	20 a	3	–	<500	1,300	54 r	–	4	14
Iraq	–	–	–	–	–	–	0 a	–	–	–	–	0 a	–	–	–
Jamaica	–	–	–	–	<200	<1,000	–	–	–	<500	<1,000	436	–	52	>95
Jordan	–	–	–	–	–	–	0	–	–	–	–	2 a	–	–	–
Kazakhstan	–	–	–	–	<200	<1,000	204	70	–	<100	<200	191 r	–	>95	>95
Kenya	180,000	98,000	260,000	81,000	41,000	120,000	4,043	5	89,000	48,000	130,000	28,370	32	22	59
Kiribati	–	–	–	–	–	–	0	–	–	–	–	0 a	–	–	–
Kuwait	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Kyrgyzstan	–	–	–	–	<100	<500	70	59	–	<100	<100	101 r	–	>95	>95
Lao People's Democratic Republic	–	<200	<500	–	<200	<500	17 a	7	–	<100	<500	95	–	36	>95
Lebanon	–	–	–	–	<100	<100	–	–	–	<100	<200	9 d, e	–	9	28
Lesotho	28,000	17,000	37,000	14,000	8,400	18,000	1,542 a	11	13,000	7,800	18,000	3,038 a	23	17	39
Liberia	6,100	3,000	9,900	2,400	1,100	3,700	45 j	2	2,900	1,400	4,500	266	9	6	19
Libyan Arab Jamahiriya	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Madagascar	–	–	–	–	<500	1,100	–	–	–	<500	<1,000	5	–	1	2
Malawi	120,000	68,000	170,000	57,000	31,000	83,000	28,079	49	61,000	34,000	84,000	17,364	29	21	51
Malaysia	–	–	–	–	<100	<1,000	163	54	–	<1,000	<1,000	501 a	–	88	94
Maldives	–	–	–	–	<100	<100	0	0	–	<100	<100	0	–	0	0
Mali	–	–	–	–	2,100	6,700	722	17	–	2,300	7,200	1,266	–	18	55
Marshall Islands	–	–	–	–	–	–	–	–	–	–	–	0	–	–	–
Mauritania	–	–	–	–	<200	<1,000	18 e	5	–	<200	<500	42	–	9	28
Mauritius	–	–	–	–	<100	<200	48	66	–	<100	<100	–	–	–	–
Mexico	–	–	–	–	1,500	4,500	–	–	–	1,300	3,200	1,594	–	50	>95
Micronesia (Federated States of)	–	–	–	–	–	–	–	–	–	–	–	0	–	–	–
Mongolia	–	–	–	–	<100	<100	1	17	–	<100	<100	0	–	0	0
Montenegro	–	–	–	–	–	–	–	–	–	–	–	1 s	–	–	–
Morocco	–	–	–	–	<200	<1,000	19 a	5	–	<200	<500	145	–	29	>95
Mozambique	130,000	70,000	180,000	97,000	53,000	130,000	–	–	66,000	36,000	93,000	9,393	14	10	26
Myanmar	–	–	–	–	1,800	5,600	858	23	–	1,900	4,900	1,535	–	32	83
Namibia	16,000	9,100	23,000	7,700	4,100	11,000	–	–	9,200	7,300	13,000	8,188 t	89	65	>95
Nauru	–	–	–	–	–	–	–	–	–	–	–	0 a	–	–	–
Nepal	–	–	–	–	<1,000	2,100	75	6	–	<1,000	2,600	178 u	–	7	23
Nicaragua	–	–	–	–	<100	<500	81	63	–	<100	<200	56	–	34	79
Niger	–	–	–	–	2,300	7,000	309	6	–	1,800	5,900	258	–	4	15
Nigeria	360,000	180,000	520,000	210,000	110,000	300,000	3,927 k	2	180,000	94,000	270,000	18,092	10	7	19
Niue	–	–	–	–	–	–	–	–	–	–	–	0 a	–	–	–
Occupied Palestinian Territory	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Oman	–	–	–	–	<100	<100	4	21	–	<100	<100	26	–	>95	>95
Pakistan	–	–	–	–	1,000	3,700	0	0	–	<1,000	2,300	57	–	2	8
Palau	–	–	–	–	–	–	–	–	–	–	–	0	–	–	–
Panama	–	–	–	–	<200	<1,000	62 a, l	23	–	<500	<500	256	–	79	>95
Papua New Guinea	3,100	1,600	4,800	2,000	<1,000	3,000	19	1	1,700	<1,000	2,600	427	26	17	49
Paraguay	–	–	–	–	<200	<500	85	36	–	<200	<500	130 a	–	49	>95
Peru	–	–	–	–	<500	1,700	–	–	–	<500	1,400	517	–	36	>95
Philippines	–	–	–	–	<100	<500	3	2	–	<100	<200	11 a	–	8	30
Qatar	–	<100	<100	–	–	–	–	–	–	–	–	–	–	–	–
Republic of Korea	–	<100	<100	–	–	–	–	–	–	–	–	–	–	–	–
Republic of Moldova	–	–	–	–	<100	<200	33	37	–	<100	<100	34	–	45	>95
Romania	–	–	–	–	<100	<500	7	6	–	<500	<500	192	–	52	71
Russian Federation	–	–	–	–	5,100	16,000	–	–	–	3,100	12,000	1,998 a	–	17	64
Rwanda	22,000	11,000	34,000	11,000	5,400	16,000	7,222	67	11,000	7,000	17,000	6,679	60	40	>95
Saint Kitts and Nevis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Saint Lucia	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–
Saint Vincent and the Grenadines	–	–	–	–	–	–	14	–	–	–	–	3	–	–	–
Samoa	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Sao Tome and Principe	–	–	–	–	–	–	17	–	–	–	–	5 a	–	–	–
Saudi Arabia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Senegal	–	–	–	–	2,000	5,900	–	–	–	1,600	4,300	794	–	18	51

## GOAL 2. Providing paediatric treatment in low- and middle-income countries

	Estimated number of children (0–14 years old) living with HIV, 2009			Estimated number of HIV-positive pregnant women, 2009 <sup>a</sup>			Number of infants born to HIV-positive pregnant women started on cotrimoxazole prophylaxis, 2009	% of infants born to HIV-positive pregnant women started on cotrimoxazole prophylaxis, 2009	Estimated number of children needing antiretroviral therapy based on UNAIDS/WHO methods, 2009 <sup>a</sup>			Number of children (0–14 years old) receiving ART, 2009 <sup>**</sup>	Estimated antiretroviral therapy coverage among children (percentage), December 2009 <sup>‡</sup>					
	Estimate	Low estimate	High estimate	Estimate	Low estimate	High estimate			Estimate	Low estimate	High estimate		Estimate	Low estimate	High estimate	Estimate	Low estimate	High estimate
Serbia	–	–	–	–	<100	<100	0	0	–	<100	<100	11	–	55	>95			
Seychelles	–	–	–	–	–	–	7	–	–	–	–	9	–	–	–			
Sierra Leone	2,900	1,500	4,500	3,300	1,800	5,100	363 a	11	1,700	<1,000	2,600	237	14	9	25			
Singapore	–	<100	<500	–	–	–	–	–	–	–	–	–	–	–	–			
Solomon Islands	–	–	–	–	–	–	0 a	–	–	–	–	0	–	–	–			
Somalia	–	–	–	–	1,000	3,700	0	0	–	<1,000	1,900	9 a	–	0	1			
South Africa	330,000	190,000	440,000	210,000	120,000	290,000	43,394	20	160,000	92,000	210,000	86,270 v	54	41	94			
Sri Lanka	–	–	–	–	<100	<100	4	15	–	<100	<100	11	–	34	92			
Sudan	–	7,500	23,000	14,000	7,300	22,000	34 m	<1	8,700	4,400	13,000	188 d, n	2	1	4			
Suriname	–	–	–	–	<100	<200	–	–	–	<100	<200	80 a	–	74	>95			
Swaziland	14,000	8,300	18,000	9,300	5,700	12,000	9,189	>95	6,800	4,400	9,000	4,772	70	53	>95			
Syrian Arab Republic	–	–	–	–	–	–	–	–	–	–	–	8	–	–	–			
Tajikistan	–	–	–	–	<100	<500	23	15	–	<100	<200	9	–	5	21			
Thailand	–	–	–	–	4,900	8,300	2,074	32	–	7,900	11,000	8,076 t	–	73	>95			
The former Yugoslav Republic of Macedonia	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–			
Timor-Leste	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–			
Togo	11,000	3,700	18,000	5,600	2,200	9,400	945	17	5,200	1,800	8,800	1,028	20	12	58			
Tonga	–	–	–	–	–	–	–	–	–	–	–	0 a	–	–	–			
Trinidad and Tobago	–	<200	<500	–	–	–	–	–	–	–	–	–	–	–	–			
Tunisia	–	–	–	–	<100	<100	0	0	–	<100	<100	12	–	35	86			
Turkey	–	–	–	–	<100	<200	–	–	–	<100	<100	9 d, e	–	10	21			
Turkmenistan	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			
Tuvalu	–	–	–	–	–	–	–	–	–	–	–	0	–	–	–			
Uganda	150,000	80,000	210,000	88,000	48,000	130,000	–	–	76,000	41,000	110,000	13,413 w	18	12	33			
Ukraine	–	–	–	–	1,200	4,800	3,021	>95	–	1,500	2,500	1,720	–	69	>95			
United Arab Emirates	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–			
United Republic of Tanzania	160,000	83,000	240,000	84,000	45,000	120,000	8,348 o	10	75,000	38,000	110,000	12,822 a	17	11	34			
Uruguay	–	–	–	–	<100	<500	–	–	–	<100	<200	160 x	–	81	>95			
Uzbekistan	–	–	–	– f	–	–	–	–	– c	–	–	225 d, e	–	–	–			
Vanuatu	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–			
Venezuela (Bolivarian Republic of)	–	–	–	– f	–	–	–	–	– c	–	–	784	–	–	–			
Viet Nam	–	–	–	–	1,700	4,700	944	30	–	1,700	3,700	1,987	–	54	>95			
Yemen	–	–	–	–	–	–	8	–	–	–	–	9 a	–	–	–			
Zambia	120,000	64,000	160,000	68,000	37,000	94,000	25,139	37	59,000	32,000	82,000	21,120	36	26	65			
Zimbabwe	150,000	92,000	200,000	50,000	28,000	69,000	13,852	28	71,000	43,000	95,000	21,521 y	30	23	50			

### SUMMARY INDICATORS

<b>Africa</b>	2,300,000 †	1,400,000 †	3,100,000 †	1,260,000	810,000	1,700,000	175,944	14	1,150,000	720,000	1,500,000	296,500	26	19	41
<b>Sub-Saharan Africa<sup>a/</sup></b>	2,300,000 †	1,400,000 †	3,100,000 †	1,260,000	810,000	1,700,000	175,925	14	1,150,000	720,000	1,500,000	296,200	26	19	41
Eastern and Southern Africa	1,600,000 †	1,100,000 †	2,100,000 †	860,000	600,000	1,100,000	154,164	18	790,000	530,000	1,000,000	254,900	32	25	48
West and Central Africa	690,000 †	360,000 †	1,000,000 †	380,000	200,000	560,000	21,705	6	350,000	180,000	510,000	41,000	12	8	22
<b>Middle East and North Africa</b>	19,000 †	12,000 †	26,000 †	16,400	9,600	23,000	107	1	10,800	6,700	15,000	600	6	4	9
<b>Asia</b>	160,000 †	110,000 †	210,000 †	73,200	45,000	110,000	4,411	6	82,700	61,000	140,000	36,400	44	27	60
South Asia	110,000 †	65,000 †	160,000 †	46,800	23,000	78,000	102	<1	55,100	36,000	110,000	18,200	33	17	51
East Asia and the Pacific	48,000 †	34,000 †	61,000 †	26,200	18,000	40,000	4,309	16	27,500	21,000	33,000	18,200	66	55	85
<b>Latin America and the Caribbean</b>	58,000 †	38,000 †	78,000 †	29,900	19,000	41,000	3,420	11	32,200	23,000	42,000	18,600	58	45	80
<b>CEE/CIS</b>	19,000 †	9,100 †	30,000 †	15,100	7,600	22,000	3,666	24	9,700	5,700	15,000	4,600	48	30	82
Low- and middle-income countries <sup>b/</sup>	–	–	–	1,380,000	920,000	1,800,000	187,473	14	1,270,000	830,000	1,700,000	356,400	28	21	43
Developing countries <sup>b/</sup>	2,500,000 †	1,600,000 †	3,400,000 †	–	–	–	–	–	–	–	–	–	–	–	–
World	2,500,000 †	1,600,000 †	3,400,000 †	–	–	–	–	–	–	–	–	–	–	–	–

### DEFINITIONS OF THE INDICATORS

**Estimated number of children living with HIV:** Estimated number of children (0–14 years old) living with HIV as of 2009.

**Estimated number of HIV-positive pregnant women:** Estimated number of pregnant women (15–49 years old) living with HIV as of 2009.

**Number of infants born to HIV-positive pregnant women started on cotrimoxazole prophylaxis:** Reported number of infants born to HIV-positive mothers started on cotrimoxazole prophylaxis within two months of birth.

**Percentage of infants born to HIV-positive pregnant women started on cotrimoxazole prophylaxis:** Calculated by dividing the number of HIV-exposed infants started on cotrimoxazole prophylaxis by the estimated number of children born to HIV-positive pregnant women, assuming a ratio of one child to one HIV-positive mother. The denominator is the estimated number of HIV-positive pregnant women.

**Estimated number of children living with HIV in need of ART:** Estimated number of children (0–14 years old) living with HIV in need of antiretroviral treatment (ART) as of 2009.

**Number of children receiving ART:** Reported number of children (0–14 years old) living with HIV receiving ART as of 2009.

**Percentage of children in need receiving ART:** Calculated by dividing the number of children receiving ART by the estimated number of children in need of ART.

### MAIN DATA SOURCES

**Estimated number of children living with HIV:** UNAIDS, *2010 Report on the Global AIDS Epidemic*.

**Estimated number of HIV-positive women:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*.

**Number of infants born to HIV-positive pregnant women started on cotrimoxazole prophylaxis:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*.

## GOAL 2. Providing paediatric treatment in low- and middle-income countries

### MAIN DATA SOURCES, CONTINUED

**Percentage of infants born to HIV-positive women started on cotrimoxazole prophylaxis:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*.

**Estimated number of children living with HIV in need of ART:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*.

**Number of children receiving ART:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*.

**Percentage of children in need receiving ART:** WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*.

### NOTES

– Data not available.

\*\* United Nations General Assembly Special Session on HIV/AIDS (2001) indicator, as part of men and women with advanced HIV infection receiving antiretroviral combination therapy.

† Regional averages are calculated only when the population represents 50 per cent or more of the region's total population of interest.

‡ The coverage estimates are based on the estimated unrounded numbers of children receiving antiretroviral therapy and the estimated unrounded need for antiretroviral therapy (based on UNAIDS/WHO methodology). The ranges in coverage estimates are based on plausibility bounds in the denominator, that is, low and high estimates of need.

a The latest reported data are to December 2008.

b The data cannot specify whether data reported were for infants within two months of birth, but the policy is for all infants to start cotrimoxazole

at 6 weeks of age. Data suggest that around two thirds of infants who started cotrimoxazole, started within two months of birth.

c Estimates of the number of children needing antiretroviral therapy are currently being reviewed and will be adjusted, as appropriate, based on ongoing data collection and analysis.

d The latest available data do not reflect national-level data.

e The latest reported data are to December 2007.

f Estimates of the number of pregnant women living with HIV who need antiretrovirals for preventing mother-to-child transmission are currently being reviewed and will be adjusted, as appropriate, based on ongoing data collection and analysis. Therefore, some countries have requested that only a range, or no needs estimates at all, be published.

g At the request of the country, only ranges of the estimates are being presented.

h Only partial data were collected.

i Data are collected on a monthly data reporting form at 6 weeks, not at 2 months. Therefore, some infants may be lost to follow-up.

j Data may be under-reported.

k Four out of 10 implementing partners reported for this indicator.

l The data are from three of four paediatric care clinics.

m Two separate reports were received from the Sudan: Northern Sudan reported 34 for the period between January–December 2009; Southern Sudan reported “no data,” stating that services have just been initiated and cotrimoxazole was initially not part of the supplies for PMTCT. Data for Southern Sudan are expected to be ready in the next reporting period.

n Breakdowns by sex and age groups were only received for northern Sudan. Data should therefore be interpreted cautiously.

o Data are under-reported.

p The latest reported data are to January 2009.

q The latest reported data are to November 2009.

r The latest reported data are to January 2010.

s The latest reported data are to March 2010.

t The latest reported data are to September 2009.

u The latest reported data are to July 2009.

v The latest reported data are to October 2009.

w The latest reported data are to September 2008.

x The latest reported data are to December 2006.

y The latest reported data are to February 2010.

z The needs estimates are based on the methods described in the Annex. The estimates for individual countries may differ according to the estimation methods used.

a/ Including Djibouti and the Sudan.

b/ Some estimated numbers for Eastern and Southern Africa and West and Central Africa do not add up to totals for Sub-Saharan Africa because of rounding.

Low- and middle-income countries are classified as such by the World Bank as of July 2007; these 149 countries form the basis for the data analysis in WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*. ‘Developing countries’ is a UNICEF classification published annually in its *The State of the World's Children* report.

Low- and middle-income country summary estimates are calculated only for indicators taken directly from *Towards Universal Access* (in this table, the estimated number of HIV-positive pregnant women, the reported number and estimated percentage of infants started on cotrimoxazole prophylaxis, the estimated number of children needing antiretroviral therapy, the reported number of children receiving ART, and the estimated percentage of antiretroviral therapy coverage among children). Developing country and World summary estimates are calculated for all other indicators.

## GOAL 3. Preventing infection among adolescents and young people

	Knowledge and behaviours									
	HIV prevalence among young people (15–24 years old), 2009 **		% of young people (15–24 years old) who have comprehensive knowledge of HIV (2005–2009)**		% of young people (15–24 years old) who had sex with more than one partner in the last 12 months (2005–2009)**		% of young people (15–24 years old) with multiple partners who used a condom at last sex (2005–2009)**		% of young people (15–19 years old) who had sex before age 15 (2005–2009)**	
	Male (%)	Female (%)	Male	Female	Male	Female	Male	Female	Male	Female
Afghanistan	–	–	–	–	–	–	–	–	–	–
Albania	–	–	22	36	6	<1	55	–	1	1
Algeria	0.1	<0.1	–	13	–	–	–	–	–	–
Angola	0.6	1.6	–	–	–	–	–	–	–	–
Antigua and Barbuda	–	–	–	–	–	–	–	–	–	–
Argentina	0.3	0.2	–	–	–	–	–	–	–	–
Armenia	<0.1	<0.1	15	23	13	0	79	–	3	<1
Azerbaijan	<0.1	0.1	5	5	9	0	29	–	1	<1
Bahamas	1.4	3.1	–	–	–	–	–	–	–	–
Bahrain	–	–	–	–	–	–	–	–	–	–
Bangladesh	<0.1	<0.1	–	15	–	–	–	–	–	–
Barbados	0.9	1.1	–	–	–	–	–	–	–	–
Belarus	<0.1	0.1	–	34	–	–	–	–	–	–
Belize	0.7	1.8	–	40	–	1	–	–	–	–
Benin	0.3	0.7	35	16	10	1	45	27	13	13
Bhutan	0.1	<0.1	–	–	–	–	–	–	–	–
Bolivia (Plurinational State of)	0.1	0.1	28	24	14	–	41	–	10	7
Bosnia and Herzegovina	–	–	–	44	–	–	–	–	–	1
Botswana	5.2	11.8	–	–	–	–	–	–	–	–
Brazil	–	–	–	–	–	–	–	–	–	33
Brunei Darussalam	–	–	–	–	–	–	–	–	–	–
Bulgaria	<0.1	<0.1	15	17	–	–	–	–	–	–
Burkina Faso	0.5	0.8	–	19	–	1	–	71 x	–	6
Burundi	1.0	2.1	–	30	–	1	–	–	–	3
Cambodia	0.1	0.1	45	50	5	0	75	–	<1	1
Cameroon	1.6	3.9	–	32	–	5	–	68	–	13
Cape Verde	–	–	36	36	33	4	80	64	32	11
Central African Republic	1.0	2.2	26	17	21	6	73	59	12	29
Chad	1.0	2.5	–	–	–	–	–	–	–	–
Chile	0.2	0.1	–	–	–	–	–	–	–	–
China	–	–	–	–	–	–	–	–	–	–
Colombia	0.2	0.1	–	–	–	5	–	36	–	14
Comoros	<0.1	<0.1	–	–	–	–	–	–	–	–
Congo	1.2	2.6	22	8	21	9	40	26	24	23
Cook Islands	–	–	–	–	–	–	–	–	–	–
Costa Rica	0.2	0.1	–	–	–	–	–	–	–	–
Côte d'Ivoire	0.7	1.5	28	18	20	5	62	45	17	20
Croatia	<0.1	<0.1	–	–	–	–	–	–	–	–
Cuba	0.1	0.1	–	52	–	–	–	–	–	–
Democratic People's Republic of Korea	–	–	–	–	–	–	–	–	–	–
Democratic Republic of the Congo	–	–	21	15	14	3	22	9	18	18
Djibouti	0.8	1.9	–	18	–	–	–	–	–	–
Dominica	–	–	–	–	–	–	–	–	–	–
Dominican Republic	0.3	0.7	34	41	23	5	62	34	21	14
Ecuador	0.2	0.2	–	–	–	–	–	–	–	–
Egypt	<0.1	<0.1	18	5	–	–	–	–	–	–
El Salvador	0.4	0.3	–	27	–	–	–	–	–	–
Equatorial Guinea	1.9	5.0	–	–	–	–	–	–	–	–
Eritrea	0.2	0.4	–	–	–	–	–	–	–	–
Ethiopia	–	–	33	20	1	<1	–	–	2	11
Fiji	0.1	0.1	–	–	–	–	–	–	–	–
Gabon	1.4	3.5	–	–	–	–	–	–	–	–
Gambia	0.9	2.4	–	39	–	1	–	64 x	–	4
Georgia	<0.1	<0.1	–	15	–	–	–	–	–	–
Ghana	0.5	1.3	34	28	6	2	61 x	43 x	4	8
Grenada	–	–	–	–	–	–	–	–	–	–
Guatemala	0.5	0.3	–	–	–	–	–	27 x	29	29
Guinea	0.4	0.9	23	17	19	2	39	28	18	20
Guinea-Bissau	0.8	2.0	–	18	–	6	–	58	–	22
Guyana	0.6	0.8	–	50	9	2	62	–	11	8
Haiti	0.6	1.3	40	34	20	2	51	23	42	15
Honduras	0.3	0.2	–	30	–	1	–	27	25	10
India	0.1	0.1	36	20	2	<1	32	17 x	3	8
Indonesia	0.1	<0.1	15 y	10 y	–	–	–	–	–	–

## GOAL 3. Preventing infection among adolescents and young people

	Knowledge and behaviours									
	HIV prevalence among young people (15–24 years old), 2009 **		% of young people (15–24 years old) who have comprehensive knowledge of HIV (2005–2009)**		% of young people (15–24 years old) who had sex with more than one partner in the last 12 months (2005–2009)**		% of young people (15–24 years old) with multiple partners who used a condom at last sex (2005–2009)**		% of young people (15–19 years old) who had sex before age 15 (2005–2009)**	
	Male (%)	Female (%)	Male	Female	Male	Female	Male	Female	Male	Female
Iran (Islamic Republic of)	<0.1	<0.1	–	–	–	–	–	–	–	–
Iraq	–	–	–	3	–	–	–	–	–	–
Jamaica	1.0	0.7	–	60	–	–	–	–	–	–
Jordan	–	–	–	13 y	–	–	–	–	–	–
Kazakhstan	0.1	0.2	–	22	–	–	–	–	–	–
Kenya	1.8	4.1	55	48	8	2	67	37	22	12
Kiribati	–	–	–	–	–	–	–	–	–	–
Kuwait	–	–	–	–	–	–	–	–	–	–
Kyrgyzstan	0.1	0.1	–	20	–	1	–	–	–	<1
Lao People's Democratic Republic	0.1	0.2	–	–	–	–	–	–	–	9
Lebanon	0.1	<0.1	–	–	–	–	–	–	–	–
Lesotho	5.4	14.2	–	–	–	–	–	–	–	–
Liberia	0.3	0.7	27	21	15	7	28	16	9	19
Libyan Arab Jamahiriya	–	–	–	–	–	–	–	–	–	–
Madagascar	0.1	0.1	–	–	18	3	4	3	–	–
Malawi	3.1	6.8	42	42	6	1	46	48	16	14
Malaysia	0.1	<0.1	–	–	–	–	–	–	–	–
Maldives	<0.1	<0.1	–	–	–	–	–	–	–	–
Mali	0.2	0.5	22	18	6	2	28	8	6	24
Marshall Islands	–	–	39	27	10	5	23 x	9 x	25	15
Mauritania	0.4	0.3	14	5	–	–	–	–	–	–
Mauritius	0.3	0.2	–	–	–	–	–	–	–	–
Mexico	0.2	0.1	–	–	–	–	–	–	11	17
Micronesia (Federated States of)	–	–	–	–	–	–	–	–	–	–
Mongolia	<0.1	<0.1	–	31	–	–	–	–	–	<1
Montenegro	–	–	–	30	–	<1	–	–	–	<1
Morocco	0.1	0.1	–	–	–	–	–	–	–	–
Mozambique	3.1	8.6	–	14	–	5	–	–	–	29
Myanmar	0.3	0.3	–	–	–	–	–	–	–	–
Namibia	2.3	5.8	62	65	11	2	82	74	19	7
Nauru	–	–	10	13	–	–	17 x	8 x	35	15
Nepal	0.2	0.1	44	28	2	<1	59 x	–	3	6
Nicaragua	0.1	0.1	–	–	–	–	–	–	–	13
Niger	0.2	0.5	16	13	2	<1	42 x	–	5	26
Nigeria	1.2	2.9	33	22	6	1	56	29	6	15
Niue	–	–	–	–	–	–	–	–	–	–
Occupied Palestinian Territory	–	–	–	–	–	–	–	–	–	–
Oman	<0.1	<0.1	–	–	–	–	–	–	–	–
Pakistan	0.1	<0.1	–	3	–	–	–	–	–	–
Palau	–	–	–	–	–	–	–	–	–	–
Panama	0.4	0.3	–	–	–	–	–	–	–	–
Papua New Guinea	0.3	0.8	–	–	–	–	–	–	4	4
Paraguay	0.2	0.1	–	–	–	7	–	51	–	7
Peru	0.2	0.1	–	19	–	1	–	38 x	–	6
Philippines	<0.1	<0.1	–	21	–	–	–	–	–	2
Qatar	<0.1	<0.1	–	–	–	–	–	–	–	–
Republic of Korea	<0.1	<0.1	–	–	–	–	–	–	–	–
Republic of Moldova	0.1	0.1	39 y	42 y	17	2	60	30	9	1
Romania	0.1	<0.1	–	–	–	–	–	–	–	–
Russian Federation	0.2	0.3	–	–	–	–	–	–	–	–
Rwanda	1.3	1.9	54	51	1	<1	–	–	15	5
Saint Kitts and Nevis	–	–	–	–	–	–	–	–	–	–
Saint Lucia	–	–	–	–	–	–	–	–	–	–
Saint Vincent and the Grenadines	–	–	–	–	–	–	–	–	–	–
Samoa	–	–	–	–	–	–	–	–	–	–
Sao Tome and Principe	–	–	–	44	–	2	–	57 x	–	9
Saudi Arabia	–	–	–	–	–	–	–	–	–	–
Senegal	0.3	0.7	24	19	6	1	64	33	13	9
Serbia	0.1	0.1	–	42	–	2	–	80 x	–	1
Seychelles	–	–	–	–	–	–	–	–	–	–
Sierra Leone	0.6	1.5	28	17	10	4	29	12	11	22
Singapore	<0.1	<0.1	–	–	–	–	–	–	–	–
Solomon Islands	–	–	35	29	–	–	–	–	16	15
Somalia	0.4	0.6	–	4	–	–	–	–	–	–

## GOAL 3. Preventing infection among adolescents and young people

	Knowledge and behaviours									
	HIV prevalence among young people (15–24 years old), 2009 **		% of young people (15–24 years old) who have comprehensive knowledge of HIV (2005–2009*)**		% of young people (15–24 years old) who had sex with more than one partner in the last 12 months (2005–2009*)**		% of young people (15–24 years old) with multiple partners who used a condom at last sex (2005–2009*)**		% of young people (15–19 years old) who had sex before age 15 (2005–2009*)**	
	Male (%)	Female (%)	Male	Female	Male	Female	Male	Female	Male	Female
South Africa	4.5	13.6	–	–	–	–	–	–	–	–
Sri Lanka	<0.1	<0.1	–	–	–	–	–	–	–	–
Sudan	0.5	1.3	–	–	–	–	–	–	–	–
Suriname	0.6	0.4	–	41	–	3	–	80	–	9
Swaziland	6.5	15.6	52	52	10	2	67	51 x	5	7
Syrian Arab Republic	–	–	–	7	–	–	–	–	–	–
Tajikistan	<0.1	<0.1	–	2	–	–	–	–	–	–
Thailand	–	–	–	46	–	–	–	–	–	–
The former Yugoslav Republic of Macedonia	–	–	–	27	–	1	–	36 x	–	1
Timor-Leste	–	–	–	–	–	–	–	–	–	–
Togo	0.9	2.2	–	15	–	3	–	50	–	12
Tonga	–	–	–	–	–	–	–	–	–	–
Trinidad and Tobago	1.0	0.7	–	54	–	3	–	67	–	5
Tunisia	<0.1	<0.1	–	–	–	–	–	–	–	–
Turkey	<0.1	<0.1	–	–	–	–	–	–	–	–
Turkmenistan	–	–	–	5	–	–	–	–	–	–
Tuvalu	–	–	61	39	–	–	–	–	19	2
Uganda	2.3	4.8	38	32	9	2	45	39	14	12
Ukraine	0.2	0.3	43	45	16	3	64	63	3	1
United Arab Emirates	–	–	–	–	–	–	–	–	–	–
United Republic of Tanzania	1.7	3.9	42	39	9	3	37	–	11	11
Uruguay	0.3	0.2	–	–	–	–	–	–	–	–
Uzbekistan	<0.1	<0.1	–	31	–	<1	–	–	–	–
Vanuatu	–	–	–	15	–	–	–	–	–	–
Venezuela (Bolivarian Republic of)	–	–	–	–	–	–	–	–	–	–
Viet Nam	0.1	0.1	–	44	<1	0	–	–	0.3	1
Yemen	–	–	–	2 y	–	–	–	–	–	–
Zambia	4.2	8.9	41	38	5	1	43	42 x	9	7
Zimbabwe	3.3	6.9	–	53	7	1	59	38 x	5	5

### SUMMARY INDICATORS†

<b>Africa</b>	1.1	2.7	32	23	8	2	47	32	10	14
<b>Sub-Saharan Africa<sup>a/</sup></b>	1.3	3.3	34	26	8	2	47	32	10	14
Eastern and Southern Africa	1.9	4.8	41	33	6	1	–	–	10	12
West and Central Africa	0.8	2.0	28	20	9	2	48	31	10	16
<b>Middle East and North Africa</b>	0.1	0.2	–	–	–	–	–	–	–	–
<b>Asia</b>	0.1	0.1	33 ‡	19 ‡	2 ‡	0 ‡	34 ‡	17 ‡	2 ‡	7 ‡
South Asia	0.1	0.1	36	17	2	0	33	17	3	8
East Asia and the Pacific	<0.1	<0.1	–	24 ‡	–	–	–	–	–	–
<b>Latin America and the Caribbean</b>	0.2	0.2	–	–	–	–	–	–	–	22
<b>CEE/CIS</b>	0.1	0.2	–	–	–	–	–	–	–	–
Low- and middle-income countries <sup>b/</sup>	–	–	–	–	–	–	–	–	–	–
Developing countries <sup>b/</sup>	0.3	0.6	33 ‡	20 ‡	4 ‡	1 ‡	–	–	6 ‡	11 ‡
World	0.3	0.6	–	20 ‡	–	–	–	–	–	11 ‡

### DEFINITIONS OF THE INDICATORS

**HIV prevalence among young people:** Percentage of young men and women (15–24 years old) living with HIV as of 2009.

**Comprehensive knowledge of HIV:** Percentage of young men and women (15–24 years old) who correctly identify the two major ways of preventing the sexual transmission of HIV (using condoms and limiting sex to one faithful, uninfected partner), who reject the two most common local misconceptions about HIV transmission, and who know that a healthy-looking person can transmit HIV.

**Sex with more than one partner in the last 12 months:** Percentage of young men and women (15–24 years old) who have had sexual intercourse with more than one partner in the last 12 months.

**Condom use with multiple partners:** Percentage of young men and women (15–24 years old) who had more than one partner in the past 12 months and who reported the use of a condom during their last sexual intercourse.

**Sex before age 15:** Percentage of young people (15–19 years old) who say they had sex before age 15.

### MAIN DATA SOURCES

**HIV prevalence among young people:** UNAIDS, *2010 Report on the Global AIDS Epidemic*.

**Comprehensive knowledge of HIV:** UNICEF global databases, 2010.

**Sex with more than one partner in the last 12 months:** UNICEF global databases, 2010.

**Condom use with multiple partners:** UNICEF global databases, 2010.

**Sex before age 15:** UNICEF global databases, 2010.

### NOTES

– Data not available.

\* Data refer to the most recent year available during the period specified in the column heading.

\*\* United Nations General Assembly Special Session on HIV/AIDS (2001) indicator.

† Regional averages are calculated only when the population represents 50 per cent or more of the region's total population of interest.

x Based on small denominators (typically 25–49 unweighted cases).

y Data refer to years or periods other than those specified in the column heading, differ from the standard definition or refer to only part of a country. Such data are included in the calculation of regional and global averages.

‡ Excluding China.

a/ Including Djibouti and the Sudan.

b/ Some estimated numbers for Eastern and Southern Africa and West and Central Africa do not add up to totals for Sub-Saharan Africa because of rounding.

Low- and middle-income countries are classified as such by the World Bank as of July 2007; these 149 countries form the basis for the data analysis in WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*. 'Developing countries' is a UNICEF classification published annually in its *The State of the World's Children* report.

## GOAL 4. Protecting and supporting children affected by HIV and AIDS

### Orphaned and vulnerable children

	Children who have lost one or both parents due to all causes, 2009	Children who have lost one or both parents due to AIDS, 2009			Children whose mother has died due to any cause, 2009	Children whose father has died due to any cause, 2009	Children both of whose parents have died due to any cause, 2009	Orphan school attendance ratio (2005–2009)**	% of children whose households received external support (2005–2009)**
		Estimate	Low estimate	High estimate					
Afghanistan	–	–	–	–	–	–	–	–	
Albania	–	–	–	–	–	–	–	–	
Algeria	550,000	–	–	–	–	–	–	–	
Angola	1,500,000	140,000	95,000	200,000	630,000	1,100,000	240,000	–	
Antigua and Barbuda	–	–	–	–	–	–	–	–	
Argentina	630,000	–	–	–	–	–	–	–	
Armenia	46,000	–	–	–	–	–	–	–	
Azerbaijan	190,000	–	–	–	–	–	–	–	
Bahamas	6,800	–	–	–	–	–	–	–	
Bahrain	–	–	–	–	–	–	–	–	
Bangladesh	4,800,000	–	–	–	–	–	84	–	
Barbados	2,000	–	–	–	–	–	–	–	
Belarus	150,000	–	–	–	–	–	–	–	
Belize	6,400	–	–	–	–	–	–	–	
Benin	310,000	30,000	18,000	53,000	110,000	220,000	28,000	90	
Bhutan	21,000	–	–	–	–	–	–	–	
Bolivia (Plurinational State of)	320,000	–	–	–	–	–	–	–	
Bosnia and Herzegovina	–	–	–	–	–	–	–	–	
Botswana	130,000	93,000	71,000	120,000	76,000	86,000	28,000	–	
Brazil	–	–	–	–	–	–	–	–	
Brunei Darussalam	–	–	–	–	–	–	–	–	
Bulgaria	94,000	–	–	–	–	–	–	–	
Burkina Faso	770,000	140,000	100,000	170,000	320,000	550,000	100,000	61 p	
Burundi	610,000	200,000	170,000	230,000	270,000	440,000	100,000	85	
Cambodia	630,000	–	–	–	–	–	–	83	
Cameroon	1,200,000	330,000	270,000	420,000	560,000	870,000	190,000	91	
Cape Verde	–	–	–	–	–	–	–	–	
Central African Republic	370,000	140,000	110,000	180,000	180,000	270,000	77,000	96	
Chad	670,000	120,000	79,000	170,000	270,000	490,000	89,000	–	
Chile	140,000	–	–	–	–	–	–	–	
China	–	–	–	–	–	–	–	–	
Colombia	820,000	–	–	–	–	–	85	–	
Comoros	22,000	<100	<100	<100	7,800	16,000	1,900	–	
Congo	220,000	51,000	41,000	66,000	97,000	160,000	32,000	88	
Cook Islands	–	–	–	–	–	–	–	–	
Costa Rica	36,000	–	–	–	–	–	–	–	
Côte d'Ivoire	1,100,000	–	–	–	–	–	83	9	
Croatia	44,000	–	–	–	–	–	–	–	
Cuba	86,000	–	–	–	–	–	–	–	
Democratic People's Republic of Korea	–	–	–	–	–	–	–	–	
Democratic Republic of the Congo	–	–	350,000	510,000	–	–	77	9	
Djibouti	47,000	–	–	–	–	–	–	–	
Dominica	–	–	–	–	–	–	–	–	
Dominican Republic	190,000	–	–	–	–	–	77	–	
Ecuador	210,000	–	–	–	–	–	–	–	
Egypt	1,700,000	–	–	–	–	–	–	–	
El Salvador	150,000	–	–	–	–	–	–	–	
Equatorial Guinea	45,000	4,100	2,500	6,400	20,000	31,000	5,500	–	
Eritrea	240,000	19,000	12,000	28,000	92,000	180,000	29,000	–	
Ethiopia	–	–	–	–	–	–	90	–	
Fiji	23,000	–	–	–	–	–	–	–	
Gabon	64,000	18,000	12,000	25,000	28,000	45,000	8,000	–	
Gambia	72,000	2,800	1,400	6,500	26,000	53,000	6,600	87	
Georgia	68,000	–	–	–	–	–	–	–	
Ghana	1,100,000	160,000	120,000	210,000	500,000	790,000	150,000	76	
Grenada	–	–	–	–	–	–	–	–	
Guatemala	380,000	–	–	–	–	–	–	–	
Guinea	440,000	59,000	34,000	120,000	160,000	330,000	47,000	73	
Guinea-Bissau	110,000	9,700	7,700	12,000	46,000	81,000	16,000	97	
Guyana	30,000	–	–	–	–	–	–	13	
Haiti	440,000	–	–	–	–	–	86	5	
Honduras	150,000	–	–	–	–	–	108	–	
India	31,000,000	–	–	–	–	–	72	–	
Indonesia	4,700,000	–	–	–	–	–	–	–	



## GOAL 4. Protecting and supporting children affected by HIV and AIDS

### Orphaned and vulnerable children

	Children who have lost one or both parents due to all causes, 2009	Children who have lost one or both parents due to AIDS, 2009			Children whose mother has died due to any cause, 2009	Children whose father has died due to any cause, 2009	Children both of whose parents have died due to any cause, 2009	Orphan school attendance ratio (2005–2009)**	% of children whose households received external support (2005–2009)**	
		Estimate	Low estimate	High estimate						
Iran (Islamic Republic of)	1,200,000	–	–	–	–	–	–	–		
Iraq	–	–	–	–	–	–	84	–		
Jamaica	73,000	–	–	–	–	–	–	15		
Jordan	–	–	–	–	–	–	–	–		
Kazakhstan	420,000	–	–	–	–	–	–	–		
Kenya	2,600,000	1,200,000	980,000	1,400,000	1,300,000	1,700,000	460,000	–	21	
Kiribati	–	–	–	–	–	–	–	–	–	
Kuwait	–	–	–	–	–	–	–	–	–	
Kyrgyzstan	140,000	–	–	–	–	–	–	–	–	
Lao People's Democratic Republic	220,000	–	–	–	–	–	–	–	–	
Lebanon	70,000	–	–	–	–	–	–	–	–	
Lesotho	200,000	130,000	110,000	160,000	120,000	130,000	49,000	–	–	
Liberia	340,000	52,000	34,000	76,000	150,000	250,000	60,000	85	–	
Libyan Arab Jamahiriya	–	–	–	–	–	–	–	–	–	
Madagascar	910,000	11,000	9,300	14,000	340,000	660,000	93,000	–	–	
Malawi	1,000,000	650,000	540,000	780,000	510,000	690,000	180,000	97	19	
Malaysia	450,000	–	–	–	–	–	–	–	–	
Maldives	7,300	–	–	–	–	–	–	–	–	
Mali	690,000	59,000	36,000	93,000	280,000	500,000	93,000	87	–	
Marshall Islands	–	–	–	–	–	–	–	–	–	
Mauritania	120,000	3,600	2,700	4,800	44,000	91,000	12,000	66	p	–
Mauritius	19,000	<1,000	<500	<1,000	3,300	16,000	<1,000	–	–	–
Mexico	1,500,000	–	–	–	–	–	–	–	–	–
Micronesia (Federated States of)	–	–	–	–	–	–	–	–	–	–
Mongolia	67,000	–	–	–	–	–	–	96	p	–
Montenegro	–	–	–	–	–	–	–	–	–	–
Morocco	650,000	–	–	–	–	–	–	–	–	–
Mozambique	2,100,000	670,000	–	–	980,000	1,500,000	390,000	89	–	22
Myanmar	1,600,000	–	–	–	–	–	–	–	–	–
Namibia	120,000	70,000	50,000	96,000	60,000	76,000	19,000	100	–	17
Nauru	–	–	–	–	–	–	–	–	–	–
Nepal	650,000	–	–	–	–	–	–	–	–	–
Nicaragua	120,000	–	–	–	–	–	–	–	–	–
Niger	970,000	57,000	47,000	68,000	340,000	760,000	120,000	67	–	–
Nigeria	12,000,000	2,500,000	1,800,000	3,100,000	5,400,000	8,300,000	2,000,000	117	–	6
Niue	–	–	–	–	–	–	–	–	–	–
Occupied Palestinian Territory	–	–	–	–	–	–	–	–	–	–
Oman	41,000	–	–	–	–	–	–	–	–	–
Pakistan	4,200,000	–	–	–	–	–	–	–	–	–
Palau	–	–	–	–	–	–	–	–	–	–
Panama	53,000	–	–	–	–	–	–	–	–	–
Papua New Guinea	260,000	–	–	–	–	–	–	–	–	–
Paraguay	150,000	–	–	–	–	–	–	–	–	–
Peru	550,000	–	–	–	–	–	–	–	–	–
Philippines	1,900,000	–	–	–	–	–	–	–	–	–
Qatar	14,000	–	–	–	–	–	–	–	–	–
Republic of Korea	280,000	–	–	–	–	–	–	–	–	–
Republic of Moldova	79,000	–	–	–	–	–	–	–	–	–
Romania	290,000	–	–	–	–	–	–	–	–	–
Russian Federation	–	–	–	–	–	–	–	–	–	–
Rwanda	690,000	130,000	98,000	180,000	320,000	490,000	110,000	82	–	13
Saint Kitts and Nevis	–	–	–	–	–	–	–	–	–	–
Saint Lucia	–	–	–	–	–	–	–	–	–	–
Saint Vincent and the Grenadines	–	–	–	–	–	–	–	–	–	–
Samoa	–	–	–	–	–	–	–	–	–	–
Sao Tome and Principe	–	–	–	–	–	–	–	–	–	4
Saudi Arabia	–	–	–	–	–	–	–	–	–	–
Senegal	520,000	19,000	15,000	25,000	190,000	380,000	50,000	83	–	–
Serbia	94,000	–	–	–	–	–	–	–	–	–
Seychelles	–	–	–	–	–	–	–	–	–	–
Sierra Leone	320,000	15,000	9,200	26,000	120,000	230,000	37,000	62	–	1
Singapore	17,000	–	–	–	–	–	–	–	–	–
Solomon Islands	–	–	–	–	–	–	–	–	–	–
Somalia	630,000	–	–	–	–	–	–	78	–	–

## GOAL 4. Protecting and supporting children affected by HIV and AIDS

### Orphaned and vulnerable children

	Children who have lost one or both parents due to all causes, 2009	Children who have lost one or both parents due to AIDS, 2009			Children whose mother has died due to any cause, 2009	Children whose father has died due to any cause, 2009	Children both of whose parents have died due to any cause, 2009	Orphan school attendance ratio (2005–2009)**	% of children whose households received external support (2005–2009)**
		Estimate	Low estimate	High estimate					
South Africa	3,400,000	1,900,000	1,600,000	2,400,000	1,800,000	2,300,000	670,000	–	–
Sri Lanka	340,000	–	–	–	–	–	–	–	–
Sudan	2,000,000	–	–	–	–	–	–	–	–
Suriname	12,000	–	–	–	–	–	–	–	–
Swaziland	100,000	69,000	55,000	86,000	56,000	66,000	21,000	97	41
Syrian Arab Republic	–	–	–	–	–	–	–	–	–
Tajikistan	220,000	–	–	–	–	–	–	–	–
Thailand	1,400,000	–	–	–	–	–	–	93	21
The former Yugoslav Republic of Macedonia	–	–	–	–	–	–	–	–	–
Timor-Leste	–	–	–	–	–	–	–	–	–
Togo	240,000	66,000	47,000	89,000	92,000	180,000	25,000	94	6
Tonga	–	–	–	–	–	–	–	–	–
Trinidad and Tobago	25,000	–	–	–	–	–	–	–	–
Tunisia	130,000	–	–	–	–	–	–	–	–
Turkey	1,200,000	–	–	–	–	–	–	–	–
Turkmenistan	–	–	–	–	–	–	–	–	–
Tuvalu	–	–	–	–	–	–	–	–	–
Uganda	2,700,000	1,200,000	1,000,000	1,400,000	1,300,000	1,900,000	470,000	96	11
Ukraine	810,000	–	–	–	–	–	–	98	–
United Arab Emirates	–	–	–	–	–	–	–	–	–
United Republic of Tanzania	3,000,000	1,300,000	1,100,000	1,500,000	1,400,000	2,100,000	520,000	97	7
Uruguay	49,000	–	–	–	–	–	–	–	–
Uzbekistan	780,000	–	–	–	–	–	–	–	–
Vanuatu	–	–	–	–	–	–	–	–	–
Venezuela (Bolivarian Republic of)	–	–	–	–	–	–	–	–	–
Viet Nam	1,400,000	–	–	–	–	–	–	–	–
Yemen	–	–	–	–	–	–	–	–	–
Zambia	1,300,000	690,000	570,000	810,000	690,000	890,000	290,000	92	19
Zimbabwe	1,400,000	1,000,000	910,000	1,200,000	840,000	880,000	370,000	95	21

#### SUMMARY INDICATORS†

<b>Africa</b>	59,000,000	14,900,000	12,900,000	17,100,000	26,400,000	42,000,000	9,300,000	93	–
<b>Sub-Saharan Africa<sup>a/</sup></b>	56,100,000	14,900,000	12,900,000	17,100,000	25,500,000	39,600,000	9,100,000	93	–
Eastern and Southern Africa	27,600,000	10,100,000	8,900,000	11,500,000	13,300,000	19,200,000	4,900,000	92	–
West and Central Africa	26,400,000	4,700,000	3,600,000	5,700,000	11,500,000	19,000,000	4,100,000	94	–
<b>Middle East and North Africa</b>	6,400,000	86,000	63,000	110,000	2,100,000	4,800,000	470,000	–	–
<b>Asia</b>	71,400,000	1,100,000	890,000	1,100,000	21,800,000	54,900,000	5,300,000	74 **	–
South Asia	41,000,000	570,000	480,000	660,000	14,300,000	30,100,000	3,400,000	73	–
East Asia and the Pacific	30,500,000	490,000	350,000	550,000	7,500,000	24,800,000	1,800,000	–	–
<b>Latin America and the Caribbean</b>	9,800,000	440,000	380,000	500,000	2,100,000	8,200,000	510,000	–	–
<b>CEE/CIS</b>	7,300,000	75,000	61,000	93,000	1,300,000	6,300,000	410,000	–	–
Low- and middle-income countries <sup>b/</sup>	–	–	–	–	–	–	–	–	–
Developing countries <sup>b/</sup>	145,000,000	16,400,000	14,300,000	18,700,000	51,400,000	109,000,000	15,400,000	81 **	–
World	153,000,000	16,600,000	14,400,000	18,800,000	52,300,000	119,000,000	17,800,000	–	–

#### DEFINITIONS OF THE INDICATORS

**Children who have lost one or both parents due to all causes:** Estimated number of children (0–17 years old) as of 2009 who have lost one or both parents to any cause.

**Children who have lost one or both parents due to AIDS:** Estimated number of children (0–17 years old) as of 2009 who have lost one or both parents to AIDS.

**Children whose mother/father has died due to any cause:** Estimated number of children (0–17 years old) as of 2009 who have lost their biological mother/father to any cause.

**Children both of whose parents have died due to any cause:** Estimated number of children (0–17 years old) as of 2009 who have lost both parents to any cause.

**Orphan school attendance ratio:** Percentage of children (10–14 years old) who have lost both biological parents and who are currently attending school as a percentage of non-orphaned children of the same age who live with at least one parent and who are attending school.

**Percentage of children whose households received external support:** Percentage of orphaned and vulnerable children whose households received free basic external support in caring for the child.

#### MAIN DATA SOURCES

**Children who have lost one or both parents due to all causes:** UNAIDS, 2010 *Report on the Global AIDS Epidemic*.

**Children who have lost one or both parents due to AIDS:** UNAIDS, 2010 *Report on the Global AIDS Epidemic*.

**Children whose mother/father has died due to any cause:** UNAIDS estimates, 2010.

**Children both of whose parents have died due to any cause:** UNAIDS estimates, 2010.

**Orphan school attendance ratio:** UNICEF global databases, 2010.

**Percentage of children whose households received external support:** UNICEF global databases, 2010.

#### NOTES

– Data not available.

\* Data refer to the most recent year available during the period specified in the column heading.

\*\* United Nations General Assembly Special Session on HIV/AIDS (2001) indicator.

p Proportion of orphans (10–14 years old) attending school is based on small denominators (typically 25–49 unweighted cases).

† Regional averages are calculated only when the population represents 50 per cent or more of the region's total population of interest.

a/ Including Djibouti and the Sudan.

b/ Some estimated numbers for Eastern and Southern Africa and West and Central Africa do not add up to totals for Sub-Saharan Africa because of rounding.

Low- and middle-income countries are classified as such by the World Bank as of July 2007; these 149 countries form the basis for the data analysis in WHO, UNAIDS and UNICEF, *Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector – Progress Report 2010*. Developing countries is a UNICEF classification published annually in its *The State of the World's Children* report.



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