FOREWORD

This year’s report on HIV/AIDS interventions in the health sector presents strong evidence of progress in the global effort to fight HIV/AIDS, but it also makes clear how much work remains to be done.

In 2009, countries, partners and communities succeeded in scaling up access to HIV prevention, treatment and care.

Important gains have been made towards the goal of eliminating mother-to-child transmission of HIV by 2015. Over half of all pregnant women living with HIV in low- and middle-income countries received antiretrovirals to prevent HIV from being transmitted to their babies, and more children living with HIV are benefiting from treatment and care programmes. Community-driven, rights-based prevention programmes have contributed to lowering the number of HIV infections. WHO’s revised guidelines for antiretroviral therapy now recommend initiation of therapy at an earlier stage of disease and, once fully implemented, these changes will help to further reduce the morbidity and mortality due to HIV.

These advances are all cause for encouragement. Nevertheless, this report also demonstrates that, on a global scale, targets for universal access to HIV prevention, treatment and care will not be met by 2010.

Only one third of people in need have access to antiretroviral therapy, coverage of prevention interventions is still insufficient, and most people living with HIV remain unaware of their serostatus. Stigma, discrimination and social marginalization continue to be experienced daily by people who are the most affected by HIV and hardest to reach in many countries, including people living with HIV, sex workers, injecting drug users, men who have sex with men, transgender people, prisoners and migrants.

At the same time, the financial crisis and resulting economic recession have prompted some countries to reassess their commitments to HIV programmes. Reduced funding for HIV services not only risks undoing the gains of the past years, but also greatly jeopardizes the achievement of other Millennium Development Goals, especially those related to maternal and child health.

While the global HIV response may have exposed the shortcomings of current health systems, it has also driven more concerted action towards addressing broader systemic issues, including human resource capacity, physical infrastructure, supply chains, health financing and information systems.

As many countries have shown, the ongoing scale-up of HIV programmes can be successfully leveraged to tackle longstanding systemic bottlenecks that have prevented other health outcomes from being achieved. We must also strategically integrate HIV/AIDS interventions into national health services, strategies and plans, including those for sexual, reproductive, maternal and child health, tuberculosis, sexually transmitted infections and harm reduction.

Special approaches remain necessary to address the particular circumstances and needs of those populations at greater risk for HIV infection. Rights-based national strategies must include special efforts to reach the poorest and those who are socially excluded. Programmes must be designed and delivered in ways that ensure equity in access, including for children and women. Only such a combined commitment to programme planning and delivery, built upon a solid primary health-care framework, can fully capture synergies between interventions, ensure programmatic sustainability, and maximize coverage and impact.
Although there is considerable room for improvement, HIV programmes have had a positive impact on other disease outcomes and on social and economic development more broadly. The implication for public policy is clear: while the response to other global health priorities must be further strengthened, this must happen in addition to, not instead of, a continued and increasing commitment to HIV. Only by working together can we turn the tide of the epidemic.

We have the knowledge and ability to achieve universal access and reverse the epidemic. Let us turn the challenges faced by the global HIV response into an opportunity to renew our efforts and deliver on our collective commitments.
The HIV epidemic remains a major global public health challenge, with a total of 33.4 million people living with HIV worldwide. In 2008 alone, 2.7 million people were newly infected with HIV.

Since 2006, when United Nations Member States committed to scaling up services and interventions towards the goal of universal access to HIV prevention, treatment, care and support by 2010, the WHO, UNICEF and UNAIDS Secretariat has sought to monitor key components of the health sector response to the HIV epidemic worldwide. This report, the fourth annual progress report published since 2006, assesses the situation at the end of 2009, one year before the universal access target. It compiles information from 183 of the 192 United Nations Member States, comprising 144 low- and middle-income countries and 39 high-income countries, on the status of the global health sector response to HIV, progress made and remaining challenges to achieving universal access.

The year 2009 saw continuing progress in expanding access to HIV testing, prevention, treatment and care in low- and middle-income countries. Some countries have already attained universal access (defined as coverage of at least 80% of the population in need) to antiretroviral therapy and/or interventions to prevent mother-to-child transmission. For a good number of countries, universal access is within clear reach by the end of 2010. Despite these encouraging findings, global targets for HIV prevention, treatment, care and support are unlikely to be achieved in 2010. This has important implications for a range of Millennium Development Goals (MDGs) beyond those specifically related to HIV (MDG 6), such as MDGs 4 and 5, with targets related to child and maternal health.

After years of considerable increases in international assistance, funding remained essentially flat over the current period. In the context of a global financial crisis, this report underscores the urgency of continuing to mobilize support by countries, donors and global agencies in order to respond to the HIV epidemic and contribute to achieving the MDGs.

**HIV testing and counselling**

In 2009, more countries adopted policies on provider-initiated testing and counselling, and the number of facilities providing HIV testing and counselling continued to increase. As of December 2009, over two thirds of countries in sub-Saharan Africa and Latin America and the Caribbean had introduced policies supporting provider-initiated testing and counselling.

There was also an increase in the number of HIV tests performed globally. One hundred countries reported a total of 67 million people tested in 2009. In the 82 countries for which comparable data are available for 2008 and 2009, the median number of tests performed per 1000 population increased from 41 to 50 respectively.

However, knowledge of HIV status remained inadequate. According to 10 recent national population-based surveys in sub-Saharan Africa, the median percentage of people living with HIV who know their HIV status is below 40%. In addition, testing and counselling programmes are not always tailored to local contexts, and considerable gaps remain between testing and counselling needs and existing practices.

### Key indicators of progress in low- and middle-income countries in 2008 and 2009

<table>
<thead>
<tr>
<th>Indicators</th>
<th>December 2008</th>
<th>December 2009</th>
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<tbody>
<tr>
<td>Number of adults and children receiving antiretroviral therapy</td>
<td>4 035 000</td>
<td>5 254 000</td>
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<tr>
<td>Antiretroviral therapy coverage among adults and children:</td>
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<tr>
<td>Based on 2010 WHO guidelines (treatment initiation at CD4 cell count &lt;350 cells/mm³)</td>
<td>28% [26–39%]</td>
<td>36% [33–39%]</td>
</tr>
<tr>
<td>Based on 2006 WHO guidelines (treatment initiation at CD4 cell count &lt;200 cells/mm³)</td>
<td>42% [38–48%]</td>
<td>52% [47–58%]</td>
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<tr>
<td>Antiretroviral therapy coverage among children less than 15 years of age</td>
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<tr>
<td>Percentage of pregnant women living with HIV receiving antiretroviral drugs to prevent mother-to-child transmission</td>
<td>45% [37–57%]</td>
<td>53% [40–79%]</td>
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</table>

*See box on Updated guidance on antiretroviral therapy and its implications for needs estimates.*
Health sector interventions for HIV prevention

More low- and middle-income countries reported conducting surveillance for HIV among selected population groups at higher risk for HIV infection, such as injecting drug users, sex workers and men who have sex with men. Nevertheless, most countries were still unable to provide data on the coverage of HIV prevention programmes among these population groups, and the quality and representativeness of the reported data are sometimes limited.

In 2009, among 27 low- and middle-income reporting countries, the median percentage of injecting drug users reached with HIV prevention programmes in the 12 months preceding the surveys was 32%. Of 92 countries that reported information on harm reduction policies for injecting drug users, 36 reported having needle and syringe programmes, and 33 offered opioid substitution therapy. In all the reporting countries, the number of syringes distributed per injecting drug user per year is below the internationally recommended target of 200 syringes per injecting drug user per year.

Among 21 reporting countries, the median percentage of men who have sex with men reached with HIV prevention programmes in the 12 months preceding the surveys was 57%. In the case of sex workers, the median percentage was 58% among 38 reporting countries.

Multiple legal and sociocultural barriers continue to prevent or discourage injecting drug users, men who have sex with men, transgender people and sex workers from accessing and using health-care services. Addressing these issues requires removing punitive laws that criminalize their behaviours, and creating enabling environments to reduce stigma and discrimination and protect human rights.

Some progress was made in developing and implementing additional prevention tools and technologies. As of January 2010, over 133,000 male circumcisions had been performed in six Sub-Saharan countries reporting on service delivery.

The availability and safety of blood and blood products for transfusion remains an area of concern in low- and middle-income countries. Only 48% of blood donations in low-income countries were screened for HIV and its implic

Treatment and care for people living with HIV

At the end of 2009, 5.25 million people were reported to be receiving antiretroviral therapy in low- and middle-income countries. This represents an increase of over 1.2 million people from December 2008, the largest increase in one year. Sub-Saharan Africa had the greatest increase in the absolute number of people receiving treatment in 2009, from 2,950,000 in December 2008 to 3,910,000 a year later.

Based on the new criterion for treatment initiation (CD4 cell count of or below 350 cells/mm³), antiretroviral therapy coverage increased from 28% [26–31%] in December 2008 to 36% [33–39%] at the end of 2009. Under the previous criterion for treatment initiation (CD4 count of or below 200 cells/mm³), global coverage would have reached 52% [47–58%] in 2009.

Eight low- and middle-income countries (Botswana, Cambodia, Croatia, Cuba, Guyana, Oman, Romania and Rwanda) had already achieved universal access to antiretroviral treatment by December 2009 (treatment coverage of at least 80% of patients in need).

At 39%, antiretroviral therapy coverage was higher among women, compared with 31% among men.

Available country cohort data on the proportion of patients retained on antiretroviral therapy over time show that most patient attrition occurs within the first year of treatment initiation and that retention rates tend to stabilize thereafter. In 2009, the average retention rate at 12 months across low- and middle-income countries was 82%, and was approximately the same among men and women. Reported
retention trends in 2009 were similar to those observed in 2008. However, many programmes were still technically and operationally unable to provide data on patient retention, especially over longer periods. It is essential that partners and countries step up efforts to strengthen patient and cohort monitoring systems to capture, process and use longitudinal retention data.

As of mid-2010, 28 countries had implemented surveys to classify transmitted HIV drug resistance. Among 15 WHO quality-assured surveys, transmitted HIV drug resistance was estimated at <5% by 13 countries, and between 5% and 15% by two.

HIV-related tuberculosis (TB) remains a serious challenge for the health sector’s response to HIV. In 2008, of the 9.4 million incident TB cases worldwide, an estimated 1.4 million were among people living with HIV. Although the rate of HIV testing and counselling for TB patients is increasing, it remains inadequate. Almost 22% of people with notified TB knew their HIV status in 2008, up from 16% in 2007 and 3.2% in 2004. Antiretroviral therapy coverage among people living with HIV and TB was low, and implementation of the Three I’s for TB control – intensified TB case finding among HIV patients, isoniazid preventive therapy and TB infection control – remained insufficient.

**HIV services for women and children**

Access to services for preventing mother-to-child transmission of HIV expanded further in 2009. An estimated 26% of all pregnant women in low- and middle-income countries received an HIV test in 2009, up from 21% in 2008. However, this figure is still low, largely due to inadequate coverage of HIV testing in East, South and South-East Asia (17%) where 55% of pregnant women live.

An estimated 53% [40–79%] of pregnant women living with HIV received antiretroviral drugs to reduce the risk of transmitting HIV to their infants, up from 45% [37–57%] in 2008. In sub-Saharan Africa, which has around 91% of the 1.4 million pregnant women in need of antiretroviral drugs for preventing mother-to-child transmission, the coverage is 54% [40–84%] in 2009.

The efficacy of antiretroviral drugs in preventing mother-to-child transmission of HIV varies with the type of drug combination used and the duration of the regimen. Among pregnant women who have access to antiretroviral drugs for preventing mother-to-child transmission, the proportion receiving single-dose nevirapine decreased from 49% to 30% between 2007 and 2009, whereas the percentage of women receiving more efficacious regimens increased from 33% to 54% during the same time period.

Approximately 51% of pregnant women who tested positive for HIV were assessed for their eligibility to receive antiretroviral therapy for their own health, up from 34% in 2008.

About 356 400 children less than 15 years of age were receiving antiretroviral therapy at the end of 2009, up from 275 300 at the end of 2008, an increase of 29% in one year. These children represented an estimated 28% [21–43%] of all children less than 15 years estimated to need antiretroviral therapy in low- and middle-income countries, up from 22% [16–34%] in 2008 and 7% [5–11%] in 2005. Overall antiretroviral therapy coverage among children in low- and middle-income countries was lower than that among adults (37% [35–41%]). Moreover, in 54 reporting countries, only 15% [10–28%] of children born to HIV-positive mothers received an HIV test within the two first months of life.

Greater efforts are needed to scale up early testing of HIV-exposed infants, reduce the rate of loss to follow up among them in the postnatal period, and further integrate HIV interventions with services for maternal, newborn and child health.

**Updated guidance on prevention of mother-to-child-transmission and paediatric treatment**

The 2010 revised guidelines on prevention of mother-to-child transmission of HIV propose major changes to more effective antiretroviral drug interventions. This includes earlier antiretroviral therapy (ART) for a larger group of HIV-positive pregnant women (CD4 ≤350 or stage 3 or 4 disease) to benefit both the health of the mother and prevent HIV transmission to her child during pregnancy and breastfeeding. For women who do not require ART the guidelines recommend two options for antiretroviral prophylaxis, to be chosen at country level taking into account feasibility and implementation issues (see Box 5.3). In addition, the revised guidelines now recommend the provision of antiretroviral drugs to the mother or child to reduce the risk of HIV transmission during breastfeeding in settings where it is judged to be the safest infant-feeding option (see Box 5.3 and Box 5.4). Updated paediatric antiretroviral therapy guidelines now advise that all HIV-positive children less than 24 months of age be started on antiretroviral therapy, and that children more than 24 months of age be initiated on treatment depending on age-specific CD4 cell count thresholds (see Box 5.6). These revisions should significantly lower vertical transmission rates, increase HIV-free survival, and improve the quality of life and survival of infants and children living with HIV. Additional technical and financial support is needed, however, to enable countries to fully implement the revised recommendations in a timely and effective manner.
Despite the limitations of the available information, there has never been so much evidence of the positive and growing impact of HIV-related investments in reducing new infections, averting deaths and ensuring that people living with HIV enjoy healthy lives. Yet, this evidence becomes available at a time when the global economic crisis of 2008–2009 has put the sustainability of many HIV programmes at risk. It is clear that without continued and strengthened financial and programmatic commitments, there is considerable danger that these achievements could be undone.

Addressing the challenges posed by the MDGs pertaining to HIV requires action along four main strategic directions: (i) expanding and optimizing the global HIV response, (ii) catalysing the impact of HIV programmes on other health outcomes, (iii) strengthening health systems for a sustainable and comprehensive response, and (iv) tackling the structural determinants of the response, including human rights violations.
INTRODUCTION

This report reviews the progress made in 2009 in scaling up access to selected health sector interventions for HIV prevention, treatment and care in low- and middle-income countries. It is the fourth in a series of annual progress reports published since 2006 by the World Health Organization (WHO), United Nations Children’s Fund (UNICEF) and Joint United Nations Programme on HIV/AIDS (UNAIDS) in collaboration with international and national partners to monitor key components of the health sector response to the HIV epidemic worldwide.1

2010 is a landmark year for the global HIV response. At the 2006 United Nations General Assembly High-Level Meeting on AIDS, world leaders committed to scaling up services and interventions towards the goal of providing universal access to HIV prevention, treatment, care and support by the end of this year (2). Now, as countries and partners prepare to review universal access goals and targets in the months ahead, assessing progress is critical to identify areas where intensified action is needed to increase coverage and impact. This report will support this process in two ways. First, the accurate and up-to-date strategic information in the report will help countries to take stock of their achievements and identify programmatic bottlenecks, service delivery gaps and challenges. Second, the updated global response will assist the international community in setting policy priorities, defining targets and designing relevant strategies to better support and enhance country responses.

The proximity of 2010 has served to rally and galvanize partners involved in the HIV response at all levels. Encouragingly, 2009 witnessed renewed commitment and resolve towards attainment of universal access and the Millennium Development Goals (MDGs). The launch of UNAIDS’ Outcome Framework has helped focus attention on ten programmatic areas and a range of cross-cutting strategies in which progress must be rapidly accelerated (2). At the same time, the international community has also moved decisively towards agreeing to virtual elimination of mother-to-child transmission of HIV by 2015 (2). A new global health initiative, spearheaded by the United States Government, will support low- and middle-income countries to improve health outcomes and strengthen health systems, including HIV services. New financial allocations have been agreed to by the Global Fund to Fight AIDS, Tuberculosis and Malaria. WHO’s guidelines on antiretroviral therapy for adults and adolescents as well as children now recommend initiation of therapy at an earlier stage of the disease, which should further reduce HIV-related mortality and morbidity as well as HIV transmission.

At the same time, the global HIV response has been buffeted by both the global financial crisis and the changing public health and development priorities at national and international levels. These events have highlighted the need to enhance the impact of current investments by improving the efficiency, effectiveness and quality of programmes, strengthening linkages between programmes and building systems for a sustainable response.

This report shows that, among 144 low- and middle-income countries reporting programme data this year, eight had already achieved universal access to antiretroviral therapy at the end of 2009, providing treatment to at least 80% of patients in need. Furthermore, 15 countries had achieved the 80% target for coverage with antiretroviral prophylaxis to prevent mother-to-child transmission of HIV.

Although more countries may reach universal access goals by the end of 2010 as a result of ongoing efforts, global targets for HIV prevention, treatment, care and support are unlikely to be achieved. Importantly, this has implications not only for the HIV response, but also for all other MDGs, particularly MDGs 4 and 5, on child and maternal health. Indeed, as documented by recent research, a lower burden of HIV/AIDS has been associated with greater progress towards the achievement of child mortality and tuberculosis goals than economic growth itself (4). In the absence of HIV, maternal mortality worldwide would have been lower by about 6% in 2008 (5) and a recent academic study (6) has estimated that up to 18% of pregnancy-related deaths may be due to HIV.

In spite of all the challenges and constraints, this report demonstrates that, with intensified and accelerated efforts, countries can achieve universal access. Health-care workers have been trained, critical infrastructure has been upgraded, and health systems are gradually being strengthened. Although much remains to be done and improved, millions of new HIV infections have already been averted and millions of people are alive today as a result of investments in HIV over the past few years.

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1 Two other important joint publications, to be released later in 2010, will complement the health sector-related information presented and discussed herein. The AIDS Today 2010 UNAIDS Global Report will discuss the current status of the epidemic and the multisectoral response at the global and national levels, and the Stocktaking report on children and AIDS will present additional critical data on the progress made and challenges in scaling up services for women, children and young people affected by the epidemic.

PROGRESS REPORT SUMMARY 2010

7
Data sources and methods

WHO, UNICEF and UNAIDS jointly collected data from national programmes worldwide through a common reporting tool to monitor and report on progress in the health sector response towards universal access. In order to avoid duplication and maximize data consistency, all indicators and the corresponding data collection processes have been designed to build on the monitoring framework of the Declaration of Commitment on HIV/AIDS of the United Nations General Assembly Special Session (UNGASS) on HIV/AIDS. However, this report differs from its 2009 version in two main aspects. First, this year, countries were asked to report data on 35 indicators, compared to 46 in 2009 (see Annex 8). Second, not all 35 indicators are presented and discussed in this report, as a number of them will be compiled and published later this year in the AIDS Today: 2010 UNAIDS Global Report. Data used in this report were reported by 39 high-income and 144 low- and middle-income countries. In addition, estimates of treatment needs and coverage in low- and middle-income countries have been substantially revised due to changes in the recommended set of criteria for therapy initiation. WHO’s 2010 antiretroviral therapy guidelines now recommend that all adults and adolescents, including pregnant women, with HIV infection and a CD4 count of or below 350 cells/mm³ should be started on antiretroviral therapy, regardless of whether or not they have clinical symptoms. This change increased the number of people estimated to be in need of antiretroviral therapy at the end of 2009 from 10.1 million to 14.6 million (13.5 million–15.8 million) (see Box 4.2).

The data collected encompass the following programmatic areas: (i) HIV testing and counselling, (ii) prevention of sexual transmission of HIV and prevention of transmission through injecting drug use, (iii) management of sexually transmitted infections; (iv) coverage of antiretroviral therapy, (v) coverage of collaborative HIV/TB services, (vi) stock-outs of antiretroviral drugs, and (vii) HIV interventions for women and children, including prevention of mother-to-child transmission. Policy-related questions were also asked to assess programmatic development. Response rates varied by indicator and are presented in the corresponding chapters.

This report also relies on data from other sources, including special surveys (such as on pricing and utilization of antiretroviral drugs and other supplies, and surveillance of HIV drug resistance), population-based surveys (such as the Demographic and Health Surveys) and recent scientific literature. Additional data- and methodology-related notes are included in each chapter, as appropriate.
HIV TESTING AND COUNSELLING

Key findings

- The number of countries providing data on HIV testing and counselling remained stable. In 2009, 118 low- and middle-income countries reported data on the availability of HIV testing and counselling in health facilities compared to 111 in 2008. One hundred countries provided information on the uptake of these services in 2009, up from 98 in 2008.1

- More countries adopted policies on provider-initiated testing and counselling. As of December 2009, over two thirds of countries in sub-Saharan Africa, and in Latin America and the Caribbean had introduced policies supporting provider-initiated testing and counselling.

- The number of facilities providing HIV testing and counselling continued to increase. The reported number of health facilities providing HIV testing and counselling increased to 107,000 in 2009 (118 reporting countries), up from 78,000 in 2008 (111 countries). In 101 low- and middle-income countries reporting data in both 2008 and 2009, the median number of facilities per 100,000 population rose by 28% during this period, from 4.3 to 5.5.

- The number of HIV tests performed increased globally. One hundred countries reported a total of 67 million people tested in 2009. In the 82 countries for which comparable data are available, the median number of tests performed per 1000 population grew by almost 22% between 2008 and 2009, from 41 to 50.

- Population surveys conducted in low- and middle-income countries show that (i) the proportion of people who report having ever had an HIV test is higher among women than men, and (ii) knowledge of HIV status remains inadequate. Based on 10 population-based surveys conducted in 2007–2009, the median percentage of people living with HIV who know their status is estimated at below 40%.

- Testing and counselling programmes need to be better tailored to the local epidemiological contexts. An effective response requires efforts to increase the uptake of services, especially among most-at-risk populations, while respecting human rights.

1 2008 and 2007 figures may differ from those published in previous Progress Reports due to updates or corrections submitted by countries.
HEALTH SECTOR INTERVENTIONS FOR HIV PREVENTION

Key findings

I. Preventing HIV infection among populations at higher risk for HIV infection

- More countries reported conducting surveillance for HIV among selected populations at higher risk for HIV infection. Of 149 low- and middle-income countries surveyed, 42 reported conducting surveillance for HIV among injecting drug users versus 41 countries in 2008. The number of countries that reported conducting HIV surveillance among men who have sex with men increased from 44 to 54, and among sex workers from 65 to 74.

- The median percentage of injecting drug users reached with HIV prevention programmes in the 12 months preceding the surveys was 32% among 27 countries reporting data in 2009.

- Coverage of harm reduction programmes remained limited in 2009. Among 92 reporting countries, 36 had needle and syringe programmes, and 33 offered opioid substitution therapy. In countries reporting needle and syringe programmes, the number of syringes distributed per injecting drug user per year was still below the internationally recommended level of 200 syringes per injecting drug user per year.

- The median percentage of men who have sex with men reached with HIV prevention programmes in the 12 months preceding the surveys was 57% among 21 countries reporting data in 2009. Regionally, median coverage in 2009 was highest at 63% in Europe and Central Asia.

- The median percentage of sex workers reached with HIV prevention programmes in the 12 months preceding the surveys was 58% among 38 countries reporting data in 2009. The highest median coverage of prevention programmes was 76%, observed in Latin America and the Caribbean.

II. Selected HIV prevention interventions in the health sector

- Additional progress has been made in scaling up male circumcision programmes in the 13 priority countries of sub-Saharan Africa. As of January 2010, over 133 000 male circumcisions had been done in six countries providing data on service delivery.

- The global burden of sexually transmitted infections remains high in most regions of the world. Early identification and treatment of sexually transmitted infections is a critical element in controlling HIV infection, especially among people with multiple sexual partners.

- The availability and safety of blood and blood products for transfusion continues to be an issue of concern, especially in low-income countries. While 99% and 85% of donations in high- and middle-income countries, respectively, were screened in a quality-assured manner in 2009, in low-income countries the comparable figure was 48%.
Key findings

- At the end of 2009, 5,250,000 people were receiving antiretroviral therapy in low- and middle-income countries, an increase of over 1.2 million people from December 2008. This represents a 30% rise from a year earlier and a 13-fold increase in six years. Sub-Saharan Africa had the greatest increase in the absolute number of people receiving treatment in 2009, from 2,950,000 in December 2008 to about 3,910,000 a year later.

- As of December 2009, eight low- and middle-income countries had already achieved universal access to antiretroviral therapy, defined as providing antiretroviral therapy to at least 80% of patients in need, and 21 additional countries had coverage rates higher than 50%.

- WHO now recommends that adults and adolescents initiate antiretroviral therapy at an earlier stage of disease. WHO’s revised antiretroviral therapy guidelines recommend that all adults and adolescents, including pregnant women, with HIV infection and a CD4 count of or below 350 cells/mm³ should be started on antiretroviral therapy, regardless of whether or not they have clinical symptoms. This change has increased the number of people estimated to be in need of antiretroviral therapy at the end of 2009, from 10.1 million to 14.6 million [13.5 million–15.8 million].

- As of December 2009, 45 countries had already incorporated into their national treatment guidelines the new WHO recommendations on eligibility criteria and regimen choice for adults and adolescents, and 33 had already started implementing stavudine (d4T) phase-out plans.

- Coverage of antiretroviral therapy in low- and middle-income countries rose further in 2009. Based on the new set of criteria for treatment initiation, coverage increased from 28% [26–31%] in December 2008 to 36% [33–39%] at the end of 2009. Under the previous criteria for treatment initiation (CD4 count at or below 200 cells/mm³), global coverage would have reached 52% [47–58%] in 2009.

- The number of children under 15 years of age receiving antiretroviral therapy increased by 29% between 2008 and 2009. About 356,400 children less than 15 years of age were receiving antiretroviral therapy at the end of 2009, up from 275,300 at the end of 2008. Children represented 6.8% of people receiving antiretroviral therapy and 8.7% of people in need.

- Among 95 reporting countries, antiretroviral therapy coverage was higher among women, estimated at 39%, compared to 31% among men.

- Data on the proportion of patients retained on antiretroviral therapy over time continued to show that most patient attrition occurs within the first year of initiation of therapy and that retention rates tend to stabilize thereafter. In 2009, the average retention rate at 12 months across low- and middle-income countries was 82%.

- More evidence is now available of the positive impact of antiretroviral therapy on HIV transmission, and additional research is ongoing to identify and assess policy and operational implications.

- Twenty-eight countries have completed surveys or are in the process of implementing them to classify the extent of transmitted HIV drug resistance. Quality assured results are available for 15 surveys. In 13 of these, transmitted HIV drug resistance was classified as low (<5%) and in two it was classified as moderate (between 5% and 15%).
Further, but limited, reductions in the prices of first-line regimens occurred between 2008 and 2009. However, the price of second-line regimens remained considerably higher than that of first-line regimens. In 2009, the weighted median price of the six most widely used first-line regimens was US$ 137 per person per year in low-income countries, US$ 141 in lower-middle-income countries and US$ 202 in upper-middle-income countries. For the most commonly used second-line regimens the weighted median per person per year was respectively US$ 853, US$ 1378 and US$ 3638.

In low- and middle-income countries outside of the Americas (59 reporting countries), 97.5% of adult patients were on first-line regimens and 2.4% were receiving a second-line regimen. In the Americas Region (17 reporting low- and middle-income countries), 84% of adults were receiving a first-line regimen, 9.7% were being treated with a second-line regimen and 6.3% were on salvage therapy.

There has been progress in expanding HIV testing and counselling for tuberculosis (TB) patients over the past years. Almost 1.4 million TB patients knew their HIV status in 2008, accounting for 22% of notified cases compared to 16% in 2007 and 3.2% in 2004. However, antiretroviral therapy coverage among people living with HIV and TB was low, and implementation of the 3 I’s for TB control – intensified TB case finding among HIV patients, isoniazid preventive therapy and TB infection control – remained insufficient.
Estimated number of adults and children (combined) receiving and needing antiretroviral therapy, and percentage coverage in low- and middle-income countries by region, December 2008 to December 2009

<table>
<thead>
<tr>
<th>Geographical region</th>
<th>December 2009</th>
<th>December 2008</th>
<th>Estimated antiretroviral therapy coverage, based on WHO 2010 guidelines</th>
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<td>Number of</td>
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<td>Sub-Saharan Africa</td>
<td>3 911 000</td>
<td>10 600 000</td>
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<td>2 950 000</td>
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<td></td>
<td>(9 700 000-11 500 000)</td>
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<td>(9 500 000-11 300 000)</td>
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<tr>
<td>Eastern and Southern Africa</td>
<td>3 203 000</td>
<td>7 800 000</td>
<td>40% (38-45%)</td>
<td>2 416 000</td>
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<td></td>
<td></td>
<td>(7 200 000-8 300 000)</td>
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<td>(7 000 000-8 100 000)</td>
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<td>Western and Central Africa</td>
<td>709 000</td>
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<td>25% (22-28%)</td>
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<tr>
<td>Latin America and the</td>
<td>478 000</td>
<td>950 000</td>
<td>50% (46-59%)</td>
<td>439 000</td>
</tr>
<tr>
<td>Caribbean</td>
<td></td>
<td>(810 000-1 000 000)</td>
<td></td>
<td>(790 000-1 000 000)</td>
</tr>
<tr>
<td>Latin America</td>
<td>425 000</td>
<td>840 000</td>
<td>5% (45-67%)</td>
<td>400 000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(700 000-940 000)</td>
<td></td>
<td>(680 000-900 000)</td>
</tr>
<tr>
<td>Caribbean</td>
<td>52 400</td>
<td>110 000</td>
<td>48% (42-55%)</td>
<td>39 900</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(95 000-120 000)</td>
<td></td>
<td>(91 000-120 000)</td>
</tr>
<tr>
<td>East, South and South-East Asia</td>
<td>719 000</td>
<td>2 400 000</td>
<td>33% (26-36%)</td>
<td>571 000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2 000 000-2 900 000)</td>
<td></td>
<td>(2 000 000-2 900 000)</td>
</tr>
<tr>
<td>Europe and Central Asia</td>
<td>114 000</td>
<td>610 000</td>
<td>19% (16-21%)</td>
<td>84 400</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(550 000-670 000)</td>
<td></td>
<td>(510 000-660 000)</td>
</tr>
<tr>
<td>North Africa and the Middle East</td>
<td>12 000</td>
<td>100 000</td>
<td>11% (10-14%)</td>
<td>9 100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(88 000-120 000)</td>
<td></td>
<td>(75 000-110 000)</td>
</tr>
<tr>
<td>All low- and middle-income countries</td>
<td>5 254 000</td>
<td>14 600 000</td>
<td>36% (33-39%)</td>
<td>4 053 000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(13 500 000-15 800 000)</td>
<td></td>
<td>(13 200 000-15 400 000)</td>
</tr>
</tbody>
</table>

Note: some numbers do not add up due to rounding.
a See Box 4.2 for further information on the methods for estimating the need for and coverage of antiretroviral therapy in 2008 and 2009.
b The coverage estimate is based on the unrounded estimated numbers of people receiving and needing antiretroviral therapy.
SCALING UP HIV SERVICES FOR WOMEN AND CHILDREN

Key findings

- The proportion of pregnant women who received an HIV test increased slightly. An estimated 26% of the estimated 125 million pregnant women in low- and middle-income countries received an HIV test in 2009, up from 21% in 2008 and 7% in 2005. In the Eastern and Southern Africa region, the proportion of pregnant women who received an HIV test increased from 43% in 2008 up to 50% in 2009.

- Approximately 51% of pregnant women testing positive were reported to have been assessed for eligibility to receive antiretroviral therapy for their own health.

- Over half of the 1.4 million pregnant women living with HIV are estimated to have received antiretroviral drugs to prevent transmission of HIV to their infants. An estimated 53% [40–79%] of pregnant women living with HIV received antiretrovirals to reduce the risk of transmitting HIV to their infants, up from 45% [37–57%] in 2008 and 15% [12–18%] in 2005. A large proportion continued to receive the less efficacious single-dose nevirapine regimen.

- Slightly more infants received antiretroviral prophylaxis to prevent acquisition of HIV from their mothers. Thirty-five per cent [26–53%] of infants in need received antiretroviral prophylaxis for prevention of mother-to-child transmission in 2009, up from 32% [26–40%] in 2008.

- Among infants and children exposed to HIV, access to early testing, care and treatment is insufficient. In 2009, in 54 reporting countries, only 15% [10–28%] of children born to HIV-positive mothers received an HIV test within the two first two months of life.

- The proportion of children in need who received antiretroviral therapy rose further in 2009. The number of children below the age of 15 years on antiretroviral therapy rose from 275 300 in 2008 to 356 400 in 2009. This represents an estimated coverage of 28% [21–43%] of children in need of antiretroviral therapy, up from 22% [16–34%] in 2008, based on updated treatment needs.

Estimated number of pregnant women living with HIV needing and receiving antiretrovirals for preventing mother-to-child transmission of HIV, and percentage coverage in low- and middle-income countries, by region 2009

<table>
<thead>
<tr>
<th>Geographical region</th>
<th>Number of pregnant women living with HIV receiving antiretroviral for PMTCT</th>
<th>Estimated number of pregnant women living with HIV in need of antiretroviral for PMTCT</th>
<th>Estimated coveragea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>627 800</td>
<td>1 240 000 [800 000-1 700 000]</td>
<td>54% [40%-84%]</td>
</tr>
<tr>
<td>Eastern and Southern Africa</td>
<td>584 700</td>
<td>860 000 [600 000-1 100 000]</td>
<td>68% [53%-95%]</td>
</tr>
<tr>
<td>Western and Central Africa</td>
<td>88 100</td>
<td>380 000 [200 000-560 000]</td>
<td>23% [16%-44%]</td>
</tr>
<tr>
<td>Latin America and the Caribbean</td>
<td>16 200</td>
<td>29 900 [19 000-41 000]</td>
<td>54% [39%-83%]</td>
</tr>
<tr>
<td>Latin America</td>
<td>11 800</td>
<td>22 400 [15 000-32 000]</td>
<td>53% [37%-81%]</td>
</tr>
<tr>
<td>Caribbean</td>
<td>4 400</td>
<td>7 400 [3 900-11 000]</td>
<td>59% [39%-95%]</td>
</tr>
<tr>
<td>East, South and South-East Asia</td>
<td>23 800</td>
<td>73 800 [45 000-110 000]</td>
<td>32% [22%-52%]</td>
</tr>
<tr>
<td>Europe and Central Asia</td>
<td>14 300</td>
<td>15 300 [9 000-23 000]</td>
<td>93% [63%-95%]</td>
</tr>
<tr>
<td>North Africa and the Middle East</td>
<td>500</td>
<td>15 700 [8 300-24 000]</td>
<td>3% [2%-6%]</td>
</tr>
<tr>
<td>All low and middle income countries</td>
<td>727 600</td>
<td>1 380 000 [1 200 000-1 800 000]</td>
<td>53% [40%-79%]</td>
</tr>
</tbody>
</table>

Note: some numbers do not add up to rounding.

a The coverage estimate is based on the unrounded estimates of pregnant women receiving and needing antiretrovirals for preventing mother-to-child transmission.
In 2009, low- and middle-income countries continued to make considerable progress in scaling up access to key health sector interventions, including HIV testing and counselling, antiretroviral therapy and prevention of mother-to-child transmission of HIV. An additional 1.2 million people started receiving life-saving antiretroviral therapy in 2009, bringing the total number of people on antiretroviral therapy in low- and middle-income countries to 5.25 million. In 2009, 53% of HIV-infected pregnant women received antiretroviral drugs to reduce the risk of HIV transmission to their children. Important new evidence has also emerged on the secondary benefits that antiretroviral therapy has in preventing HIV transmission. The combination of prevention, treatment and care interventions is already benefitting adults and children worldwide, as millions of lives have been saved and new infections averted.

Yet, a large proportion of people in need still do not have access to the required interventions. Although important progress has been made in preventing new HIV infections, 2.7 million people were newly infected in 2008. Despite a rapid increase in the uptake of HIV testing, a majority of people living with HIV do not know their status. As a result, most of them initiate therapy at a late stage of the disease. Coverage of prevention interventions among groups at higher risk for HIV infection remains less than 50% in many countries. Less than three months away from December 2010, universal access is a commitment not yet fulfilled in most low- and middle-income countries.

Paradoxically, while the global economic crisis of 2008-2009 has put the sustainability of many HIV programmes at risk, there has never been so much evidence of the positive and growing impact of HIV-related investments in cutting new infections, reducing deaths and ensuring that people living with HIV enjoy healthy lives. Without sustained and strengthened financial and programmatic commitments, there is a significant danger that these achievements may be undone.

Addressing these challenges requires action along four main strategic directions: (i) expanding and optimizing the global HIV response, (ii) catalysing the impact of HIV programmes on other health outcomes, (iii) strengthening health systems for a sustainable and comprehensive response, and (iv) tackling the structural determinants of the response, including human rights violations.

Doing more, more strategically

First and foremost, the hard-won gains of the past decade must be protected and enhanced. As we contemplate the road towards 2015, optimizing HIV prevention, treatment and care outcomes must be a key priority. Enhancing the value for money of the global HIV response entails improving the quality of service delivery in order to increase retention in care and in antiretroviral therapy programmes, reduce early death and loss to follow up, improve adherence and optimally prolong the use of effective, lower-cost first-line regimens. It calls for better understanding of the epidemic, including the behaviours that drive it and the impact of various prevention interventions. It implies strengthening linkages and referrals between programmes. It demands the implementation of flexible systems that identify and correct implementation bottlenecks. Donors and development partners also have a vital role to play in this drive towards greater efficiency and effectiveness by securing lower transaction costs, greater harmonization of efforts and alignment with country priorities.

At the same time, it is clear that additional investments are called for in order to expand coverage of essential interventions. Low- and middle-income countries must substantially ramp up their domestic budget allocations to fund HIV services. In 2001, at a conference convened by the Organization of African Unity in Abuja, Nigeria, African States committed to allocate at least 15% of their annual budgets to the health sector (8). While progress has been made, national allocations must still grow on average by over 50% in order meet the Abuja targets (9). Concurrently, high-income countries must reaffirm their collective commitment to universal access, as agreed to by leaders of the G8 in Gleneagles in 2005 and reaffirmed at the United Nations General Assembly in 2006 (10). It is important that bilateral and multilateral funders, development agencies and technical support providers be adequately resourced to support country HIV scale-up plans. In particular, ensuring the successful completion of the third replenishment of the Global Fund to Fight AIDS, Tuberculosis and Malaria will be critical to protect and enhance current achievements.

Leveraging the global HIV response for broader health and development gains

The sustainability and effectiveness of the global HIV response depend as well on whether and how it supports
improvements in other health and development outcomes. As Ban Ki-moon, United Nations’ Secretary-General, recently stated, universal access to HIV prevention, treatment, care and support represents, above all, an essential bridge towards achieving the full range of Millennium Development Goals (MDGs) (11). Indeed, slowing the rate of new HIV infections and decreasing HIV-related morbidity and mortality is vital to advancing almost every global development goal. In sub-Saharan Africa, for example, HIV and tuberculosis account for over 25% of deaths among women of reproductive age (12). Providing adequate care and treatment is thus vital to the achievement of MDG 5, on improving maternal health. Ensuring that the next generation of children is born HIV-free through effective prevention of mother-to-child transmission supports MDG 4, on the reduction of child mortality. As the scale-up of antiretroviral therapy continues, its impact on reducing HIV transmission among adults and children will increase accordingly. Antiretroviral therapy has already contributed to lowering both the incidence of and mortality from tuberculosis (see Box 4.14).

Successful HIV responses also enable broader development gains. HIV prevention and treatment allow people to live healthy, productive lives, enhancing labour output and decreasing household vulnerability to poverty and hunger. They also prevent children from becoming orphans, thus protecting their livelihoods and the generational transmission of human capital. They help maintain an adequate pool of schoolteachers, the backbone of quality primary education. They help empower women by highlighting gender inequalities and promoting sexual and reproductive health and rights. Without accelerated efforts, universal access to treatment, prevention and care will not be achieved in most countries and this, in turn, will decrease the impact of development investments in general.

Towards integrated and strengthened health systems

HIV programmes have helped strengthen national health systems by attracting vital new financial resources for health, building systemic capacity and introducing chronic disease management approaches for the first time in many resource-limited settings. For example, the integration of antiretroviral therapy into existing sector public maternal and child health clinics in Lusaka, Zambia, has already doubled the proportion of eligible women initiating treatment (see Box 5.5). However, more must be done to ensure that investments in the HIV response translate into broad-based health systems strengthening.

Integrating services, strategies and plans can improve not only equity, access and coverage, but may also enhance the quality and efficiency of care. In order to realize these synergies, HIV programmes must be implemented within a primary health-care framework capable of providing integrated services that address multiple patient needs through a continuum of care. These include services for maternal and child health, harm reduction, and the management of tuberculosis, sexually transmitted infections and viral hepatitis. It is necessary to deepen the involvement of communities in programme management and service provision in order to ensure the adequacy of interventions delivered and maximize outreach and uptake.

Addressing structural barriers through a rights-based approach

A comprehensive approach, which pursues both equity and efficacy, demands that all people in need be capable of accessing prevention, treatment and care, including populations and groups at higher risk for HIV infection, such as sex workers, injecting drug users, men who have sex with men, transgender persons, prisoners and migrants. Yet, even in 2010, discrimination and harassment continue to often push these groups to live on the margins of society beyond the reach of health services. Greater attention must be paid to how the interplay between law and social values may impede access to essential health services and compromise the effectiveness of HIV programmes. The criminalization of HIV transmission, same-sex relations, sex work and drug use impedes effective interventions to prevent HIV transmission among these groups and makes them significantly less likely to seek life-saving treatment and care. Many of these issues are compounded further by poverty and social marginalization (13).

Addressing the needs of groups at higher risk for HIV infection requires strong actions to uphold their human rights and protect them from violence and exclusion. Focused efforts are needed to remove punitive laws and create enabling legal environments that address the human rights violations currently blocking effective AIDS responses. The engagement of affected communities and civil society in policy design, programme management and service delivery remains an essential component of successful responses.

The agenda of the global HIV response remains clearly unfinished. Every day, thousands are still being infected and dying due to lack of access to prevention, treatment and care. Although universal access may not be a global reality by the end of 2010, investments in the global HIV response are already paying off. The sooner high-quality services are doubled the proportion of eligible women initiating treatment (see Box 5.5). However, more must be done to ensure that investments in the HIV response translate into broad-based health systems strengthening.

Integrating services, strategies and plans can improve not only equity, access and coverage, but may also enhance
REFERENCES


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