

**Table 5: HIV/AIDS statistics for Africa (excluding North Africa), 2001 and 2009**

| Year | People living with HIV (million) | People newly infected with HIV (million) | Children living with HIV (million) | AIDS-related deaths (million) |
|------|----------------------------------|--|------------------------------------|-------------------------------|
| 2009 | 22.5                             | 1.8                                      | 2.3                                | 1.3                           |
| 2001 | 20.3                             | 2.2                                      | 1.8                                | 1.4                           |

Source: UNAIDS (2010).

### GOAL 6: COMBAT HIV/AIDS, MALARIA, AND OTHER MAJOR DISEASES

Efforts to combat HIV and AIDS, tuberculosis, and malaria under MDG 6 have led to significant advances in preventing and treating these diseases. Goal 6 currently exhibits better progress than in previous years due in part to better performance of global funds, including the Global Fund to Fight AIDS, Tuberculosis and Malaria. However, this progress needs to be sustained for Targets 6.A and 6.B, and accelerated for Target 6.C in order to meet Goal 6.

#### Target 6.A: Have halted by 2015, and begun to reverse, the spread of HIV and AIDS

According to the *Report on the Global AIDS Epidemic 2010* (UNAIDS, 2010), HIV and AIDS are now more under control in Africa than ever before. Advances in stemming the HIV and AIDS pandemic have been significant in the majority of African countries, both in terms of preventing new infections and in making Anti-Retroviral Treatment (ART) more readily available to infected people.

UNAIDS estimated the HIV and AIDS prevalence rate in Africa (excluding North Africa), to have decreased to 5.0 percent in 2009, compared with 5.9 percent

in 2001.<sup>50</sup> However, this does not translate into a decrease in the actual number of people living with HIV and AIDS, due to population growth. Indeed, 22.5 million people were living with HIV and AIDS at the end of 2009, compared with 20.3 million at the end of 2001 (*Table 5*). Although the annual number of new HIV infections (incidence<sup>51</sup>) has been steadily declining since the late 1990s, this decrease is offset by the reduction in AIDS-related deaths (1.3 million in 2009 compared to 1.4 million in 2001) due to the significant scaling-up of ART over the past few years. This encouraging drop in AIDS-related deaths means that more people are surviving longer, i.e. they are classified as living with HIV.

Despite the overall positive trend toward Target 6.A, progress is mixed among countries and some of them have recorded setbacks, both in terms of prevention and treatment (*Box 5*). It is also a matter of grave concern that the number of children living with HIV is rising (500,000 more between 2001 and 2009), as this phenomenon does not

50 It is important to note that UNAIDS data aggregate North Africa with Arab countries; hence, it is not possible to provide separate figures for North Africa.

51 Incidence represents the number of new infections while prevalence represents the total number of infections. Incidence is a better indicator of the evolution of the epidemic, as it accounts only for new infections, while prevalence also accounts for deaths related to the infection.

### Box 5: Setbacks in the fight against HIV and AIDS: the case studies of Mozambique and Uganda

Despite the continent's overall steady progress in the fight against the HIV and AIDS epidemic, some countries are recording setbacks, not only in prevention but also in treatment.

In **Mozambique**, the prevalence rate among adults (15-49 years) has increased significantly, from 8.6 percent in 1997 to 11.5 percent in 2009. Moreover, women are much more susceptible to infection than men. The prevalence rate for women is 18.4 percent compared to 12.8 percent for men. Indeed, women bear most of the AIDS burden across Africa – an average of three women are HIV-infected for every two men in the region. This is due to women's role in society as well as their biological vulnerability to HIV infection. Similar skewed infection rates are evident between the urban (15.9 percent) and rural (9.2 percent) areas. In addition, there is a clear-cut correlation between higher prevalence and location near the border of South Africa (RSA). The prevalence varies from 3.7 percent in Niassa (the province furthest from RSA) to 25.1 percent in Gaza (the nearest province to RSA). This effect is strongly related to people from these nearby provinces working in the mines of RSA. Another noteworthy statistic is that prevalence is higher in the wealthier quintiles. What is most worrisome is that despite the limited success in reducing HIV prevalence rates, performance targets remain unambitious. For instance, the target of reaching infected children with ARTs has been set at only 12.3 percent for the year 2014, compared to 9.9 percent in 2010.

**Uganda** illustrates another example of a setback in the fight against HIV and AIDS. While in the past the country was cited as a success story in halting the spread of HIV, the situation today is deteriorating. Indeed, Uganda made commendable progress during the 1990s to reduce the spread of HIV and AIDS. For example, the proportion of pregnant women attending antenatal clinics who were identified as HIV-positive fell from a high of 18 percent in 1992 to around 6 percent in 2000. This success was due to a variety of measures that enabled changes in sexual behavior, as well as the provision of care and support services. However, recent data reveal significant challenges in sustaining past gains. It is estimated that more than 130,000 people were infected with HIV in 2010 alone. The total number of people living with HIV in 2010 was around 1.2 million, which is higher than at the peak of the epidemic in the 1990s. The recent expansion in the absolute number of new infections is related not only to high population growth, but most importantly to the worsening of many indicators of risky behavior (e.g., multiple partners and decreased condom use). The government of Uganda plans to reassess their national HIV and AIDS policy to refocus on preventing new infections rather than providing ART.

Sources: *Mozambique MDG Progress Report, 2010*; *Uganda MDG Progress Report, 2010*.

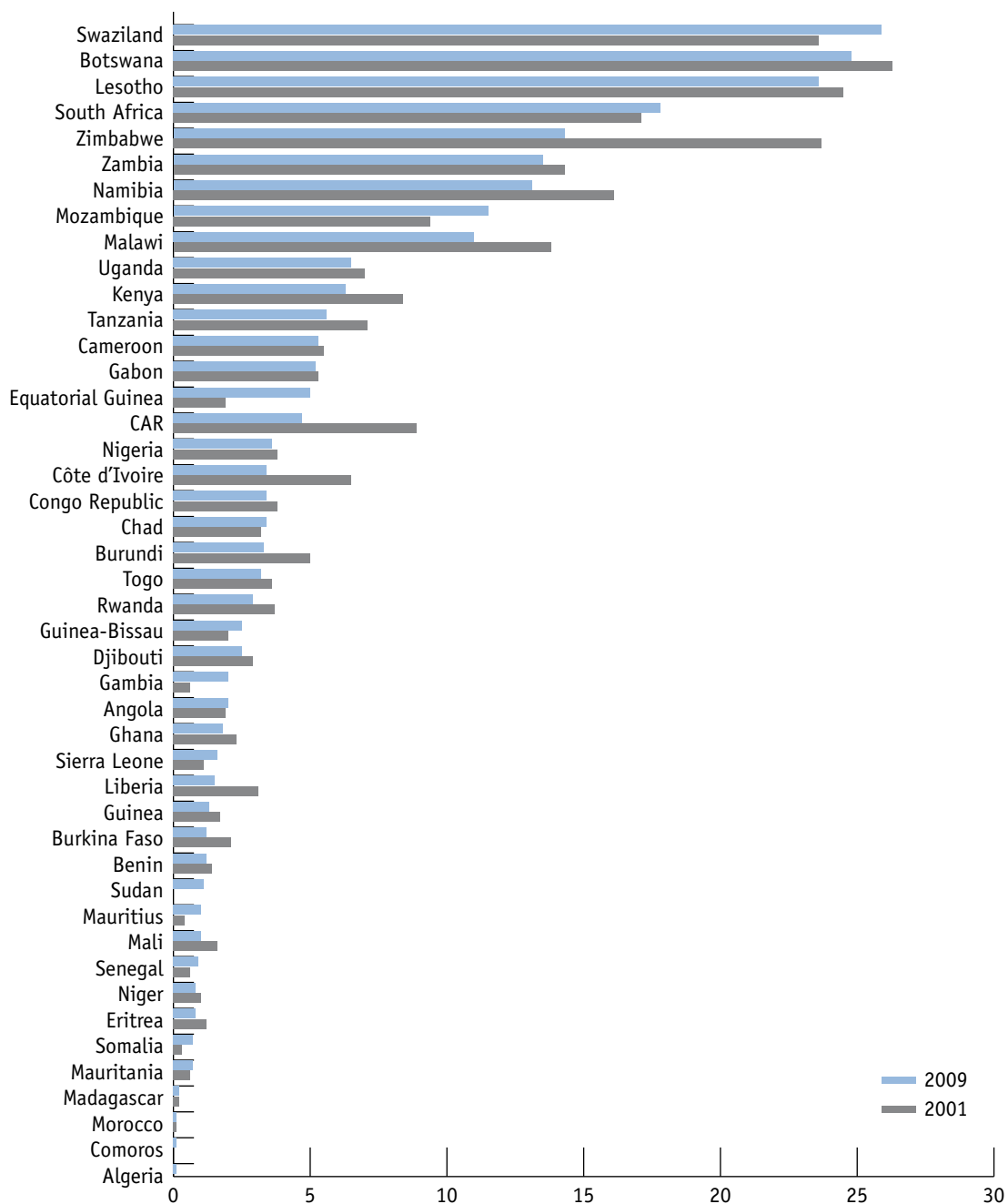
reflect the increased availability of ART for children (see Target 6.B below).

HIV incidence fell by 25 percent between 2001 and 2009 in 22 African countries (excluding North Africa), while expanding access to treatment has contributed to a 19 percent decline in deaths

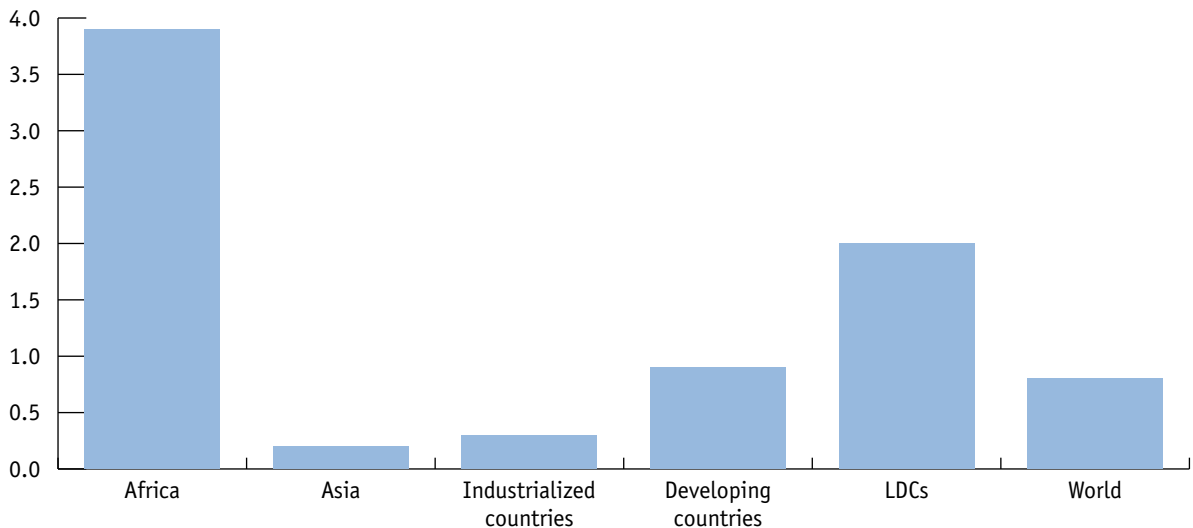
among people living with HIV since 2001. However, adult HIV prevalence<sup>52</sup> increased between 2001 and 2009 in Angola, Chad, Equatorial Guinea, The Gambia, Guinea-Bissau, Mauritius, Mozambique,

<sup>52</sup> UNAIDS defines an adult as being 15 years of age or above.

Figure 39: Adult HIV prevalence in African countries, 2001 and 2009 (%)



Source: Compiled from UNAIDS (2010).

**Figure 40: Adult HIV prevalence by global region, 2009 (%)**

Source: Compiled from UNAIDS (2010).

Senegal, Sierra Leone, Somalia, South Africa, and Swaziland (*Figure 39*). Moreover, regardless of the significant improvements made, adult HIV prevalence is still high in Africa compared to other regions of the world, as shown in *Figure 40*.

The UNAIDS report provides evidence that the largest epidemics in the region in terms of the number of infected people (as opposed to the prevalence rate) – i.e. in Ethiopia, Nigeria, South Africa, Zambia, and Zimbabwe – have now stabilized or are showing signs of decline.

**Indicator 6.1: HIV prevalence<sup>53</sup> among the population aged 15–24**

Surveys undertaken by UNAIDS indicate that the incidence rate is lower among 18-year-olds. For

<sup>53</sup> As there are no new data on prevalence for this age group, we assess progress here using incidence rates.

this age range, it declined sharply from 1.8 percent in 2005 to 0.8 percent in 2008 (UNAIDS, 2010). Recent analysis provides further evidence of decreasing incidence and safer sexual behavior among young people. Five countries – Botswana, South Africa, Tanzania, Zambia, and Zimbabwe – showed a significant decline in HIV prevalence among young women or men in national surveys. Improved behavior change (including increased condom use, delayed sexual debut, and reductions in multiple partnerships) helps to account for the encouraging declines in new HIV infections in African countries.

**Indicator 6.2: Condom use for high-risk sex**

There has been a marked improvement in sexual behavior in many African countries, especially among young people. For example, in Zambia where HIV incidence declined by more than 25 percent between 2001 and 2009, there was a

sharp drop in the number of both young and older adults who had multiple partners. Another decline was in the proportion of men and women aged 15–24 years who reported having more than one partner over the previous 12 months and who did not use a condom at the last high-risk sexual encounter.

Trend data from Demographic and Health Surveys (DHS) show that condom use is increasing on the continent. Despite this positive trend, condom use for high-risk sex is still low in Africa due to a variety of factors, including cultural barriers and gender imbalances. In addition, the aggregate figure masks huge disparities between urban/rural areas and different age groups. A further complication is that condom use is very difficult to negotiate in the context of marriage/stable relationships,<sup>54</sup> yet high-risk sex may occur in these settings too, especially when one of the partners is not faithful.

In recent surveys undertaken at the country level, Botswana reported that at least 80 percent of men had used a condom at their last high-risk sexual encounter. At the other end of the spectrum, 14 African countries reported condom use rates of 20 percent or less for those with more than one partner in the past year, for both males and females. This low figure for condom use included high-prevalence countries like the DRC, Ethiopia, Malawi, Rwanda, Tanzania, and Uganda. This illustrates the need to extend and, more importantly to sustain positive, continent-wide behavior change.

54 See *Figure 35* (Goal 5) for contraceptive use among married women. Condom use rates are much lower than the figures indicated, which include *all* contraceptive methods.

***Indicator 6.3: Proportion of population aged 15–24 years with comprehensive knowledge of HIV/AIDS***

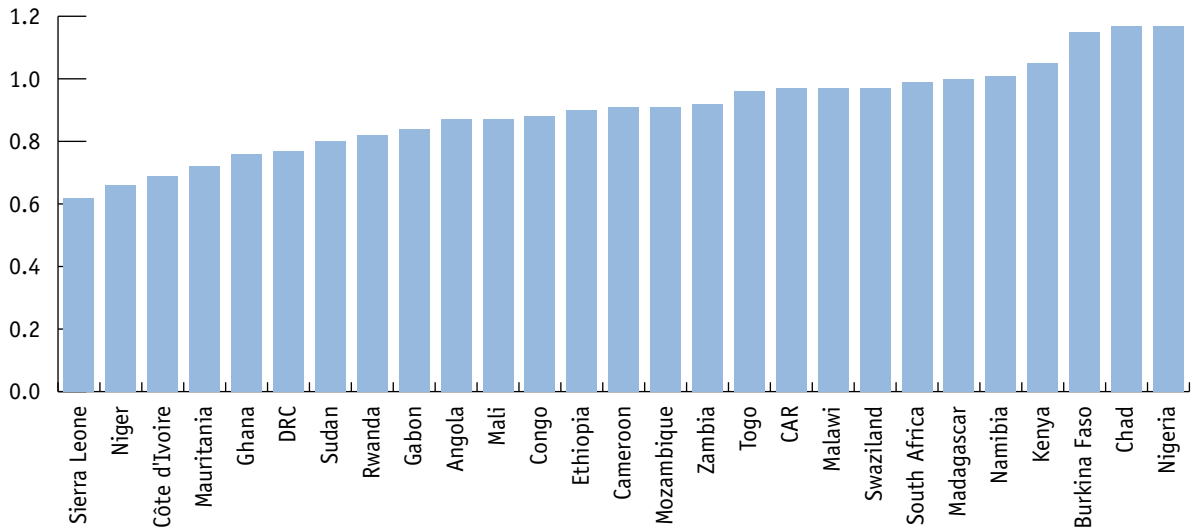
Knowledge of HIV and AIDS and related issues among the youth is not increasing as expected. For instance, less than half of young people living in 15 of the 25 countries with the highest HIV prevalence<sup>55</sup> can correctly answer five basic questions about HIV and its transmission. Although young people aged 15–24 years old have shown gradually improving knowledge about HIV in these 15 countries, this still falls short of the global targets for comprehensive knowledge set in 2001. Urban/ rural disparities in access to technology, mass media, and to mobile telephony contribute to the limited progress of this indicator at all levels.

***Indicator 6.4: Ratio of school attendance of orphans compared to school attendance of non-orphans (aged 10–14 years)***

The ratio of school attendance of orphans to non-orphans aged 10–14 years is an indicator that varies widely among African countries. In 2008, the value of this indicator was above 0.6 for all countries with available data. Moreover, in Burkina Faso, Chad, Kenya, Namibia, and Nigeria, school attendance for orphans was higher than that of non-orphans, as illustrated in *Figure 41*. This indicator is strongly related to Goal 2; for this reason, policies and strategies aiming to achieve universal access to primary education should take this interdependence into account.

55 Botswana, Burundi, Cameroon, CAR, Chad, Congo, Côte d'Ivoire, Guinea-Bissau, Kenya, Malawi, Nigeria, South Africa, Tanzania, Togo, and Zambia.

**Figure 41: Ratio of school attendance of orphans to non-orphans aged 10–14 years in selected African countries, 2008**



Source: Compiled from UNAIDS data (2010).

**Target 6.B: Achieve by 2010 universal access to treatment for HIV/AIDS for all those who need it**

**Indicator 6.5: Proportion of population with advanced HIV infection who have access to antiretroviral drugs**

There were significant advances made in 2009 toward universal access to treatment, care and support services for those with advanced HIV infection in the continent. This was particularly encouraging, given the stagnation of global funding for HIV programs in low and middle-income countries. More people are now receiving antiretroviral therapy (ART) in Africa, as in all regions of the world, than at any previous time in the epidemic's history.

UNAIDS has estimated that nearly 37 percent of people eligible for treatment in Africa (excluding North

Africa) were able to access life-saving medicines in 2009. Three African countries – Botswana, Namibia, and Rwanda – achieved ART coverage of 80 percent or more (Box 6). However, seven high-prevalence countries (Cameroon, Côte d'Ivoire, Ghana, Mozambique, South Africa, Tanzania, and Zimbabwe) had ART coverage of less than 40 percent, and coverage for children was lower than that for adults.

The increased availability of ART, while commendable, exhibits potentially negative features of its own success. First, people with access to treatment live longer and so are more likely to transmit the virus. Second, the fiscal sustainability of ART in the future is not guaranteed due to three factors: (i) although the price of first-line treatment<sup>56</sup> has

<sup>56</sup> The first-line treatment recommended by WHO costs US\$ 139 or US\$ 158, according to the drugs used in the combination (source: WHO, 2011).

### Box 6: Universal access to treatment and care is achievable: the case of Botswana

Botswana has experienced considerable success with its publicly funded ART program. In 2007, coverage of people living with HIV and AIDS and eligible for antiretroviral drugs (ARVs) ranged from 82 percent in the low-coverage areas to well over 90 percent in areas of high coverage. This is a significant improvement from only 7.3 percent in 2003 and 62.7 percent in 2005.

Botswana also has high ARV adherence rates, resulting in secondary resistance rates of less than 4 percent after eight years of ARV provision. Mortality and survival rates in Botswana rival those in developed countries, making Botswana the gold standard for ARV programming, particularly in Southern Africa, where prevalence rates are the highest in the world.

Botswana has also implemented a successful Prevention of Mother To Child Transmission (PMTCT) program. Coverage of this program rose from 34.3 percent in 2003 to 89 percent in 2007. Consequently, rates of transmission of HIV from mother to child dropped tenfold in six years, from more than 40 percent in 2001 to less than 4 percent in 2007. The government plans to ensure universal access to Highly Active Anti-Retroviral Therapy (HAART) for all pregnant women infected with HIV, with the aim of reducing the rate of incidence of children born with HIV to less than 1 percent.

Source: *Botswana National MDG Progress Report, 2010*.

sharply declined in Africa, it still represents a substantive proportion of health budgets; (ii) ART is mainly financed by donors (Global Fund, PEPFAR) in many countries, and (iii) a portion of patients need to shift to the more expensive<sup>57</sup> second-line treatment because they develop resistance to first-line treatment.<sup>58</sup>

The benefits of ART are especially evident in Africa (excluding North Africa), where an estimated 320,000 (or 20 percent) fewer people died of AIDS-related causes in 2009 than in 2004, when ART began to be dramatically expanded. Evidence indicates that disease-specific donor funding,

through vertical funds, positively impacts rates of progress. Predictable and adequate funding to tackle HIV and AIDS focuses on the provision of free treatment, and has proven to be successful in the fight against the disease. Moreover, there has been a paradigmatic shift in funding, since treatment is no longer seen as separate to prevention in terms of budgetary allocation, it is now recognized that treatment enhances prevention.

<sup>57</sup> The second-line treatment recommended by WHO costs US\$ 908 or US\$ 1,025, according to the drug used in the combination (source: WHO 2011).

<sup>58</sup> Between 2007 and 2010, WHO conducted 15 surveys of HIV drug resistance in Burundi, India, Malawi, Mozambique, and Nigeria. These surveys concluded that 6 percent of patients developed resistance to one or more of the drugs of the first-line treatment after 12 months (source: WHO, 2011).

**Target 6.C: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases**

Malaria is still endemic in most African countries and represents a major cause of morbidity and mortality. Indeed, the high prevalence rates of malaria combined with weak capacity to respond to the threat is a principal cause of infant deaths. Overall, the picture is mixed regarding progress toward Target 6.C. Significant advancements have been recorded in a number of areas, such as a reduction in the tuberculosis (TB) death rate in Southern Africa and improved access to insecticide-treated bednets (ITNs) to prevent malaria. However, TB prevalence in West Africa is increasing and the continent overall is largely falling short of this target.

It is good news that international funding for malaria control has risen steeply during the past decade. Disbursements reached their highest ever levels in 2009 at US\$ 1.5 billion. However, new commitments for malaria control appear to have stagnated in 2010, at US\$ 1.8 billion. Unfortunately, the amounts committed to the fight against malaria, while substantial, still fall short of the resources required, which are estimated at more than US\$ 6 billion for the year 2010.

**Indicator 6.6: Incidence and death rates associated with malaria**

Data from the latest *World Malaria Report* (WHO, 2010a) indicate that, out of the 46 African countries with available data, only four (Cape Verde, Egypt, South Africa, and Swaziland) had less than 100 notified cases of malaria per 100,000 population. While there has been a reduction in malaria mortality in a number of countries in the region, including Ethiopia, Mozambique,

Rwanda, Tanzania, and Zambia, much more work remains to be done. The malaria death rate is still high in Africa (*Table 6*). Sixteen countries (Benin, Burkina Faso, Cameroon, Chad, Congo Republic, DRC, Equatorial Guinea, Guinea, Guinea-Bissau, Mali, Niger, Nigeria, Sierra Leone, The Sudan, Zambia, and Uganda) recorded more than 100 deaths per 100,000 population in 2008. On a more positive note, eight countries registered a rate of less than 10 deaths per 100,000 population, namely Botswana, Cape Verde, Djibouti, Egypt, Eritrea, São Tomé and Príncipe, South Africa, and Swaziland.

**Indicator 6.7: Proportion of children under-five sleeping under insecticide-treated bednets**

A scaling up of donor financing to combat malaria has significantly increased access to insecticide-treated bednets (ITNs) over the past three years. By the end of 2010, approximately 289 million ITNs had been delivered to Africa (excluding North Africa), which was sufficient to cover 76 percent of the 765 million persons at risk of catching the disease. However, more effort is required to ensure that ITNs reach all the households where they are needed and that they are used properly and consistently to ensure effectiveness, including significant reductions in the infant mortality rate.

Household surveys undertaken between 2007 and 2009 found that Equatorial Guinea, Ethiopia, Gabon, Mali, Rwanda, Senegal, São Tomé and Príncipe, Senegal, Sierra Leone, Togo, and Zambia had ITN household ownership rates of more than 50 percent. Moreover, the median percentage of children aged less than five years sleeping under an ITN in these countries was 45 percent. This percentage is still far below the World Health

**Table 6: Malaria death rate per 100,000 population of all ages, 2008**

| Country             | Deaths per 100,000 people | Country           | Deaths per 100,000 people |
|---------------------|---------------------------|-------------------|---------------------------|
| Egypt               | 0                         | CAR               | 98                        |
| Cape Verde          | 1                         | Comoros           | 98                        |
| Djibouti            | 1                         | Cameroon          | 103                       |
| Eritrea             | 1                         | Sierra Leone      | 103                       |
| South Africa        | 1                         | Sudan             | 106                       |
| Swaziland           | 1                         | Zambia            | 107                       |
| Botswana            | 3                         | Benin             | 113                       |
| São Tomé & Príncipe | 8                         | Congo Republic    | 120                       |
| Madagascar          | 17                        | Guinea            | 140                       |
| Namibia             | 19                        | Guinea-Bissau     | 142                       |
| Zimbabwe            | 33                        | Uganda            | 149                       |
| Rwanda              | 40                        | Equatorial Guinea | 150                       |
| Ethiopia            | 44                        | Nigeria           | 151                       |
| Somalia             | 65                        | Niger             | 154                       |
| Burundi             | 73                        | DRC               | 156                       |
| Ghana               | 74                        | Burkina Faso      | 163                       |
| Malawi              | 75                        | Mali              | 176                       |
| Mauritania          | 80                        | Chad              | 181                       |
| Mozambique          | 80                        |                   |                           |
| Kenya               | 81                        |                   |                           |
| Gabon               | 83                        |                   |                           |
| Senegal             | 83                        |                   |                           |
| Tanzania            | 84                        |                   |                           |
| Liberia             | 87                        |                   |                           |
| Côte d'Ivoire       | 88                        |                   |                           |
| Togo                | 88                        |                   |                           |
| Angola              | 97                        |                   |                           |
| Gambia              | 97                        |                   |                           |

Note: Data not available for Algeria, Lesotho, Libya, Mauritius, Morocco, Seychelles and Tunisia.

Source: WHO (2010a).

Assembly target of 80 percent, partly because of low access to ITNs in some of the largest African countries. Thus, more effort is needed to ensure that services reach households, especially the most vulnerable.

**Indicator 6.8: Proportion of children under-five with fever who are treated with appropriate antimalarial drugs**

Information from manufacturers indicates that the number of Artemisinin-based Combination Therapy (ACT) courses provided to malaria patients has increased every year since 2005. By the end of 2009, 11 African countries were providing sufficient courses of ACTs to cover more than 100 percent of malaria cases seen in the public sector, while a further eight African countries delivered sufficient courses to treat 50–100 percent of cases. These figures represent a substantial increase since 2005, when only five countries were able to provide sufficient courses of ACT to cover more than 50 percent of patients treated in the public sector. However, information on access to treatment is generally incomplete, particularly for the significant proportion of patients treated in the private sector. Moreover, most of the countries that still allow the marketing of monotherapies (for which patients are prone to develop resistance) are located in Africa.

**Indicator 6.9: Incidence, prevalence, and death rate associated with tuberculosis<sup>59</sup>**

The number of persons infected with TB continues to increase globally, while Africa experiences

incidence rates that are much higher than in other parts of the world (WHO, 2010b). The rate is particularly elevated in the Southern African subregion, where it is closely linked to high HIV and AIDS prevalence rates. Between 2005 and 2008, TB rates leveled off across all African subregions, except for East Africa, where it showed a slight decline (*Figure 42*).

Though TB poses a significant health risk to African populations, particularly in countries with high HIV and AIDS prevalence rates, a decline in TB prevalence rates in Central, East, Southern, and West Africa was recorded in 2004. More pronounced declines in prevalence rates were observed in Central and in East Africa, compared with other subregions (*Figure 43*).

Overall, it can be said that the death rate from TB is slowly decreasing across most of Africa. The exception is in West Africa, where it increased slightly from 2007 to 2008, making it the subregion with the highest rate of TB. The Southern African subregion has witnessed the best performance for this indicator, due to a sharp decline in South Africa's<sup>60</sup> TB death rate – from 220 deaths to 39 deaths per 100,000 over the 2006–2008 period (*Figure 44*).

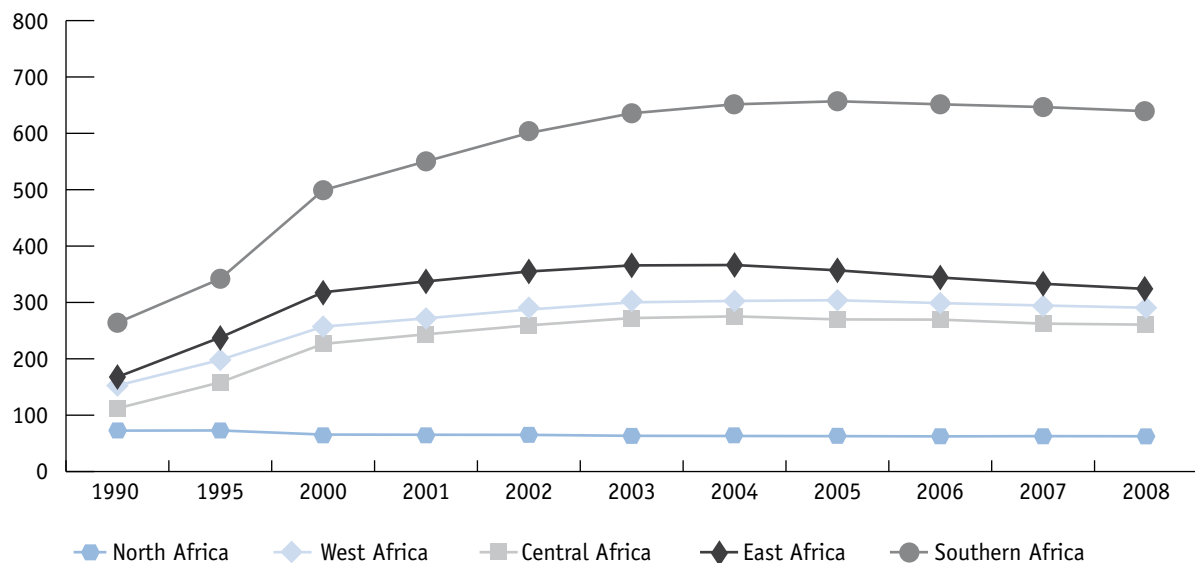
In order to fight malaria and TB effectively, and thus to accelerate progress toward Target 6.C, a number of issues across the whole health system have to be addressed. First, the funding, quality,<sup>61</sup>

<sup>59</sup> Incidence represents the number of new infections, while prevalence represents the total number of infections (old and new). Incidence is a better indicator of the evolution of the epidemic, as it accounts only for new infections, while prevalence also accounts for deaths related to the infection.

<sup>60</sup> Around 35 percent of the population of the Southern African subregion is made up of South African nationals.

<sup>61</sup> WHO found that almost 30 percent of antimalarial medicines in six African countries were counterfeit and failed to meet international quality standards.

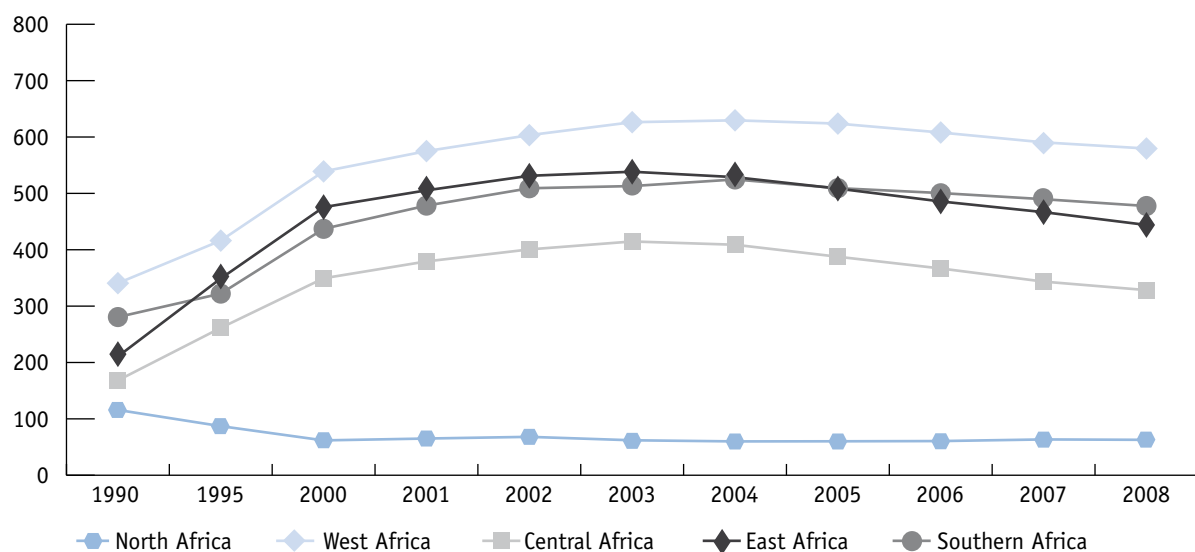
**Figure 42: Tuberculosis incidence rate per 100,000 population by African subregion, 1990–2008**



Source: Compiled from UNSD data (updated in June 2010).

Note: For the purposes of subregional analysis, the data are weighted by population size.

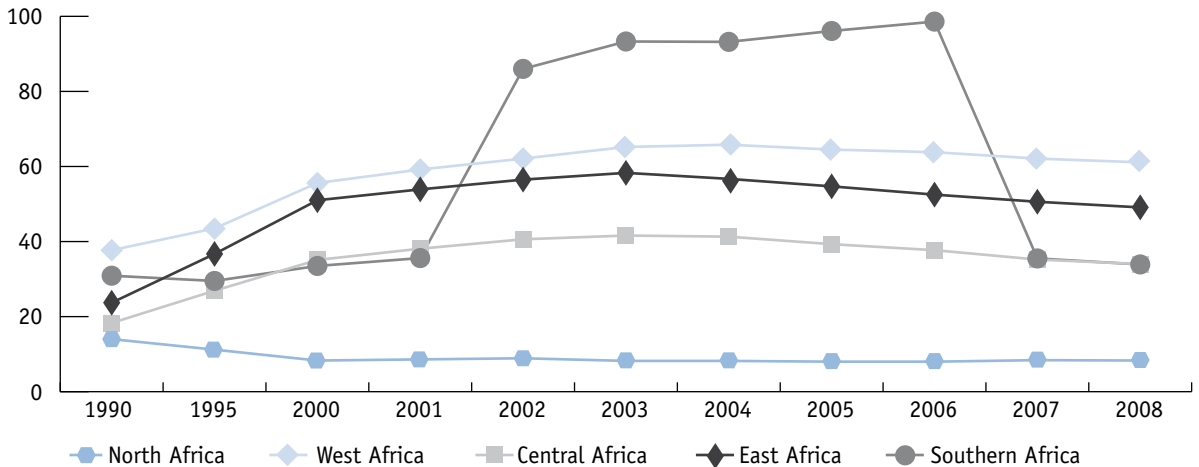
**Figure 43: Tuberculosis prevalence rate per 100,000 population by African subregion, 1990–2008**



Source: Compiled from UNSD data (updated in June 2010).

Note: For the purposes of subregional analysis, the data are weighted by population size.

**Figure 44: Tuberculosis death rate per 100,000 population by African subregion, 1990–2008**



Source: Compiled from UNSD data (updated in June 2010).

Note: For the purpose of subregional analysis, the data are weighted by population size.

and efficacy<sup>62</sup> of medicines need to be better monitored. In particular, laboratory capability for malaria diagnosis, TB culture, and Directly Observed Short-Course Treatment (DOTs) is weak and needs to be strengthened.

Second, human resources in the sector are still insufficient to address the African health burden, in terms of numbers, skills, and remuneration. For example, WHO estimates that the minimum recommended health workforce density to achieve the health-related MDGs is 2.5 health workers per 1,000 population. However, for the Africa region, the average health workforce density is estimated at 0.8 workers per 1,000 population.

<sup>62</sup> Resistance is a big challenge for TB treatment. There are several causes, including inadequate treatment regimes, inadequate dosage, poor quality drugs, over-the-counter medications, and poor adherence to treatment.

Finally, public health partnerships with the private sector need to be enhanced and better monitored. The situation is especially pressing because a significant part of the population seeks care from the private sector with over-the-counter medicines and monotherapies that can lead to resistance, yet regulatory mechanisms are not in place to address this problem. As a result, comprehensive monitoring of program performance remains a challenge.

## GOAL 7: ENSURE ENVIRONMENTAL SUSTAINABILITY

Environmental preservation is an essential foundation for sustainable development and poverty alleviation. As such, failure to achieve biodiversity stability will undermine social and economic development efforts. Furthermore, forests play a critical role in sustaining the health of the environment by