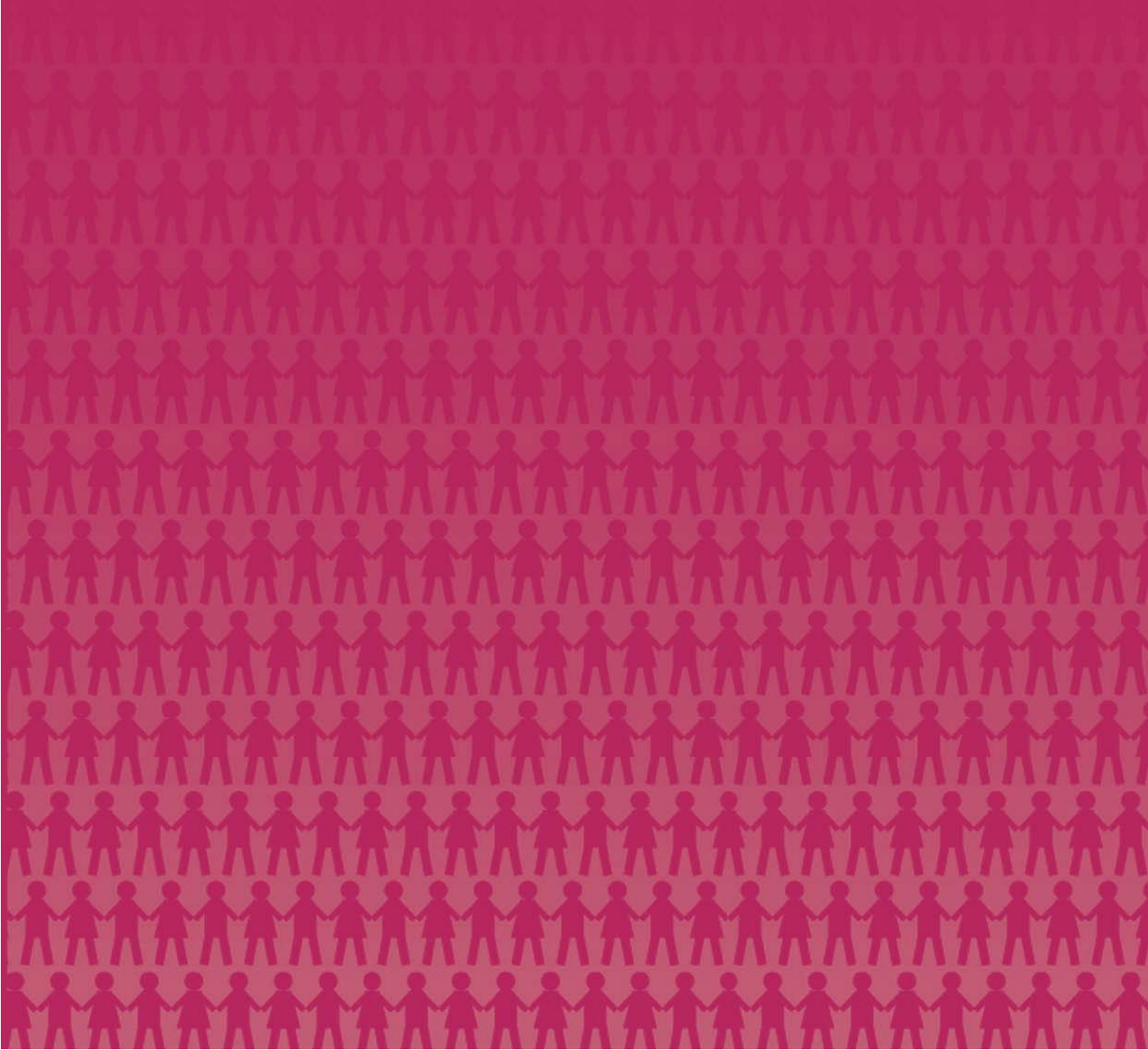


PART 1.

Global Progress 2003–2005



1. Scaling up access to HIV treatment

Global efforts to expand access to antiretroviral therapy increased significantly as a result of “3 by 5”, with substantial gains in the numbers of people receiving life-saving antiretroviral therapy achieved in every region of the world. This section provides an overview of global progress and country efforts that took place between the time the “3 by 5” strategy was launched in 2003 and the end of 2005.

1.1 Number of people receiving treatment

From a baseline of about 400 000 people receiving antiretroviral therapy in low- and middle-income countries when WHO and UNAIDS launched the “3 by 5” strategy in December 2003, WHO estimates that more than 1.3 million people were receiving treatment at the end of December 2005 (Table 1). This represents a more than tripling of the number of people receiving treatment over the two-year reporting period. Overall, antiretroviral therapy coverage in low- and middle-income countries increased from 7% at the end of 2003 to 12% at the end of 2004 and 20% at the end of 2005. Over the past year, the number of people receiving treatment globally increased by about 300 000 every six months. Scale-up in Africa was most dramatic, increasing from 100 000 people receiving treatment at the end of 2003 to 310 000 at the end of 2004 and 810 000 at the end of 2005. More than half of all people now receiving treatment in low- and middle-income countries are living in Africa compared with one quarter of those receiving treatment two years ago.

Table 1. Estimated number of people receiving antiretroviral therapy, people needing antiretroviral therapy and percentage coverage in low- and middle-income countries according to region, December 2003 to December 2005^a

Geographical region	Estimated number of people receiving antiretroviral therapy, December 2005 [low estimate–high estimate] ^b	Estimated number of people 0–49 years old needing antiretroviral therapy, 2005 ^a	Antiretroviral therapy coverage, December 2005 ^c	Estimated number of people receiving antiretroviral therapy, December 2004 [low estimate–high estimate] ^b	Estimated number of people receiving antiretroviral therapy, December 2003 [low estimate–high estimate] ^b
Sub-Saharan Africa	810 000 [730 000–890 000]	4 700 000	17%	310 000 [270 000–350 000]	100 000 [75 000–125 000]
Latin America and the Caribbean	315 000 [295 000–335 000]	465 000	68%	275 000 [260 000–290 000]	210 000 [160 000–260 000]
East, South and South-East Asia	180 000 [150 000–210 000]	1 100 000	16%	100 000 [85 000–115 000]	70 000 [52 000–88 000]
Europe and Central Asia	21 000 [20 000–22 000]	160 000	13%	15 000 [13 000–17 000]	15 000 [11 000–19 000]
North Africa and the Middle East	4 000 [3 000–5 000]	75 000	5%	4 000 [2 000–6 000]	1 000 [750–1 250]
Total	1 330 000 [1 200 000–1 460 000]	6 500 000	20%	700 000 [630 000–770 000]	400 000 [300 000–500 000]

Note: some numbers do not add up due to rounding.

^a See Annex 2 for an explanation of the methods used.

^b Data on children are included.

^c The coverage estimate is based on the estimated number of people receiving antiretroviral therapy and need for antiretroviral therapy.

By the end of 2005, data reported from 18 countries⁴ indicate that they had met the “3 by 5” target of providing treatment to at least half of those who need it. Annex 1 shows individual country figures.

⁴ Countries with at least 1000 people needing antiretroviral therapy that are treating at least half of those in need. These are Argentina, Botswana, Brazil, Chile, Costa Rica, Cuba, El Salvador, Guyana, Jamaica, Mexico, Namibia, Panama, Peru, Poland, Thailand, Uganda, Uruguay and Venezuela.

WHO/UNAIDS modelling indicates that the expansion of access to treatment since the end of 2003 led to between 250 000 and 300 000 deaths being avoided in 2005. The full effects of scale-up, especially during 2005, will only be seen in 2006 and subsequent years.

Fig. 1. Number of people receiving antiretroviral therapy in low- and middle-income countries according to region, end 2002 to end 2005

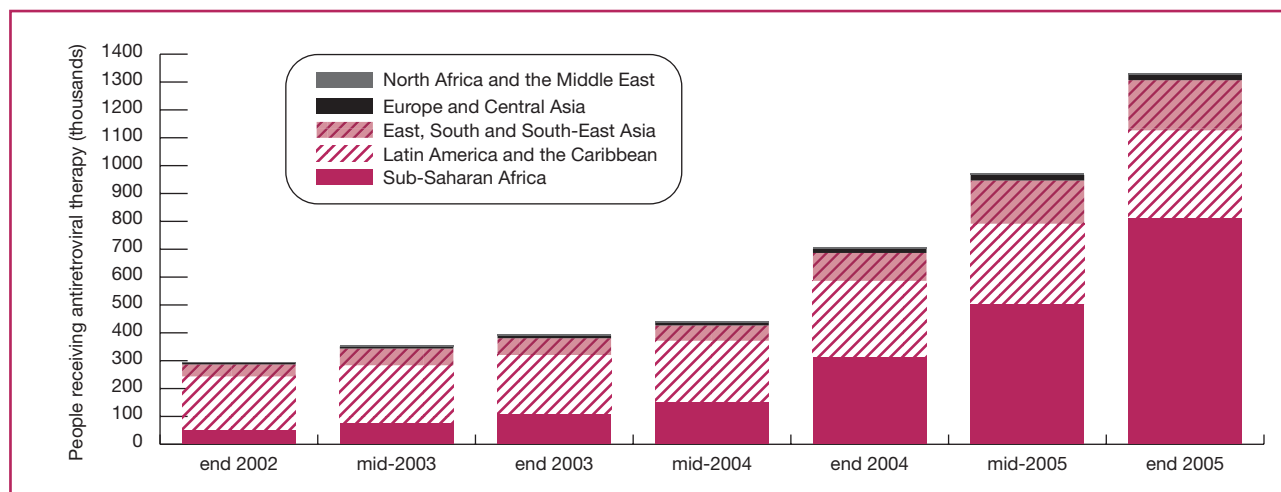


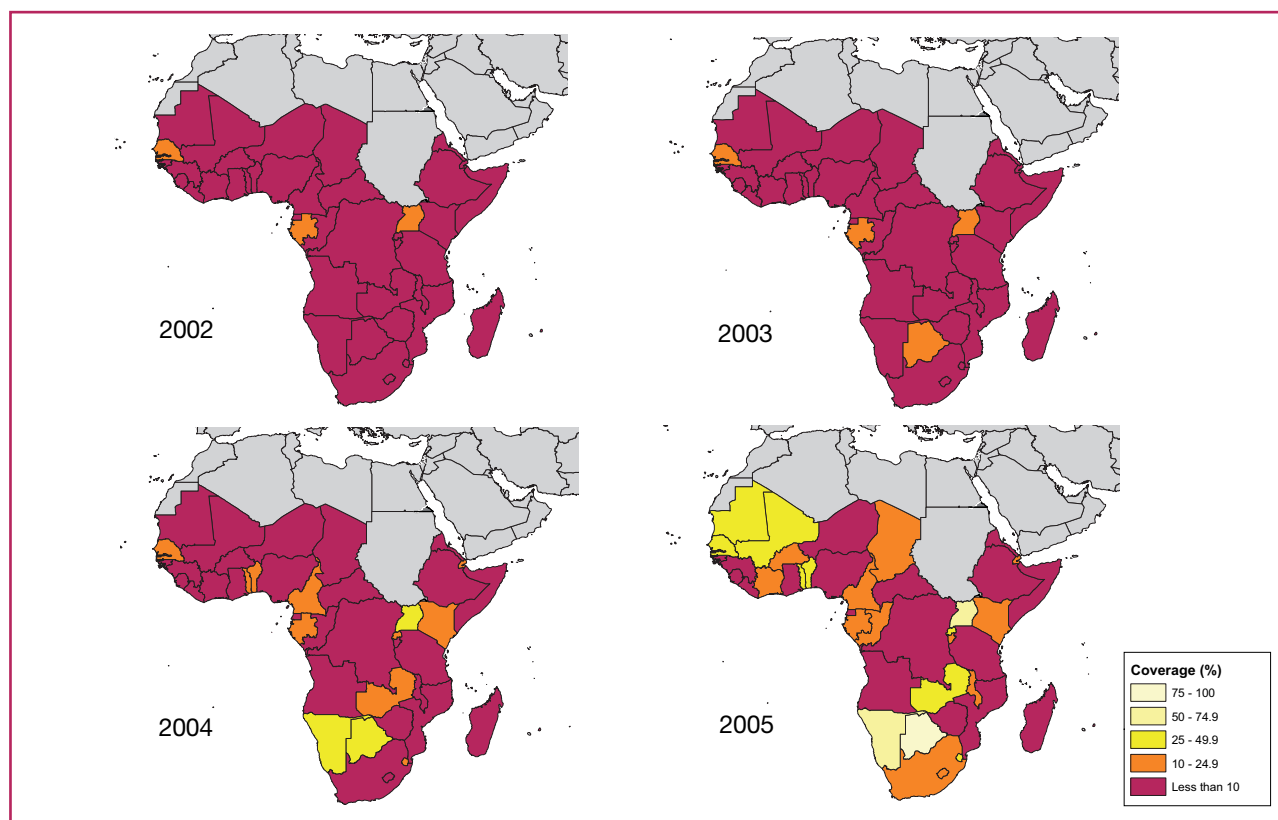
Figure 1 shows the increase in the number of people receiving treatment by geographical region. The most significant increase has occurred in sub-Saharan Africa, where the number of people receiving treatment more than doubled from 310 000 to 810 000 within the last year. Over the two-year reporting period, the number of people receiving treatment in this region increased more than eight-fold. Coverage has risen to 17% from just 2% in 2003, with about one sixth of the 4.7 million people who need treatment now receiving it. Fig. 2 shows the rapid scale-up within Africa during the past two years but also shows major differences in progress between countries. Coverage has increased very rapidly to levels of 50% or higher in some countries, such as Botswana and Uganda, while others still have coverage levels below 10%. South Africa now accounts for one quarter of those receiving treatment in the region, with approximately half provided through private sector facilities.

The number of people receiving antiretroviral therapy in East, South and South-East Asia has continued to increase, up to 180 000 (estimated coverage 16%) from 70 000 people receiving treatment two years earlier. Thailand has been a major driver of this increase, particularly during 2004 and the first half of 2005. India, which accounts for more than 70% of the total need for treatment in this region, still has a coverage level well below 10%, most of which is provided through private sector facilities.

In Latin America and the Caribbean, the number of people receiving treatment has increased gradually to 315 000 (estimated coverage 68%), up from 210 000 at the end of 2003. Treatment coverage varies considerably between countries in this region. For example, Argentina, Brazil and Mexico have high levels of coverage, whereas the Dominican Republic, Haiti and Nicaragua have coverage levels below 25%. In this region, 13 countries with over 1000 people who need treatment are treating at least half of those in need.

In the low- and middle-income countries in Europe and central Asia and in North Africa and the Middle East, progress has been less dramatic. Some 21 000 people in Europe and Central Asia and 4000 people in North Africa and the Middle East are receiving treatment as compared to 15 000 and 1000 respectively at the end of 2003. An important factor is that virtually all countries in these regions are experiencing concentrated and low-level epidemics, which involve difficult-to-reach populations such as injecting drug users and sex workers.

Fig. 2. People in sub-Saharan Africa receiving antiretroviral therapy as a percentage of those in need, 2002–2005



At the end of 2005, funding provided by the United States President's Emergency Plan for AIDS Relief was supporting programmes treating 471 000 people. Programmes supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria were providing treatment to 384 000 people. However, according to the methods developed by the Emergency Plan and the Global Fund, approximately 214 000 people were receiving treatment through programmes jointly financed by the two initiatives. Together, the two initiatives were therefore supporting 641 000 individual people receiving treatment.

Estimates based on drug disbursement from the Accelerating Access Initiative, which includes seven research-based pharmaceutical companies,⁵ show that, by the end of December 2005, more than 716 000 people in low- and middle-income countries were receiving treatment with at least one antiretroviral drug provided by the Accelerating Access Initiative companies. The total number of people receiving treatment using drugs produced by the Accelerating Access Initiative companies increased by 77% from the previous year.

Annex 2 describes the methods used to estimate the number of people receiving antiretroviral therapy.

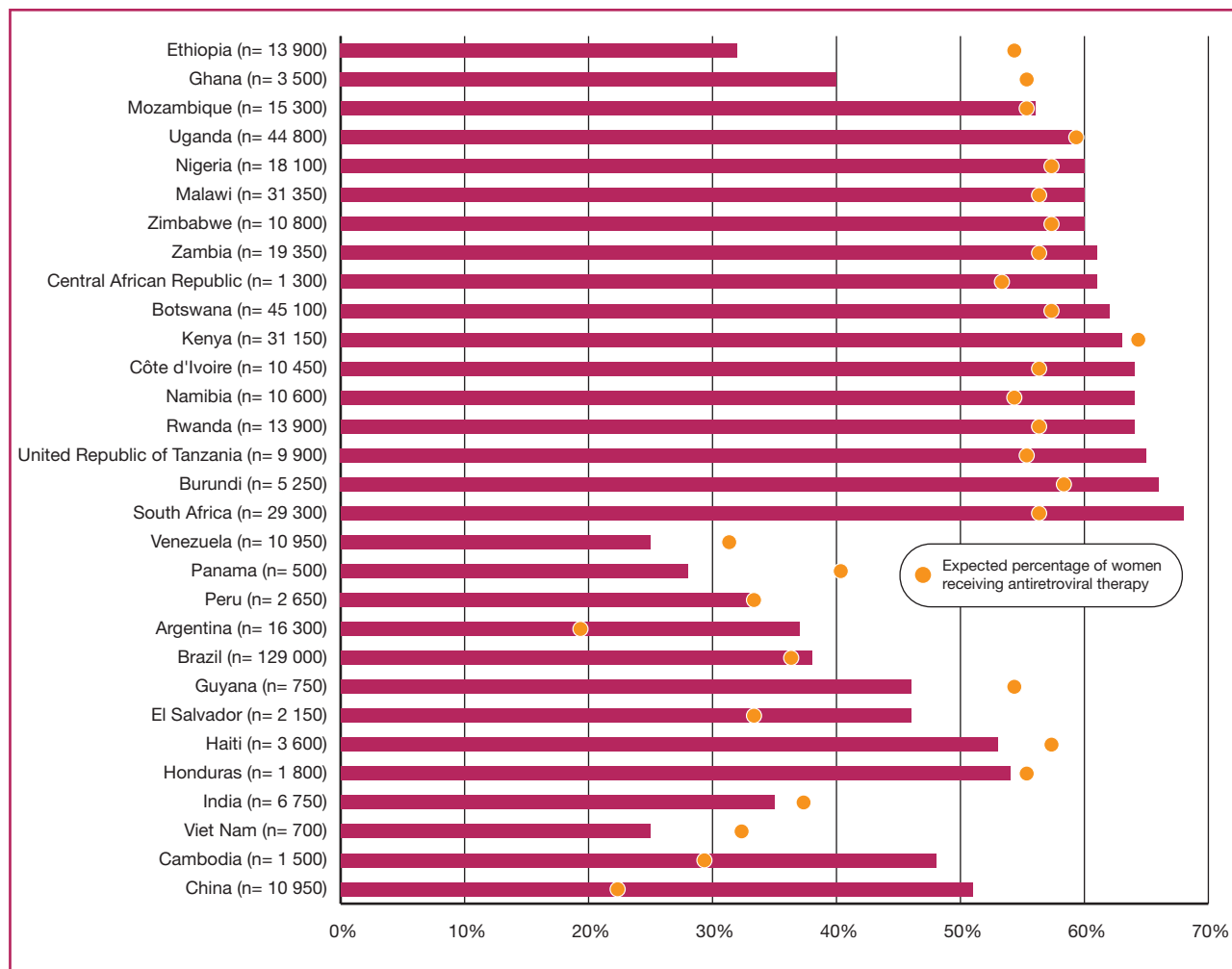
1.2 Who is getting treatment?

Countries have made significant progress in reporting disaggregated data on access to antiretroviral therapy for women and children. By the end of 2005, most countries with large numbers of people receiving treatment reported on the numbers of men, women and children separately. Nevertheless, monitoring the extent to which the current scale-up of HIV treatment and care is reaching women, children and vulnerable populations remains a challenge.

⁵ Abbott Laboratories, Boehringer-Ingelheim, Bristol-Myers Squibb, Gilead Sciences, GlaxoSmithKline, F. Hoffmann–La Roche and Merck & Co. Inc.

Current evidence shows no systematic gender bias in access to antiretroviral therapy. In some countries more women receive treatment, in others more men. In most countries, the proportion of people receiving treatment who are women corresponds well with the expected percentage of women receiving treatment according to the type of epidemic (25 of the 30 countries in Fig. 3). Ethiopia and Ghana are examples of countries with a possible male bias: the percentage of women among those receiving treatment is well below 50%, whereas at least half of those needing treatment are expected to be women. Burundi, Cambodia, China, El Salvador and South Africa show the reverse: women comprise a higher proportion of the adults receiving treatment than expected.

Fig. 3. Percentage of women among all adults receiving antiretroviral therapy versus the expected percentage based on country or site reports, 2005^a



^a The expected percentage of women receiving antiretroviral therapy is based on the percentage of people living with HIV/AIDS who are women. Values are sorted in ascending order within each WHO region.

One theory to account for the differences observed between countries focuses on the fact that men and women may have different entry points for treatment and different patterns in uptake of testing. For example, women's stronger connections to community networks in some settings may mean that they have more information about the availability of testing and treatment and how to access it, or they may be accessing treatment through sites providing services for preventing mother-to-child transmission or antiretroviral therapy that are integrated into public health systems. In contrast, men may have more access through workplace programmes in some countries. A recent study in Zambia showed that, even when they are receiving antiretroviral therapy, many women experience formidable barriers to adherence, including fear of disclosure, domestic violence and being required to share treatment with a non-tested husband.⁶ Although

⁶ Zulu KP. Fear of HIV serodisclosure and ART success: the agony of HIV positive married women in Zambia. *3rd IAS Conference on HIV Pathogenesis and Treatment 2005, Rio de Janeiro, Brazil, 24-27 July 2005.* (Abstract TuPe11.9CO3; <http://www.hiv-knowledge.org/iasmeps/119cultu.htm>, accessed 13 February 2006).

major differences in access to treatment based on gender have not been widely observed, this issue should continue to be monitored both to identify and eliminate gender bias where possible and to broadly improve understanding of how and why individuals access treatment.

More attention is being paid to the need to increase access to treatment and care for children. An estimated 660 000 children younger than 15 years needed treatment in 2005, just over 10% of the total number of people in need in low- and middle-income countries. Nine out of ten children needing treatment live in sub-Saharan Africa. Children comprise about 7% of all people receiving treatment in sub-Saharan Africa and about 4% in Asia, and in Latin America and the Caribbean the median value of nine countries is 8%. Although these figures indicate some progress during the last year, they should be interpreted with caution. Countries that do not provide data on children are more likely to have fewer children receiving treatment than countries that do provide such data. Table 2 summarizes data from 27 countries. Data on children need to be collected and reported systematically in all countries.

Table 2. Percentage of people receiving antiretroviral therapy who are children in selected countries, end 2005

Sub-Saharan Africa		Asia		Latin America and the Caribbean	
Ghana	3%	China	4%	Peru	2%
Nigeria	3%	India	4%	Venezuela	4%
Côte d'Ivoire	5%	Viet Nam	4%	El Salvador	5%
Malawi	5%	Cambodia	11%	Brazil	6%
Mozambique	6%			Guyana	8%
Rwanda	7%			Haiti	8%
Namibia	7%			Argentina	10%
Zimbabwe	7%			Honduras	12%
Kenya	8%			Panama	15%
South Africa	8%				
Zambia	8%				
Central African Republic	9%				
Uganda	9%				
United Republic of Tanzania	11%				
Median	7%	Median	4%	Median	8%

Data on both children (<15 years) and adults (15–49 years) were available for about 500 000 people from 27 countries. Data for the other regions were not available.

Researchers are only beginning to examine utilization patterns related to socioeconomic status, urban versus rural location and barriers to uptake for vulnerable groups. However, overwhelming evidence shows that urban residents have higher levels of access than rural residents in countries with generalized epidemics, as most facilities providing treatment are located in urban areas, a situation that will only change if concerted efforts are made to decentralize treatment sites.

A review of antiretroviral therapy in low- and middle-income countries⁷ reveals that about 36 000 injecting drug users were receiving antiretroviral therapy by the end of 2004: 30 000 in Brazil and 6000 distributed among 45 other countries. In eastern Europe and central Asia, injecting drug users account for more than 70% of the people living with HIV/AIDS but represent only about 24% of the people receiving antiretroviral therapy.

⁷ Aceijas C et al. Antiretroviral treatment for injecting drug users in developing and transitional countries: one year before the end of "3 by 5". *Addiction*.

1.3 Expansion of treatment sites

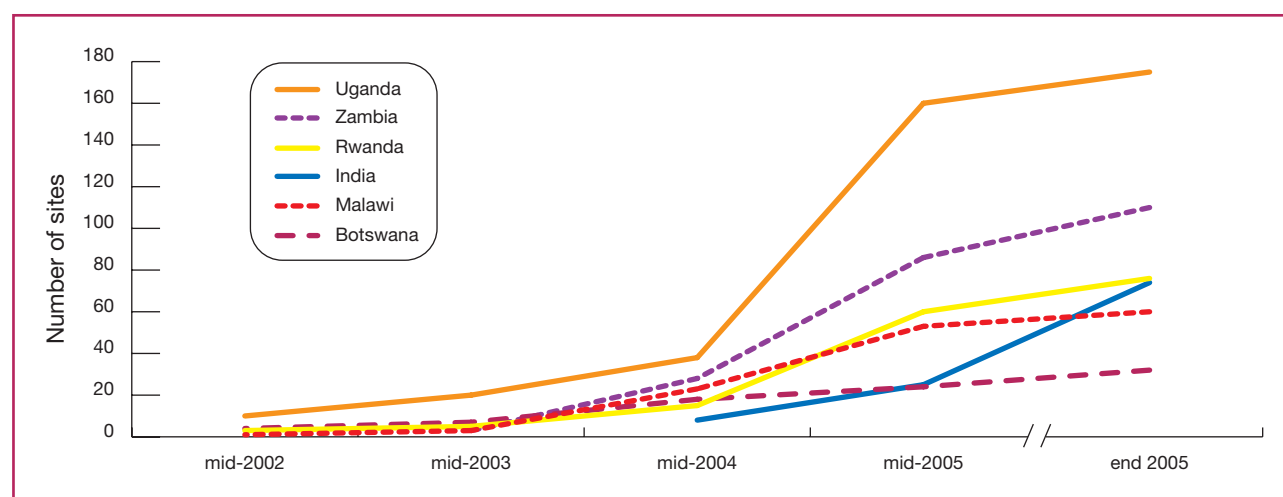
WHO estimated that at least 500 sites were providing antiretroviral therapy in low- and middle-income countries in June 2004, not including private outlets.⁸ By the end of 2005, low- and middle-income countries had an estimated more than 5100 sites for antiretroviral therapy service delivery (Table 3).⁹ The average client volume per site is at least twice as high in sub-Saharan Africa (399 people per site) as in most other parts of the world. The volume per site is 174 in Latin America and the Caribbean and 99 in East, South and South-East Asia. Some countries separately report private-sector data or include the private-sector figures in the overall numbers (see footnotes in Annex 2). Data from individual physicians are generally not included.

Table 3. Number of antiretroviral therapy sites and average number of people receiving treatment in low- and middle-income countries according to region, end 2005

Region	Number of reported antiretroviral therapy sites	Estimated number of sites for countries that did not report data	Total	Average number of people receiving treatment per site
Sub-Saharan Africa	1 646	118	1 764	399
Latin America and the Caribbean	1 557	254	1 811	174
East, South and South-East Asia	1 212	35	1 247	99
Europe and Central Asia	3	24	27	117
North Africa and the Middle East	262	0	262	78
Total	4 680	431	5 111	228

A survey by WHO, UNAIDS and partners in five African countries and India (Fig. 4) highlights the very rapid expansion of public-sector antiretroviral therapy services that has occurred in some countries since “3 by 5” was launched.¹⁰

Fig. 4. Number of antiretroviral therapy service delivery sites in five African countries and India, 2002–2005



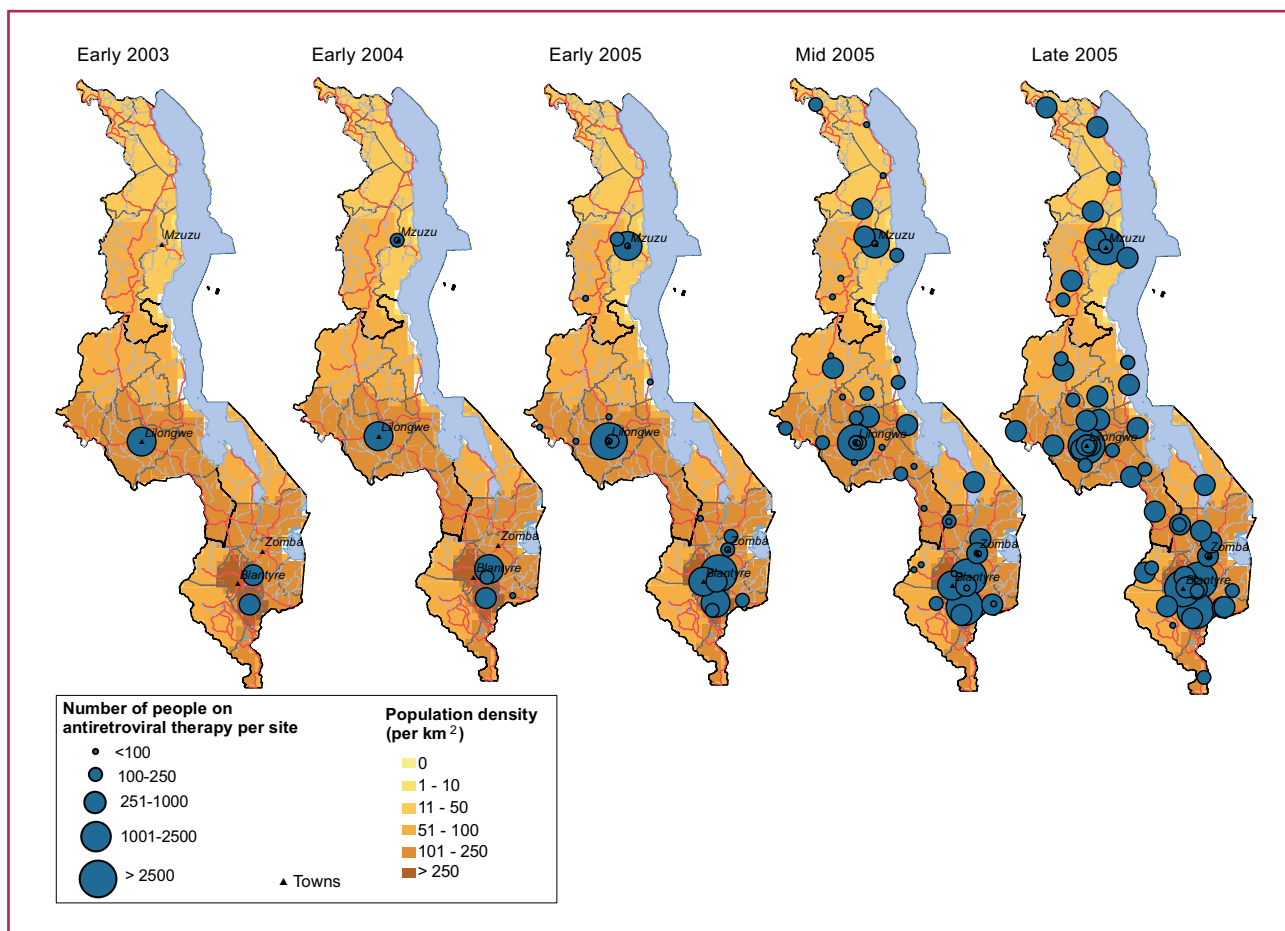
⁸ Public sector data often includes non-profit sector sites but does not include for-profit sites.

⁹ Most countries have reported the number of sites to WHO, mostly public service and service delivery sites supported by nongovernmental organizations. If no data on the number of sites were reported, the number of people receiving treatment was used to estimate the number of sites.

¹⁰ *Monitoring the output and outcomes of anti-retroviral therapy (ART) programmes. WHO, UNAIDS and partners. World Health Organization, 2005* (<http://www.who.int/healthmetrics/library/STARTOMS%20meeting%20report.pdf>, accessed 13 February 2006).

Malawi, for example, which began providing antiretroviral therapy in three facilities in January 2003, reported that 60 sites were providing antiretroviral therapy by September 2005 (Fig. 5). The number of antiretroviral therapy sites in Zambia increased from three in the first quarter of 2003 to more than 110 in just over two years. Although Botswana initially had extremely low human resource capacity, the national AIDS programme was able to mobilize international support to drastically increase the number of health facilities that provide antiretroviral therapy from seven sites in July 2003 to 32 public-sector sites by the fourth quarter of 2005. Rwanda, the smallest of the countries in the survey, has also performed well, having established 76 fully functioning antiretroviral therapy sites by September 2005 versus 16 sites at the end of 2003. Annex 1 shows the number of antiretroviral therapy sites by country in the fourth quarter of 2005.

Fig. 5. Scaling up of antiretroviral therapy in Malawi, 2003 – 2005



Where the epidemic is generalized (prevalence 1% or more), as in the five African countries in the survey, scaling up antiretroviral therapy has typically followed a pattern of site expansion from major urban, to urban, to rural to remote rural populations. In these five countries, antiretroviral therapy was initially only provided in referral hospitals in major cities. In 2004 rapid expansion to district hospitals in other urban areas occurred: for example, Uganda added 33 000 people receiving antiretroviral therapy in one year.

Most of the countries surveyed now have sites that report more than 1000 people receiving antiretroviral therapy ("mega-sites"). Some mega-sites serve more than 3000 people. Most mega-sites are urban, mostly in major hospitals, but some are in successful rural programmes. The proportion of the total number of people receiving antiretroviral therapy through mega-sites is declining over time, however, as more sites are opened.

Most countries with a generalized epidemic have linear growth in the number of people seeking antiretroviral therapy. This indicates that, although stigma and lack of perceived benefits of treatment may slow down the uptake of antiretroviral therapy, especially in the early stages of scale-up, demand is not the limiting factor

in scale-up. Instead, the rate of increase is determined primarily by supply-side factors such as drug supply, funding, identifying HIV status and human resource capacity.

It is reasonable to expect that most countries with generalized epidemics that are scaling up antiretroviral therapy programmes will experience quite similar phases of geographical and system roll-out to the five African countries in this survey, offering lessons for planning and benchmarking.

In low-level and concentrated epidemics, however, building awareness and creating demand for treatment are probably more important determinants of the pace of scale-up, as HIV is generally concentrated among vulnerable populations such as sex workers, injecting drug users and men who have sex with men who have more barriers to overcome to utilize treatment services.

1.4 Treatment outcomes

Research studies in many low- and middle-income countries have reported the dramatic impact of treatment on survival rates. In a multi-country study by the Antiretroviral Therapy in Lower Income Countries (ART-LINC) Collaboration,¹¹ responses to antiretroviral therapy were compared in two distinct groups of treatment-naïve people living with HIV/AIDS: 4810 from low-income settings in 18 countries in Africa, Asia and South America and 22 217 from high-income settings in Europe and North America. The researchers found that immune and viral responses were good and mortality reductions were similar in high- and in low-income settings. The main difference was higher early mortality in low-income settings, possibly because a larger proportion there presented with severe opportunistic infections and in a later stage of disease.

Similarly, a recent study in South Africa¹² reported that 93% of people living with HIV/AIDS were still alive after one year of treatment. Most deaths occurred within the first months of treatment or before initiation, highlighting the need to minimize delays in treatment initiation once eligibility for treatment has been established, as well as the importance of starting treatment before the terminal stage of disease.

Further analysis of the ART-LINC study shows that the adjusted hazard ratio of mortality for low-income versus high-income settings declined from 4.3 (95% confidence interval 1.6–11.8) during the first month to 1.5 (95% confidence interval 0.7–3.0) during months 7–12, thus confirming the good results of timely antiretroviral therapy.

1.5 Drug procurement and supply systems

Health systems must provide an uninterrupted supply of antiretroviral drugs to maximize the chances of good treatment outcomes and prevent the emergence of drug-resistant virus. In many countries, however, the systems to procure and distribute essential medicines of any kind to the district and facility levels have been chronically weak and, in some cases, virtually nonexistent.

Resources made available for scaling up antiretroviral therapy have provided an important opportunity to strengthen these systems. About half of the US\$ 3.5 billion allocated as of the end 2005 by the Global Fund, for example, has been designated for procuring drugs, and health care commodities for HIV/AIDS, tuberculosis (TB) and malaria. A major focus of the technical support being provided to countries, for example by the AIDS Medicines and Diagnostics Service (AMDS),¹³ has therefore been to ensure that investments made in systems to procure and distribute antiretroviral drugs also build local capacity to procure and supply other essential medicines.

11 Dabis F, Schechter M, Egger M. Mortality of HIV-1-infected patients during the first year of potent antiretroviral therapy: comparative analysis of databases from low- and high-income countries. *Lancet*, 2006, 367:817-24.

12 Lawn SD et al. Early mortality among adults accessing a community-based antiretroviral service in South Africa: implications for programme design. *AIDS*, 2005, 19:2141–2148.

13 As of December 2005, the AMDS consisted of 20 partner organizations. These were Centrale Humanitaire Medico-Pharmaceutique, William J. Clinton Foundation, Commonwealth Pharmaceutical Association, Crown Agents, Global Fund to Fight AIDS, Tuberculosis and Malaria, Ecumenical Pharmaceutical Network, ESTHER (Ensemble pour une Solidarité Thérapeutique Hospitalière En Réseau), International Pharmaceutical Federation, International Dispensary Association, John Snow, Inc., Management Sciences for Health, Partnership for Supply Chain Management, ReMed, UNAIDS, UNDP, UNFPA, UNICEF, United States Agency for International Development, WHO and World Bank. For more information on AMDS, please visit <http://www.who.int/3by5/amds/en>.

As part of the “3 by 5” strategy, WHO established the AMDS as a network of agencies specializing in procurement and supply management for drugs and diagnostics, strategic information and technical assistance to countries. To help countries obtain the most competitive prices for essential medicines and other supplies, the AMDS produces regular reports on drug prices and sourcing information, drawing on a broad range of market data from pharmaceutical producers around the world, and surveys the world market for active pharmaceutical ingredients, the raw materials for antiretroviral drugs. AMDS also maintains the Global Price Reporting Mechanism, which includes transaction data on more than US\$ 125 million worth of antiretroviral drug procurement. AMDS partners publish this information for the general public.

The AMDS also undertakes comprehensive market intelligence gathering, assisting countries in making sound choices in drug purchasing and advising governments on patent licensing. The AMDS maintains the most comprehensive map available of patent holdings for antiretroviral drugs in 85 countries. This map, which WHO first developed in 1999, is now regularly updated in partnership with the European Patent Office and is an invaluable resource for countries when determining which drugs can be purchased from generic manufacturers. AMDS technical experts also assist low- and middle-income countries with forecasting demand to prevent the wasteful purchase of expensive and unnecessary stocks of expensive drugs and supplies.

AMDS partners have advocated for reductions in the cost of drugs and diagnostics and worked to make supply and procurement practices transparent. By publishing price information, fostering price competition, lobbying to reduce import duties, supporting local production where possible and advocating for the inclusion of World Trade Organization and TRIPS (Agreement on Trade-related Aspects of Intellectual Property Rights) safeguards in national legislation, AMDS partners are helping to remove the remaining procurement and supply obstacles to treatment access.

Between December 2004 and December 2005, AMDS partners helped to train 504 medicine supply-chain managers – including both governments and nongovernmental organizations – from 74 countries to develop procurement and supply management plans. The training, undertaken in four cities in sub-Saharan Africa as well as in Lebanon and Thailand, was timed to coincide with Global Fund grant application deadlines and addressed critical issues such as drug selection, procurement, logistics and management of information systems, compliance with quality assurance guidelines and intellectual property rights. The training helped principal recipients to reduce the time needed to prepare procurement and supply management plans from many months to a few weeks and helped to unblock US\$ 500 million in Global Fund grants.

A major contract has recently been awarded to a consortium to provide technical support and strategic information on procurement and supply management in countries receiving funding from the United States President’s Emergency Plan for AIDS Relief. The Supply Chain Management System was established in September 2005 and includes 17 institutions, several of whom also participate in the AMDS.

As the examples of Cambodia and Burkina Faso show (Boxes 1 and 2), improvements in antiretroviral therapy procurement and supply systems which result from the contributions of AMDS and Supply Chain Management System partners are also helping countries to deliver medicines for a range of other diseases as well as HIV/AIDS.

Box 1. Strengthening procurement and supply of essential medicines in Cambodia

Cambodia's proactive approach to fighting the HIV/AIDS pandemic has received well-deserved international recognition. However, in early 2005, at least five individual procurement and supply management systems were operating in Cambodia, leading to inefficiency in efforts to expand access to antiretroviral therapy. While non-HIV-related essential medicines were procured by the Ministry of Health Procurement Unit and distributed by the Central Medical Store, medicines for HIV/AIDS were procured and distributed either by the National Center for HIV/AIDS, Dermatology and Sexually Transmitted Infections (NCHADS) or by the Global Fund Principal Recipient. In addition to these public procurement systems, Médecins Sans Frontières was procuring HIV medicines and diagnostics for their facilities in Cambodia through their logistical centres in Europe.

In 2005, with support from WHO and UNICEF, NCHADS assessed the procurement supply system for HIV care in Cambodia and identified several challenges.

- The magnitude of the planned or expected scale-up of antiretroviral therapy in Cambodia – including the progressive takeover by the Ministry of Health of services provided by Médecins Sans Frontières – exceeded current national capacity.
- Communication and information exchange between the various supply systems was poor.
- The steps between the creation of the quarterly order list by the operational district and the actual delivery of goods was overly bureaucratic and time-consuming.
- The Central Medical Store had an out-of-date information technology system and no cold storage and lacked managerial skills and capacity.
- The capacity of the current national distribution system at the NCHADS was limited.

The assessment made several recommendations:

- reducing the number of medicines or formulations for opportunistic infections and antiretroviral therapy;
- increasing funding for the Central Medical Store to help build skills and management capacity;
- implementing a National Drug Inventory Database for warehouse activities at the new Central Medical Store premises and strengthening its storage and distribution capacity with pallet racking and cold-room facilities as well as expanding the transport fleet; and
- transferring the storage and distribution responsibilities of NCHADS to the Central Medical Store as soon as acceptable standards and speed of operations are in place.

The Ministry of Health, NCHADS, WHO and the Global Fund Principal Recipient are working to secure resources to implement these recommendations. In the mean time, it has been reported that NCHADS has improved its capacity to monitor the antiretroviral therapy supplies across the country, including forecasting of drug and commodity needs and estimating the number of people on first- and second-line regimens. Along with these ongoing improvements, the implementation of the recommended activities will not only bring the Central Medical Store into a key position to take over the storage and distribution of supplies related to HIV/AIDS but also improve the provision of pharmaceuticals and medical supplies in Cambodia in general.

Box 2. Burkina Faso uses an independent agency to guarantee a steady supply of affordable, effective drugs and diagnostics

Weak systems for drug procurement and supply prevent many low- and middle-income countries from procuring HIV drugs at an affordable price, from forecasting the quantities of HIV medicines needed and preventing shortages (or stockouts) and from assuring the quality of purchased medications.

Burkina Faso has addressed many of these problems with a creative and pragmatic solution. The Centrale d'Achat des Médicaments Essentiels Génériques et des Consommables Médicaux, a stand-alone, not-for-profit agency, handles antiretroviral drug procurement and supply. The Centrale d'Achat has full legal status and its own director-general and is administered by representatives of the government and development partners (including WHO) as well as community-based organizations. The existence of this autonomous agency has allowed Burkina Faso to attract major funding and channel it quickly to a number of critical fronts: purchasing generic HIV drugs on the global market at discounted prices, conducting research on quality assurance throughout the chain of supply (manufacture, transport, storage and distribution) and expanding access to these medicines and commodities through a national network of 54 stores. The Centrale d'Achat now purchases and distributes no fewer than 500 products, including 253 generic essential medicines (14 of them active pharmaceutical ingredients used in antiretroviral drugs).

Since 2001, the Centrale d'Achat has negotiated with manufacturers to gain significant reductions in prices for HIV drugs and commodities. It has also fostered treatment scale-up by working in partnership with providers of antiretroviral therapy in the public health sector and community and religious organizations, which deliver up to 50% of all HIV treatment. And the Centrale d'Achat has emphasized training its personnel, with support from WHO and other technical agencies. The strength of the Centrale d'Achat has also contributed to the success of Burkina Faso in its grant applications: to the Global Fund, which is providing US\$ 12 million over four years to treat a further 6000 people; and to the World Bank, which is backing a major Treatment Acceleration Project proposal worth US\$ 18 million over three years to treat 7000 people. From December 2003 to December 2005, the number of people receiving treatment in the country increased from 1514 to 8214.

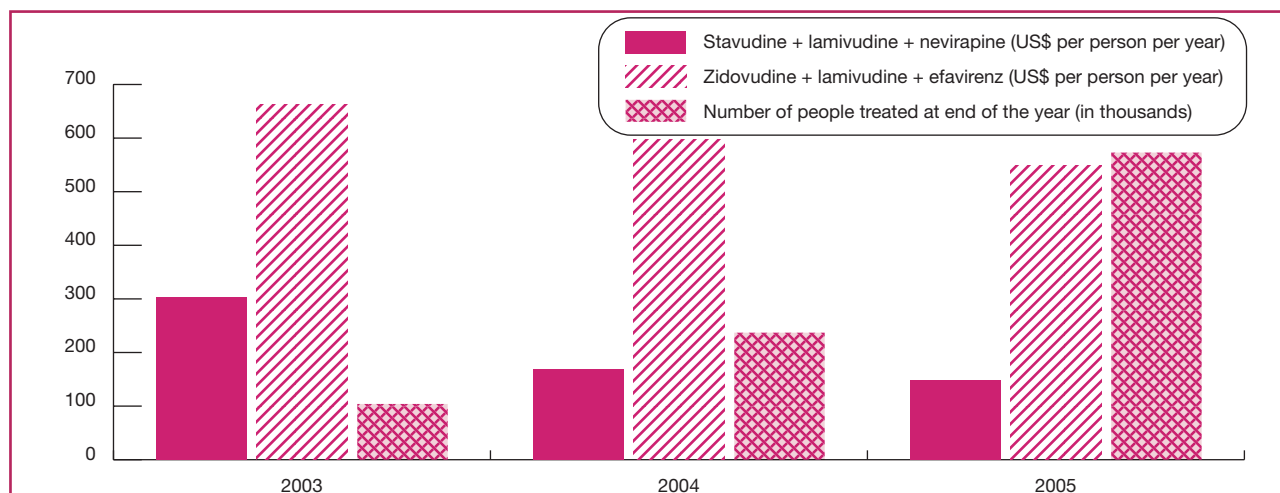
1.6 Prices of drugs and other commodities

Depending on the treatment regimen used, the price of first-line medication has decreased between 37% and 53% in the past two years. This has contributed significantly to wider availability of treatment, but prices remain unacceptably high in some countries, especially for second-line regimens.

In 2005, the average price paid for first-line treatment (prequalified by WHO) in low-income countries ranged from US\$ 148 per person per year for the fixed-dose combination of stavudine + lamivudine + nevirapine (the most widely used combination) to US\$ 549 for the fixed-dose combination zidovudine + lamivudine plus a single dose of efavirenz (Fig. 6). The average price of these two combinations was US\$ 268 per person per year in 2005.

The fall in drug prices between 2003 and 2005 has been fuelled by the ongoing scale-up of treatment programmes as well as by increased competition among a growing number of products prequalified by WHO. The price decrease is also attributable to negotiations between the William J. Clinton Foundation and major generic manufacturers.

Fig. 6. Trends in the cost of first-line antiretroviral therapy regimens in low-income countries, overlaid with the number of people treated, 2003–2005^a



^a The 2003 prices are those quoted in: World Health Organization, UNICEF, UNAIDS and Médecins Sans Frontières. *Sources and prices of selected medicines and diagnostics for people living with HIV/AIDS*. Geneva, World Health Organization, 2003 (http://www.who.int/hiv/pub/prev_care/edm/en, accessed 13 February 2006). The prices for 2004 and 2005 are the averages charged in transactions as recorded in the Global Price Reporting Mechanism. The numbers of people on treatment are drawn from WHO/UNAIDS data for 58 low-income countries. Annex 1 outlines country-specific data for all low- and middle-income countries.

In middle-income countries the price paid for first-line treatment was significantly higher and remained almost stable between 2004 and 2005. The average prices paid for first-line treatment in 2005 ranged from US\$ 371 per person per year for the cheapest regimen of stavudine + lamivudine + nevirapine to US\$ 838 per person per year for the most expensive regimen of zidovudine + lamivudine + efavirenz.

Second-line treatment was significantly more expensive than first-line treatment in low- and middle-income countries. In 2005, a regimen of tenofovir + abacavir + lopinavir or ritonavir cost on average US\$ 1888 per person per year in low-income countries and US\$ 4126 per person per year in middle-income countries. These are average prices; actual prices being paid for second-line regimens vary significantly from country to country. For example, Côte d'Ivoire is paying on average US\$ 1700 for this regimen per person per year, whereas El Salvador is paying US\$ 6788 per person per year.

There is reason to believe that the prices of antiretroviral medications will decline further. In January 2006, the William J. Clinton Foundation announced that it had negotiated a deal that would bring the price of generic formulations of efavirenz down to US\$ 240 per person per year (from the manufacturer's current price of US\$ 343 per person per year) and the price of generic abacavir to US\$ 447 per person per year (from the manufacturer's current price of US\$ 887 per person per year). For these drugs to become available at these prices to recipients of grants from the Global Fund and World Bank, these formulations need to be approved by a stringent regulatory authority or by the WHO prequalification project (Box 3). Most recently, in March 2006, Merck & Co. Inc. decided to cut the price for its efavirenz by 20% to US\$ 277.4 per person per year in low-income countries.

On the diagnostics front, progress has been slow. Although HIV serological tests have been available for some time at much reduced prices through WHO and UNICEF, with prices ranging from US\$ 0.47 to US\$ 2.76 per test, the volume procured by those agencies has been limited (slightly more than 3 million test kits were procured in 2004). It is encouraging that reduced prices for some serology test kits have become available to countries in the William J. Clinton Foundation procurement consortium and that the Foundation has enabled the market for CD4 cell count assays to become more transparent, with discounted CD4 cell determination reagents now becoming available at US\$ 3–5 per test. However, further price reductions are needed for both diagnostics and laboratory supplies.

Box 3. Prequalification of drugs and diagnostics helps countries scale up safely

It is believed that only 20% of all countries have the ability to monitor and control effectively the safety of their drug supplies. Assuring the quality and safety of drugs, therefore, is critically important to the success of scaling up HIV treatment in low- and middle-income countries.

The WHO Prequalification Project helps to address this need. A partnership created by WHO, UNAIDS, UNICEF and UNFPA in 2001 with support from the World Bank, the project has played an important role in providing an independent assessment of the quality, safety and efficacy of medical products and supplies. It allows bulk purchasers of medicines, especially United Nations agencies, countries without strong regulatory agencies of their own and other procurement agencies to make informed drug choices and to purchase stocks of safe, high-quality products on the world market with confidence.

To receive prequalification, a manufacturer must submit a full dossier on the quality, safety and effectiveness of the product to WHO. These dossiers are evaluated by teams of six to eight experts from regulatory authorities in high-, low- and middle-income countries, and a product sample may be sent for independent quality control testing at laboratories in France, South Africa or Switzerland. If the dossier is approved, a site inspection team visits the manufacturing facility to ensure that the producer meets all internationally accepted good manufacturing practices. If the site inspection is also satisfactory, the product is then added to the list of prequalified medicines. Prequalification certification lasts three years.

In 2005, WHO prequalified 31 additional antiretroviral drugs, bringing the number from 50 to 81 by December 2005. Of these, 63 were single products, 10 were double combinations and 8 were triple combinations. Because the Prequalification Project does not seek to duplicate the work of other reputable agencies, nine products were prequalified based on tentative approval by the United States Food and Drug Administration. The Food and Drug Administration has recently approved some non-branded – as well as branded – drugs.

The Prequalification Project has helped to ensure that people in resource-constrained countries do not receive substandard medicines and risk treatment failure and the development of drug resistance.

For a list of all prequalified medicines, please visit <http://mednet3.who.int/prequal>.