

Prices paid for antiretroviral drugs by low and middle income countries in 2005

A summary report by the Global Price Reporting Mechanism on Antiretroviral Drugs, March 2006

The Global Price Reporting Mechanism on Antiretroviral Drugs contains information on real transaction prices of bulk quantities of antiretroviral drugs purchased by HIV/AIDS programmes in developing countries. It complements reports of price quotes from pharmaceutical companies^{1, 2, 3} as well as smaller sets of transaction prices published by others^{4, 5, 6}. The transaction data in the Global Price Reporting Mechanism are provided by the Global Fund to Fight AIDS, TB, and Malaria, the International Dispensary Association, John Snow Inc./Deliver, Management Sciences for Health, the United Nations' Children's Fund, the WHO Contracting and Procurement Service as well as WHO staff working in different countries, and were compiled by the AIDS Medicines & Diagnostics Service in the Department of HIV/AIDS at the World Health Organization.

This summary report contains information on transactions of 25 commonly-used adult formulations of antiretroviral drugs, recommended by WHO for 1st and 2nd line antiretroviral treatment⁷ (Tables 1a and 1b & 2a and 2b) carried out in the year 2005. Data received up to 31st December 2005 were included in this report. Data on less-frequently used formulations of antiretroviral drugs and more detail on the transactions summarized in this report can be found in the Global Price Reporting Mechanism's searchable database, which can be accessed at www.who.int/3by5/amds/price/hdd

For the interpretation and use of the data shown here it is important to note that:

- 1) All prices are shown in US dollars (US\$) per patient year of a defined daily dose of each drug in adults.
- 2) As taxes, tariffs, and/or terms of trade (INCO terms) were not consistently reported, they were not considered in the analysis. Previous investigations by the US Government Accounting Office³ and MSH suggest that any variation as a result would be 3-15% over the factory or ex-works (EXW) price, which does not comprise the inherent comparability of prices in this analysis².
- 3) All transactions listed with a price of US\$ 0 in the GPRM and thus considered to be ARV donations, were removed from analysis along with their corresponding purchase volumes.
- 4) The report is on international transactions of antiretroviral drugs, not about the price consumers pay for these medicines. The latter are often higher (because of tariffs, taxes, transportation, and make-ups during their distribution) or lower (because of subsidies). More on end-user prices can be found on the WHO medicines website at <http://mednet2.who.int/sourcesprices/>

Table 1a: Average price (in US\$ for 1 year's treatment at a defined daily dose (DDD)), volume and value of first line antiretroviral drugs bought by low income countries

Low income countries				
ARV name (INN)	DDD Tablets or capsules	Average price weighted for volume (25th - 75th Percentile range)	Number of smallest units bought	Total value (US\$)
Lamivudine (3TC) 150 mg	2	65 (63 - 70)	44,334,840	3,976,831
Stavudine (d4T) 30 mg	2	40 (39 - 49)	17,876,096	985,745
Stavudine (d4T) 40 mg	2	45 (43 - 55)	18,700,760	1,160,118
Nevirapine (NVP) 200 mg	2	219 (69 - 438)	53,790,140	16,101,518
Efavirenz (EFV) 600 mg	1	341 (347 - 365)	15,262,040	14,259,449
Efavirenz (EFV) 200 mg	3	513 (507 - 507)	4,946,130	2,319,074
ZDV/3TC 300/150 mg	2	208 (197 - 241)	44,376,580	12,674,313
Zidovudine (ZDV) 300 mg	2	183 (131 - 204)	8,419,320	2,114,923
d4T/3TC/NVP 30/150/200 mg	2	144 (146 - 185)	59,104,660	11,676,385
d4T/3TC/NVP 40/150/200 mg	2	148 (157 - 193)	20,032,500	4,062,804
ZDV/3TC/NVP 300/150/200 mg	2	156 (153 - 226)	5,835,240	1,249,175
d4T/3TC 30/150 mg	2	72 (81 - 91)	4,651,070	461,794
d4T/3TC 40/150 mg	2	84 (80 - 98)	2,107,470	241,635
Other ARVs, excluding paediatric formulations*			3,448,146	641,904
Paediatric formulations**			101,405,960	4,516,463
Subtotal low income countries				76,442,131

Table 1b: Average price (in US\$ for 1 year's treatment at a defined daily dose (DDD)), volume and value of first line antiretroviral drugs bought by middle income countries

Middle income countries				
ARV name (INN)	DDD Tablets or capsules	Average price weighted for volume (25th - 75th Percentile range)	Number of smallest units bought	Total value (US\$)
Lamivudine (3TC) 150 mg	2	88 (66 - 125)	20,696,940	2,503,871
Stavudine (d4T) 30 mg	2	48 (38 - 64)	11,376,024	741,394
Stavudine (d4T) 40 mg	2	47 (44 - 59)	12,836,100	820,749
Nevirapine (NVP) 200 mg	2	112 (80 - 117)	7,159,320	1,102,753
Efavirenz (EFV) 600 mg	1	449 (374 - 767)	7,285,680	8,957,776
Efavirenz (EFV) 200 mg	3	567 (488 - 580)	4,685,220	2,425,876
ZDV/3TC 300/150 mg	2	389 (183 - 270)	3,772,920	2,010,705
Zidovudine (ZDV) 300 mg	2	257 (146 - 226)	1,327,380	467,157
d4T/3TC/NVP 30/150/200 mg	2	365 (205 - 219)	26,368,560	13,168,078
d4T/3TC/NVP 40/150/200 mg	2	371 (212 - 287)	5,911,560	3,005,013
Other ARVs, excluding paediatric formulations*			7,453,098	823,777
Paediatric formulations**			35,728,975	1,120,089
Subtotal middle income countries				37,147,238

* Includes efavirenz 50 mg and 100mg, stavudine 15 mg and 20 mg, and the fixed dose zidovudine /lamivudine/abacavir.

** Includes efavirenz 30 mg/ml, lamivudine 10 mg/ml, nevirapine 10 mg/ml, stavudine 1 mg/ml and zidovudine 10 mg/ml.

Table 2a: Average price (in US\$ for 1 year's treatment at a defined daily dose (DDD)), volume and value of second line antiretroviral drugs bought by low income countries

Low income countries				
ARV name (INN)	DDD Tablets or capsules	Average price weighted for volume (25th - 75th Percentile range)	Number of smallest units bought	Total value (US\$)
Didanosine (ddI) 100 mg	4	314 (311 - 311)	574,380	123,588
Didanosine (ddI) 200 mg	2	250 (311 - 311)	399,600	137,018
Didanosine (ddI) 400 mg	1	288 (288 - 288)	362,280	285,830
Saquinavir (SQV) 200 mg	10	978 (943 - 979)	391,770	104,925
Abacavir (ABC) 300 mg	2	889 (887 - 887)	822,660	1,002,394
Tenofovir (TDF) 300mg	1	300 (299 - 303)	789,540	650,012
Indinavir (IDV) 400 mg	6	609 (609 - 609)	5,823,720	1,618,784
Lopinavir/ritonavir (LPV/r) 133/33 mg	6	523 (501 - 538)	1,016,460	242,723
Nelfinavir (NFV) 250 mg	10	1,106 (955 - 1,093)	8,205,030	2,485,716
Ritonavir (RTV) 100 mg	2***	85 (84 - 95)	149,352	17,301
Other ARVs, excluding paediatric formulations ****			887,580	637,389
Paediatric formulations *****			804,924	136,077
Subtotal low income countries				7,441,757

Table 2b: Average price (in US\$ for 1 year's treatment at a defined daily dose (DDD)), volume and value of second line antiretroviral drugs bought by middle income countries

Middle income countries				
ARV name (INN)	DDD Tablets or capsules	Average price weighted for volume (25th - 75th percentile range)	Number of smallest units bought	Total value (US\$)
Didanosine (ddI) 100 mg	4	925 (303-975)	527,280	334,012
Didanosine (ddI) 200 mg	2	238 (176-306)	632,580	206,143
Didanosine (ddI) 400 mg	1	1,712 (1,231-1,906)	93,690	439,512
Saquinavir (SQV) 200 mg	10	2,517 (2,524-2,564)	591,480	407,806
Abacavir (ABC) 300 mg	2	945 (887-968)	94,320	122,135
Tenofovir (TDF) 300mg	1	476 (276-1,396)	50,640	65,980
Indinavir (IDV) 400 mg	6	888 (652-1,044)	3,614,580	1,466,377
Lopinavir/ritonavir (LPV/r) 133/33 mg	6	2,572 (570-4,468)	1,386,180	1,627,896
Nelfinavir (NFV) 250 mg	10	2,130 (1,599-2,263)	4,175,010	2,436,164
Ritonavir (RTV) 100 mg	2***	539 (95-108)	722,148	532,974
Other ARVs, excluding paediatric formulations****			455,310	183,785
Paediatric formulations*****			1,360,810	397,788
Subtotal middle income countries				8,220,572

*** The dose of ritonavir is given for its use as booster of other protease inhibitors

**** Includes didanosine 50mg, 100mg, 125mg, 150mg, 167mg, 250mg, tenofovir / emtricitabine 300mg / 200mg, and indinavir 200mg.

***** Includes abacavir 20mg/ml, didanosine 10mg/ml, lopinavir/ritonavir 80mg/20mg/ml, nelfinavir 50mg/g, and ritonavir 80mg/ml.

The value of the procurement transactions reported here so far for 2005 is US\$ 129,251,698, out of the total value of US\$ 192,617,418 worth of antiretroviral drug procurement data (including paediatric formulations) included in the database since January 2004. The volume of antiretroviral drugs in the 2005 transactions reported on here is about 319,762 patient years of triple antiretroviral therapy, which, as about 1,330,000 people received antiretroviral treatment in low and middle income countries⁸ at the end of 2005, represents about 24% of the volume of transactions by low and middle income countries in 2005. 70.2% of the volume and 49.2% of the value of transactions reported here were with generic pharmaceutical companies, whereas 29.8% of the volume and 50.8% of the value of transactions were with the originator pharmaceutical companies. As the originator pharmaceutical companies reported based on drug disbursement from the Accelerating Access Initiative by the end of December 2005⁸, that more than 716 000 people in low- and middle-income countries were receiving treatment with at least one antiretroviral drug provided by originator pharmaceutical companies, it is clear that their transactions are under represented in this report.

As can be seen in the tables, for a few drugs a higher average price was paid by low income countries than by middle income countries. As this observation would appear counterintuitive, we assessed why this happened.

In the case of **didanosine 200 mg**, low income countries paid on average US\$ 250 per patient-year of treatment, whereas middle income countries paid on average US\$ 238. Low income countries paid on average more because 57% of their total transaction volume was with Bristol-Myers Squibb at an average price of US\$ 311 per patient-year, the remainder 43% being with CIPLA, at an average price of US\$ 170 per patient-year. Middle income countries procured almost all (98%) their didanosine 200 mg from generic companies at an average price of US\$ 237 per patient-year, and a marginal quantity (2%) from Bristol-Myers Squibb at an average price of US\$ 347 per patient-year.

In the case of **nevirapine 200 mg**, low income countries paid on average US\$ 219 per patient-year, whereas middle income countries paid on average US\$ 112. Low income countries paid on average more because 40.5% of their total transaction volume was with Boehringer Ingelheim, at an average price of US\$ 445 per patient-year, the remainder 59.5% being with generic companies, at an average price of US\$ 64 per patient-year. Middle income countries procured almost all (97.8 %) of their nevirapine 200 mg from generic companies, at an average price of US\$ 99 per patient-year, and a small quantity (2.2%) from Boehringer Ingelheim at an average price of US\$ 697 per patient-year.

In the case of **zidovudine 100 mg**, low income countries paid on average US\$ 295 per patient year, whereas middle income countries paid on average US\$ 265. This finding can be explained by the fact that low income countries bought this formulation in small quantities, with high transaction costs, while middle income countries bought bigger quantities, and had lower transaction costs.

As this summary report is intended to provide data on antiretroviral drug pricing to governments, non-governmental organizations, donors, international organizations, academia, and individuals or institutions directly involved or interested in their procurement in resource-poor settings, the quality of the data presented here is of paramount importance. In order to guarantee the quality of data included in the Global Price Reporting Mechanism and this report, we decided to reduce the frequency with which summary reports will be produced to 2 issues per year. A third summary report, in which 2004-2006 time trends in antiretroviral drug pricing will be an added feature, will be available in August 2006.

A slide set with the findings presented here is available at <http://www.who.int/hiv/amds/PriceARV2005.pdf>

Any suggestions that could improve this report would be greatly appreciated. Please direct your remarks to Mr Boniface Dongmo Nguimfack at dongmonguimfackb@who.int.

¹ Sources and Prices of Selected Medicines and Diagnostics for People Living with HIV/AIDS: A Joint UNICEF, UNAIDS, WHO, MSF Project. United Nations Children's Fund, Joint United Nations Programme on HIV/AIDS, World Health Organization, Médecins Sans Frontières. Geneva, Switzerland. June 2004.

² Untangling the web of price reductions: a pricing guide for the purchase of ARVs for developing countries (8th edition). Campaign for Access to Essential Medicines. Médecins Sans Frontières. Geneva, Switzerland. June 2005.

³ Global HIV/AIDS Epidemic: Selection of Antiretroviral Medications Provided Under US Emergency Plan is Limited. Report to Congressional Requesters. United States Government Accountability Office. January 2005.

⁴ Purchase Price Report. The Global Fund to Fight AIDS, TB, and Malaria. Geneva, Switzerland. August 2004.
http://www.theglobalfund.org/en/funds_raised/price_reporting/default.asp

⁵ AFRO Essential Medicines Price Indicator. World Health Organization Regional Office for Africa (WHO AFRO). Brazzaville, Republic of Congo. December 2003.

⁶ *International Drug Price Indicator Guide*, 2004 edition. *Guide produced in collaboration with the World Health Organization and supported by the Strategies for Enhancing Access to Medicines (SEAM) Program.*

⁷ Scaling Up Antiretroviral Therapy in Resource-Limited Settings: Treatment Guidelines for a Public Health Approach, 2003 Revision. World Health Organization. Geneva, Switzerland. 2004.

⁸ Progress on Global Access to HIV Antiretroviral Therapy: An update on "3by5". A joint UNAIDS WHO project. Geneva, Switzerland. March 2006.