

## **A SUMMARY REPORT FROM THE GLOBAL PRICE REPORTING MECHANISM ON ANTIRETROVIRAL DRUGS, JULY 2007**

### **Quarterly report comparing transaction prices paid in the last 6 months for antiretroviral drugs by low- and middle-income countries to the ones paid in previous years**

The Global Price Reporting Mechanism (GPRM) on Antiretroviral Drugs (ARV) contains information on transaction prices and quantities of antiretroviral drugs purchased by HIV/AIDS programmes in low-income countries<sup>1</sup> (countries with a gross national income (GNI) per capita of US\$ 905 or less, according to the World Bank Atlas calculation method)<sup>2</sup> and middle-income countries<sup>1,2</sup> (countries with a GNI per capita between US\$ 906 and US\$ 11,115). It complements reports of price quotes from pharmaceutical companies<sup>4,5,6</sup>, as well as smaller sets of transaction prices published by other sources<sup>7,8,9</sup>.

The transaction data in the Global Price Reporting Mechanism are provided by the Clinton Foundation HIV/AIDS Initiative (CHAI) (transaction up to June 2006), the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM) (transaction up to July 2007), the International Dispensary Association (transactions up to July 2007), John Snow Inc./Deliver (transactions up to July 2007), Management Sciences for Health (transactions up to July 2007), Missionpharma (transactions up to July 2007), Partner for Supply Chain Management (PfSCM) (transaction up to July 2007), the United Nations Children's Fund (UNICEF) (transactions up to April 2007), the World Health Organization Contracting and Procurement Service (WHO\_CPS) (transactions up to December 2006), and WHO staff working in countries. Transactions data received up to 31 July 2007 were included in this report. These data have been compiled and stored in a searchable database by the WHO AIDS Medicines & Diagnostics Service (AMDS) in the Department of HIV/AIDS and are available at <http://www.who.int/hiv/amds/price/hdd/>.

This summary report contains information on transactions of thirty-four (34) commonly used adult ART formulations and eighteen (18) commonly used paediatric ART formulations, recommended by WHO for use in first- and second- line antiretroviral treatment<sup>10, 11, 12</sup>, (Tables 1(a) and 1(b), 2(a) and 2(b), 3(a) and 3(b), 4(a) and 4(b)). The GPRM database contains data of the less frequently used formulations of ART as well as more detailed information on specific transactions featured in the report.

In this comparative analysis the median price is used (half of the transactions having a price lower than the median price and half of the transactions having a price higher than the median price). The range between the 25<sup>th</sup> and 75<sup>th</sup> percentiles called the inter-quartile range, is expressed in brackets in the tables (the range including 25 per cent of the transactions having a price lower than the median price and 25 per cent of the transactions having a price higher than the median price). The range between the 25 and 75 percentiles is called the inter-quartile range

The combination of the median value and the inter-quartile range instead of the mean  $\pm$  standard deviation was selected for this analysis due to asymmetrically distributed nature of the data.

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 per year of a defined daily dose of each drug for adults or infants.
- 2) As taxes, tariffs, and/or International Commercial Terms (Incoterms) were not consistently reported, these were not considered in the analysis. Previous investigations by the U.S. Government Accounting Office and Management Sciences for Health suggest that any variation would constitute 3-15% increase over the factory or ex works (EXW) price<sup>9</sup>.
- 3) All transactions listed with a price of US\$ 0 or appearing as duplications in the GPRM are considered to be either ARV donations or wrongly filed information and, as such, were removed from the report, along with their corresponding purchase volumes.
- 4) The report provides detailed information on international transactions of antiretroviral drugs, and not the price consumers paid for these medicines. The latter are often higher (because of tariffs, taxes, transportation, and mark-ups during their distribution) or lower (because of subsidies). More information on end-user prices can be found on the Health Action International website at <http://www.haiweb.org/medicineprices/><sup>13</sup>

### **Table of abbreviations**

<b>International Non-proprietary Name</b>	<b>Abbreviations</b>
abacavir	ABC
atazanavir	ATV
didanosine	ddI
efavirenz	EFV
indinavir	IDV
lamivudine	3TC
lopinavir/ritonavir	LPV/r
nelfinavir	NFV
nevirapine	NVP
ritonavir	RTV
saquinavir	SQV
stavudine	d4T
stavudine/lamivudine	d4T/3TC
stavudine/lamivudine/nevirapine	d4T/3TC/NVP
tenofovir	TDF
tenofovir/emtricitabine	TDF/FTC
zidovudine	ZDV
zidovudine/lamivudine	ZDV/3TC
Zidovudine/lamivudine/nevirapine	ZDV/3TC/NVP

**Table 1a:** Median transaction price (in US\$ for 1 year's treatment at a WHO recommended usual adult defined daily dose (DDD)) of **first-line** antiretroviral drugs bought by **low-income countries** for adult use

INN (strengths)	Median transaction price (25th -75th Quartile range) in US\$				
	DDD Tablets or capsules	Median Price 2004	Median Price 2005	Median Price 2006	Median Price Jan - July 2007
d4T 30 mg	2	49 (49-49)	49 (49-49)	43 (39-49)	22 (22-22)
d4T 40 mg	2	55 (55-55)	55 (43-55)	49 (36-54)	23 (23-23)
3TC 150 mg	2	70 (70-74)	70 (64-70)	60 (56-60)	39 (39-39)
NVP 200 mg	2	88 (66-438)	95 (69-438)	63 (59-66)	44 (44-49)
d4T/3TC 30/150 mg	2	91(79-100)	88 (81-104)	76 (76-76)	47 (47-47)
d4T/3TC 40/150 mg	2	110 (95-110)	92 (87-106)	73 (73-73)	51 (51-51)
d4T/3TC/NVP 30/150/200 mg	2	153 (121-165)	158 (146-185)	100 (100-104)	77 (77-77)
d4T/3TC/NVP 40/150/200 mg	2	159 (126-172)	161 (155-193)	139 (109-146)	80 (80-88)
ZDV 100 mg	6	346 (261-346)	215 (165-346)	227 (181-346)	123 (123-123)
ZDV 300 mg	2	152 (133-212)	141 (128-204)	135 (128-165)	104 (104-104)
ZDV/3TC 300/150 mg	2	222 (195-238)	213 (192-238)	176 ((168-210)	113 (113-113)
ZDV/3TC/NVP 300/150/200 mg	2	232 (232-232)	309 (301-309)	294 (260-310)	207 (197-216)
EFV 50 mg	12	509 (507-558)	507 (507-540)	482 (482-482)	394 (394-432)
EFV 200 mg	3	507 (507-535)	507 (507-472)	269 (235-395)	351 (351-351)
EFV 600 mg	1	347 (347-371)	347 (347-365)	245 (245-245)	151 (151-151)

**Table 1b:** Median transaction price (in US\$ for 1 year's treatment at a WHO recommended usual adult defined daily dose (DDD)) of **first-line** antiretroviral drugs bought by **middle-income countries** for adult use

INN (strengths)	Median transaction price (25th -75th Quartile range) in US\$				
	DDD Tablets or capsules	Median Price 2004	Median Price 2005	Median Price 2006	Median Price Jan -July 2007
d4T 30 mg	2	40 (33-90)	45 (39-66)	36 (32-72)	33 (32-37)
d4T 40 mg	2	45 (44-56)	51 (44-59)	41 (34-73)	31 (29-44)
3TC 150 mg	2	70 (69-79)	76 (67-117)	64 (53-79)	58 (46-77)
NVP 200 mg	2	103 (80-123)	97 (81-438)	65 (59-132)	53 (49-67)
d4T/3TC 30/150 mg	2	90 (88-91)	96 (88-104)	81 (63-110)	66(62-76)
d4T/3TC 40/150 mg	2	91 (91-91)	95 (91-95)	85 (80-108)	69 (69-88)
d4T/3TC/NVP 30/150/200 mg	2	155 (154-155)	206 (171-216)	155 (132-169)	99(95-101)
d4T/3TC/NVP 40/150/200 mg	2	163 (160-165)	212 (179-265)	164 (146-173)	86(79-113)
ZDV 100 mg	6	253 (234-363)	346 (217-394)	197 (159-330)	335 (142-351)
ZDV 300 mg	2	145 (141-212)	157 (148-226)	136 (122-228)	133 (127-204)
ZDV/3TC 300/150 mg	2	238 (197-254)	213 (190-248)	176 (156-221)	183 (122-245)
ZDV/3TC/NVP 300/150/200 mg	2	303 (301-304)	366 (286-433)	277 (275-329)	335(260-376)
EFV 50 mg	12	575 (551-595)	570 (534-570)	526 (513-544)	488 (481-574)
EFV 200 mg	3	471 (469-529)	538 (480-588)	377 (306-487)	449 (391-743)
EFV 600 mg	1	376 (347-427)	406 (373-547)	304 (273-367)	233 (198-274)

**Table 2a:** Median transaction price (in US\$ for 1 year's treatment at a WHO recommended usual adult defined daily dose (DDD)), of **second-line** antiretroviral drugs bought by **low-income countries** for adult use

INN (strengths)	Median transaction price (25th -75th Quartile range) in US\$				
	DDD Tablets or capsules	Median Price 2004	Median Price 2005	Median Price 2006	Median Price Jan - July 2007
ABC 300 mg	2	887 (887-887)	887 (887-887)	637 (541-887)	344 336-381)
ddI 100 mg	4	311 (311-311)	311 (311-311)	239 (239-311)	277 (251-314)
ddI 200 mg	2	311 (311-357)	311 (311-313)	228 (228-311)	230 (229-235)
ddI 400 mg	1	253 (222-254)	288 (288-288)	288 (278-289)	288 (285-290)
IDV 400 mg*	4	406 (406-439)	406 (402-406)	429 (406-435)	382 (382-407)
LPV/r 133/33 mg	6	566 (536-594)	548 (500-967)	538 (500-646)	659 (597-737)
LPV/r 200/50 mg	4	-	-	-	508 (500-506)
NFV 250 mg	10	990 (986-1123)	1012 (939-1112)	1021 (992-1108)	1069(1061-1229)
RTV 100 mg**	2	238 (90-583)	85 (84-95)	114 (99-141)	92 (84-187)
SQV 200 mg*	10	1028 (988-1069)	943 (934-994)	1080 (1018-1086)	1079 (1026-1082)
TDF 300mg	1	308 (305-313)	301(299-308)	219 (208-234)	228 (182-256)
TDF/FTC 300/200mg	1	-	362 (362-362)	318 (318-318)	327 (319-336)

\* Protease inhibitor to be used boosted with ritonavir

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

**Table 2b:** Median transaction price (in US\$ for 1 year's treatment at a WHO recommended usual adult defined daily dose (DDD)), of **second-line** antiretroviral drugs bought by **middle-income countries** for adult use

INN (strengths)	Median transaction price (25th -75th Quartile range) in US\$				
	DDD Tablets or capsules	Median Price 2004	Median Price 2005	Median Price 2006	Median Price Jan - July 2007
ABC 300 mg	2	901 (887-937)	957 (887-968)	953 (642-969)	458 (395-658)
ddI 100 mg	4	580 (265-584)	365 (307-526)	307 (263-569)	345 (288-524)
ddI 200 mg	2	235 (233-235)	182 (176-272)	176 (176-301)	251 (251-251)
ddI 400 mg	1	1941 (1350-1942)	1271 (767-1811)	1269 (507-1907)	507 (292-1840)
IDV 400 mg*	4	401 (392-518)	518 (406-696)	695 (406-698)	696 (512-740)
LPV/r 133/33 mg	6	4510 (3899-4687)	3975 (572-4986)	2963 (2123-4440)	2373 (1025-2579)
LPV/r 200/50 mg	4	-	-	-	538 (500-1207)
NFV 250 mg	10	1894 (1620-3466)	1599 (1466-2264)	2086 (1338-2192)	2142 (2142-2142)
RTV 100 mg**	2	797 (759-923)	96 (88-265)	351 (81-888)	533 (115-933)
SQV 200 mg*	10	2376 (2373-2379)	2526 (2015-2570)	2154 (1643-2359)	1916 (1526-1916)
TDF 300mg	1	279 (253-306)	299 (234-321)	372 (237-1294)	224 (223-227)
TDF/FTC 300/200mg	1	-	-	323 (321-384)	268 (201-395)
ATV 150mg*	2	-	3752 (3727-3778)	2208 (2208-2208)	2212 (2212-2212)
ATV 200mg*	2	-	-	2300 (2300-3157)	2300 (2300-2300)

\* Protease inhibitors to be used boosted with ritonavir

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

**Table 3a:** Median transaction price (in US\$ for 1 year's treatment at a WHO recommended usual paediatric defined daily dose (DDD)), of antiretroviral drugs bought by **low-income countries** for paediatric use (**infant weighing 5 kg**)<sup>1</sup>

INN (strengths)	Median transaction price (25th -75th Quartile range) in US\$				
	DDD Tablets, capsules or milliliters	Median Price 2004	Median Price 2005	Median Price 2006	Median Price Jan - July 2007
ABC 20 mg/ml	4	191 (191-191)	191 (191-196)	153 (152-191)	131 (117-131)
ddI 10mg/ml	8	502 (343-502)	313 (312-365)	350 (321-482)	325 (325-325)
ddI 25 mg	4	170 (170-180)	170 (170-170)	170 (170-170)	170 (170-183)
EFV 30 mg/ml	3.25	120 (119-120)	118 (112-122)	107 (107-112)	114 (114-114)
3TC 10 mg/ml	6	61 (44-61)	48 (44-61)	46 (37-49)	22 (20-34)
LPV/r 80/20 mg/ml	2	139 (107-237)	111 (100-182)	111 (100-113)	200 (200-203)
NFV 40mg/ml	18.75	1624 (1510-1693)	1576 (1444-1606)	1551 (1545-1600)	1450 (1116-1631)
NFV 250 mg	4	396 (385-425)	402 (371-423)	408 (396-441)	646 (638-665)
NVP 10 mg/ml	12	319 (319-322)	319 (319-347)	138 (113-319)	85 (85-85)
d4T 1 mg/ml	12	219 (197-219)	33 (33-208)	33 (33-33)	32 (32-34)
ZDV 10 mg/ml	12	155 (67-156)	78 (66-155)	74 (66-116)	67 (66-108)

<sup>1</sup> For the purpose of this analysis, the transaction price for one year ART is estimated for 5 kg infant, however it is important to note that as the infant/child grows, actual ARV required will increase.

**Table 3b:** Median transaction price (in US\$ for 1 year's treatment at a WHO recommended usual paediatric defined daily dose (DDD)), of antiretroviral drugs bought by **middle-income countries** for paediatric use (**infant weighing 5 kg**)

INN (strengths)	Median transaction price (25th -75th Quartile range) in US\$				
	DDD Tablets, capsules or milliliters	Median Price 2004	Median Price 2005	Median Price 2006	Median Price Jan - July 2007
ABC 20 mg/ml	4	204 (191-217)	205 (191-206)	184 (166-198)	149 (144-161)
ddI 10mg/ml	8	307 (124-468)	350 (309-940)	559 (249-743)	934 (431-978)
ddI 25 mg	4	170 (170-170)	260 (259-268)	215 (196-221)	300 (260-339)
EFV 30 mg/ml	3.25	255 (255-255)	222 (205-237)	1111 (111-111)	117 (115-118)
3TC 10 mg/ml	6	61 (47-66)	52 (42-70)	44 (44-66)	47 (34-61)
LPV/r 80/20 mg/ml	2	1186 (906-1186)	125 (113-505)	553 (471-782)	345 (220-795)
NFV 40mg/ml	18.75	2250 (1781-2250)	1684 (1465-1930)	1758 (1744-1836)	1796 (1796-1796)
NFV 250 mg	4	757 (648-1386)	639 (574-905)	375 (372-392)	667 (318-911)
NVP 10 mg/ml	12	131 (131-482)	308 (139-410)	147 (114-374)	131 (88-297)
d4T 1 mg/ml	12	281 (262-428)	291 (167-537)	192 (38-526)	180 (39-526)
ZDV 10 mg/ml	12	131 (92-166)	107 (73-167)	101 (71-173)	57 (53-83)

**Table 4a:** Median transaction price (in US\$ for 1 year's treatment at a WHO recommended usual paediatric defined daily dose (DDD)), of antiretroviral drugs bought by **low income-countries** for paediatric use (**infant weighing 10 kg**)<sup>2</sup>

INN (strengths)	Median transaction price (25th -75th Quartile range) in US\$				
	DDD Tablets, capsules or milliliters	Median Price 2004	Median Price 2005	Median Price 2006	Median Price Jan -July 2007
ABC 20 mg/ml	10	477 (476-477)	191 (191-196)	382 (380-476)	327 (293-327)
d4T/3TC 30/150 mg	1	44 (40-49)	44 (40-47)	37 (37-37)	23 (23-23)
d4T/3TC/NVP 30/150/200 mg	1	77 (62-84)	77 (69-91)	51 (51-51)	39 (39-39)
ddI 25 mg	5	213 (213-225)	213 (213-213)	213 (212-213)	234 (224-234)
ddI 10mg/ml	12	753 (514-753)	469 (467-547)	467 (467-527)	500 (472-544)
ddI 125 mg EC	1	-	119 (107-130)	86 (86-86)	86 (86-86)
EFV 200 mg	1	168 (168-183)	168 (157-168)	91 (77-131)	87 (64-131)
3TC 10 mg/ml	10	102 (73-102)	80 (73-102)	77 (62-82)	56 (36-61)
LPV/r 80/20 mg/ml	4	278 (214-474)	221 (200-363)	223 (200-225)	200 (200-208)
LPV/r 133/33mg	2	181 (176-198)	168 (168-217)	183 (168-219)	250 (250-250)
NFV 250 mg	6	591 (575-630)	613 (548-635)	613 (591-657)	427 (388-502)
NVP 10 mg/ml	20	532 (532-537)	532 (532-578)	219 (219-511)	142 (142-142)
NVP 200 mg	1	44 (33-219)	44 (33-219)	29 (29-33)	22 (22-22)
d4T 15 mg	2	73 (58-102)	58 (58-73)	58 (58-58)	30 (30-40)
ZDV 10 mg/ml	20	259 (112-259)	146 (146-292)	146 (146-219)	111 (108-173)
ZDV 100 mg	2	117 (117-117)	61 (54-115)	73 (58-117)	51 (41-75)

<sup>2</sup> For the purpose of this analysis, the transaction price for one year ART is estimated for 10kg infant, however it is important to note that as the infant/child grows, actual ARV required will increase with the possibility of a switch to solid formulations.

**Table 4b:** Median transaction price (in US\$ for 1 year's treatment at a WHO recommended usual paediatric defined daily dose (DDD)), of antiretroviral drugs bought by **low income-countries** for paediatric use (**infant weighing 10 kg**)

INN (strengths)	Median transaction price (25th -75th Quartile range) in US\$				
	DDD Tablets, capsules or milliliters	Median Price 2004	Median Price 2005	Median Price 2006	Median Price Jan -July 2007
ABC 20 mg/ml	10	510 (476-543)	512 (476-514)	461 (416-494)	373 (359-403)
d4T/3TC 30/150 mg	1	45 (41-49)	47 (44-52)	40 (32-54)	33 (30-40)
d4T/3TC/NVP 30/150/200 mg	1	77 (77-77)	190 (156-210)	73 (66-85)	50 (45-51)
ddI 25 mg	5	213 (213-213)	325 (324-335)	268 (246-276)	375 (325-424)
ddI 10mg/ml	12	460 (186-703)	526 (463-1411)	838 (374-1114)	1402 (646-1467)
ddI 125 mg EC	1	95 (95-97)	104 (103-106)	730 (730-730)	95 (95-97)
EFV 200 mg	1	156 (156-176)	179 (160-198)	130 (102-166)	152 (130-274)
3TC 10 mg/ml	10	102 (78-109)	87 (71-117)	73 (55-118)	73 (44-106)
LPV/r 80/20 mg/ml	4	2373 (1813-2373)	251 (227-1011)	1107 (942-1563)	689 (441-1589)
LPV/r 133/33mg	2	1504 (1157-1540)	1325 (191-1791)	1175 (425-1489)	378 (285-809)
NFV 250 mg	6	1136 (972-2079)	959 (879-1358)	1251 (802-1319)	1003 (478-1366)
NVP 10 mg/ml	20	226 (191-808)	514 (231-684)	219 (219-584)	178 (141-424)
NVP 200 mg	1	49 (38-60)	44 (38-60)	31 (29-68)	26 (25-34)
d4T 15 mg	2	60 (60-60)	922 (702-925)	32 (31-34)	33 (29-56)
ZDV 10 mg/ml	20	219 (154-277)	146 (146-292)	146 (146-292)	95 (73-146)
ZDV 100 mg	2	84 (78-121)	115 (72-131)	65 (53-114)	86 (47-117)

## Discussion

The value of the procurement transactions reported in the Global Price Reporting Mechanism for antiretroviral medicines so far is US\$ 500,437,475 worth of procurement data (including paediatric formulations) made up by 11,534 line items (individual procurement orders) included in the database since January 2004. The volume of ARV in the GPRM database is estimated to represent approximately 50% of the volume of transactions by low- and middle-income countries when compared to the total number of patients (adults and paediatrics) currently on treatment as reported by UNAIDS/WHO<sup>14</sup>

### Adult formulations

The median price for first-line regimens continues to decrease in both low- and middle-income countries. The median price paid for first-line treatment has significantly decreased in middle-income countries and is getting very close to the level of low-income countries. **The median price per patient per year of the most commonly prescribed fixed dose combination in first-line regimen (Stavudine 30 mg + lamivudine 150 mg + nevirapine 200 mg) has dropped below US\$ 100 in low- and middle-income countries with a median price of US\$77 and US\$ 99 respectively (See graphs below).** The standard deviation (which is a measure of how widely values are dispersed around the average value (the mean)) is decreasing yearly suggesting that price differences are becoming less pronounced.

Second-line treatment is still significantly more expensive than the first-line treatment in both low- and middle-income countries and continues to be disproportionately more expensive in the latter. Prices of second-line treatment have been very stable and the limited decrease observed in both low- and middle-income countries in recent months is mostly due to the new price of lopinavir/ritonavir announced by Abbott Laboratories for low-income countries and lower middle-income countries<sup>15</sup>. In general, there is still no strong correlation between the increasing quantity procured and the price, meaning that the economy of scale generated by the increasing number of patients on second-line treatment has not yet translated into price reduction for most of the second-line ARVs. In 2007, the median price of a regimen consisting of didanosine + abacavir + lopinavir/ritonavir (the most commonly used second-line regimen according to a WHO survey and recommended by WHO as preferred regimen)<sup>16</sup> is US\$ 1,291 in low-income countries and US\$ 3,337 in middle-income countries. The aggregate median price for tenofovir + didanosine + lopinavir/ritonavir is US\$ 1,174 per person per year in low-income countries, and US\$ 3,104 per person per year in middle-income countries. Actual prices being paid for second-line regimens vary significantly from country to country (see graphs below).

### Paediatric formulations

The median transaction price of first-line regimens (liquid formulations) for paediatric use has decreased but is still very high compared to the price of solid formulations. For any ARV liquid formulation, the median transaction price is high relative to the active pharmaceutical ingredient (API). The opposite is true with ARV solid formulations.

However, the lack of suitable smaller dose of fixed dose combination (FDC) or a single ARV solid formulation means cost per regimen for treating smaller/younger child remain high. The lack of approved FDCs has also weakened price reduction for paediatric ART regimens. Actually, it is more expensive to treat with a combined liquid and solid formulation an infant of five (5) kilogram than to treat an adult or even a ten (10) kilogram infant. It is clear that the price of active pharmaceutical ingredient is not the main driver of the finished formulation price as is observed with first-line adult (oral solid) formulations. **The median treatment cost per patient per year for a five (5) kilogram infant of the most widely prescribed first-line regimen of zidovudine 10 mg/ml + lamivudine 10 mg/ml + nevirapine 10 mg/ml in low-income countries has dropped from US\$ 536 in 2004 to US\$ 174 in 2007 and from US\$ 324 to US\$ 235 in middle-income countries. The same trend is being observed with the treatment cost per patient per year for a ten (10) kilogram infant.** (See graphs below for more details).

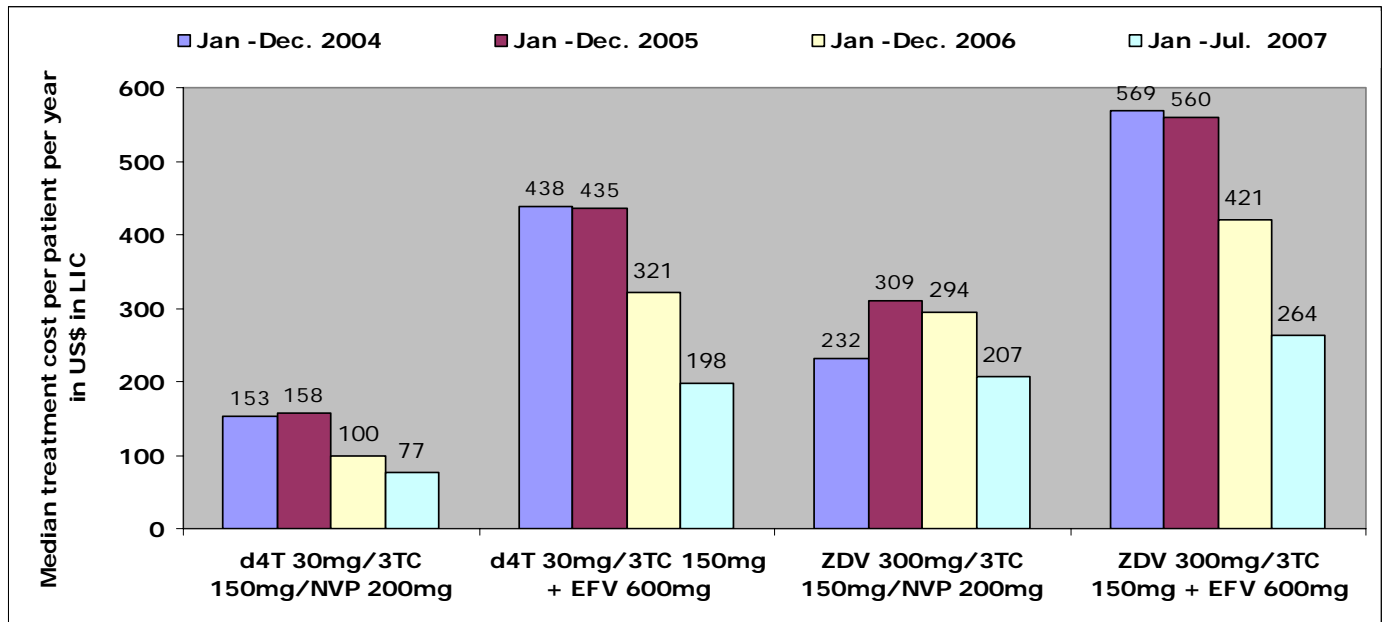
Second-line treatment is still significantly more expensive than first-line treatment in both low- and middle-income countries and continues to be disproportionately more expensive in the latter. Prices of second-line treatment have not dropped in low- and middle-income countries during the total reporting period. In 2007, the aggregate median price of a regimen consisting of didanosine 25mg + abacavir 20mg/ml + lopinavir/ritonavir 80/20 mg/ml recommended by WHO as preferred regimen<sup>17</sup> was US\$ 501 for a five (5) kilogram infant in low-income countries and US\$ 793 in middle-income countries. Another combination of didanosine 25mg + zidovudine 10mg/ml + lopinavir/ritonavir 80/20 mg/ml cost US\$ 437 per person per year in low-income countries, and US\$ 701 per person per year in middle-income countries. Actual prices being paid for second-line regimens for adults vary significantly from country to country and the same trend is being observed with the treatment cost per patient per year for a ten (10) kilogram infant (see tables below).

## **Conclusion**

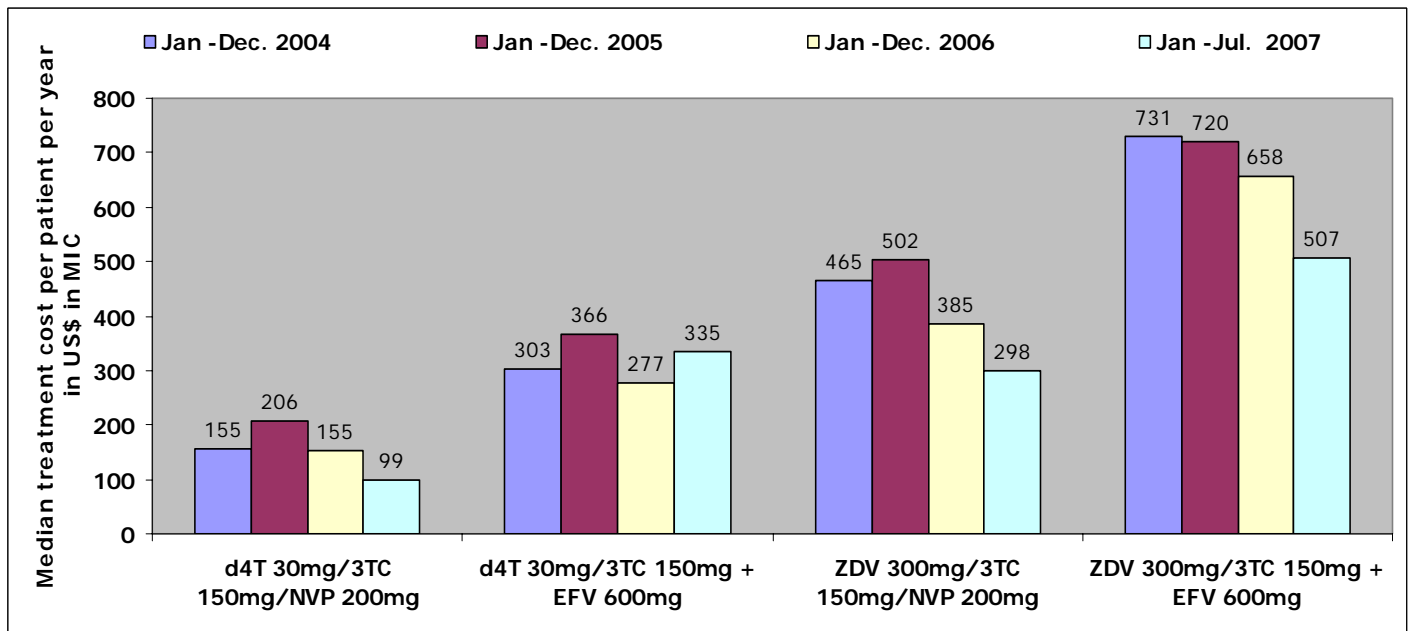
Over a period of 2004 to 2007, prices of first-line regimens for adults and infants (paediatrics) were clearly heading south. The trend could have been even more pronounced had it not been for the absence of approved paediatric fixed dose combination in this report. A lot remains to be done to bring the price for the paediatric treatment down. The price reductions for second-line regimens are lagging behind, largely because sustained decrease in costs of most second-line ARV drugs has not been achieved. This is especially true with regard to protease inhibitors in low-income countries where prices remained stable since 2004.

One of the many challenges in scaling-up towards universal access is the increasing need for individual countries to include more second-line drugs in their national procurement plans as greater number of patients will be expected to become eligible for second-line treatment due to the failure of the first-line treatment. National programmes will soon be confronted with dramatic budget increases in order to meet treatment programme requirements, thus theoretically putting these programmes at risk. Potential price reductions for second-line treatment, thanks to increased generic competition, are therefore of paramount importance to ensure sustainability of treatment programmes.

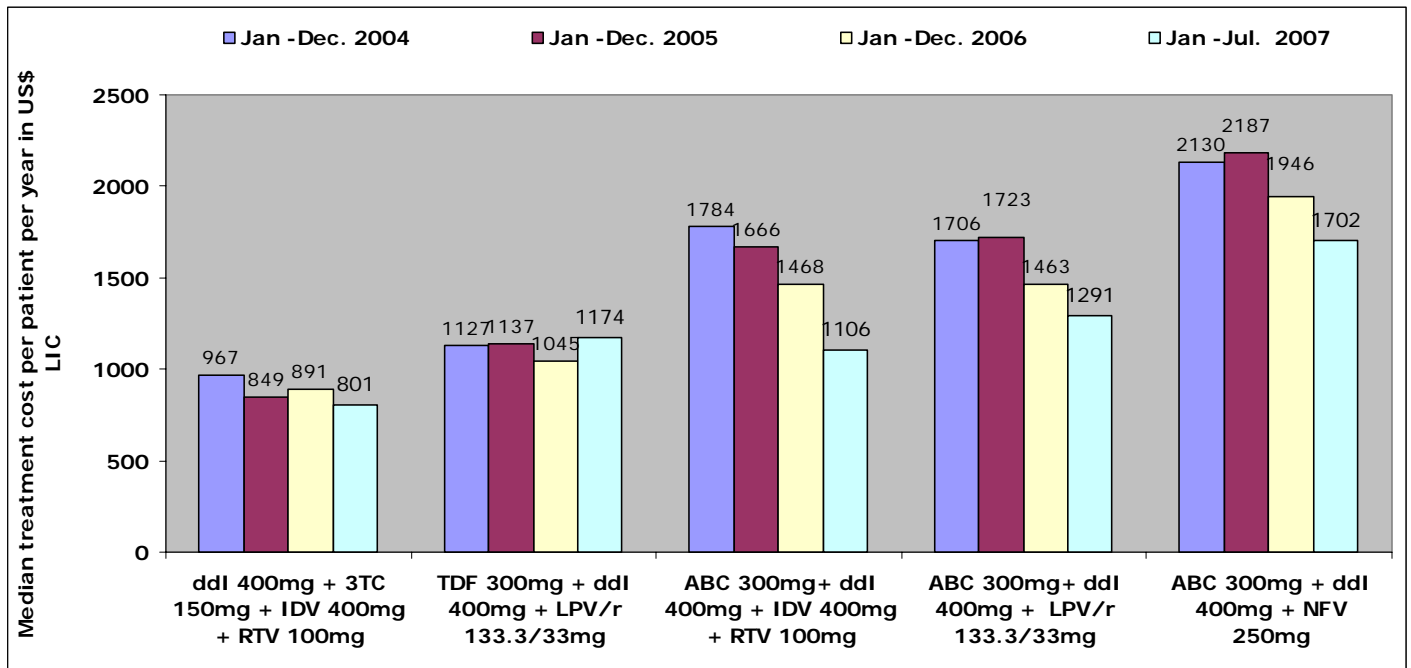
**Fig. 1a:** The price trend for the most commonly used **first-line regimens in low-income countries (LIC)** for adult patients.



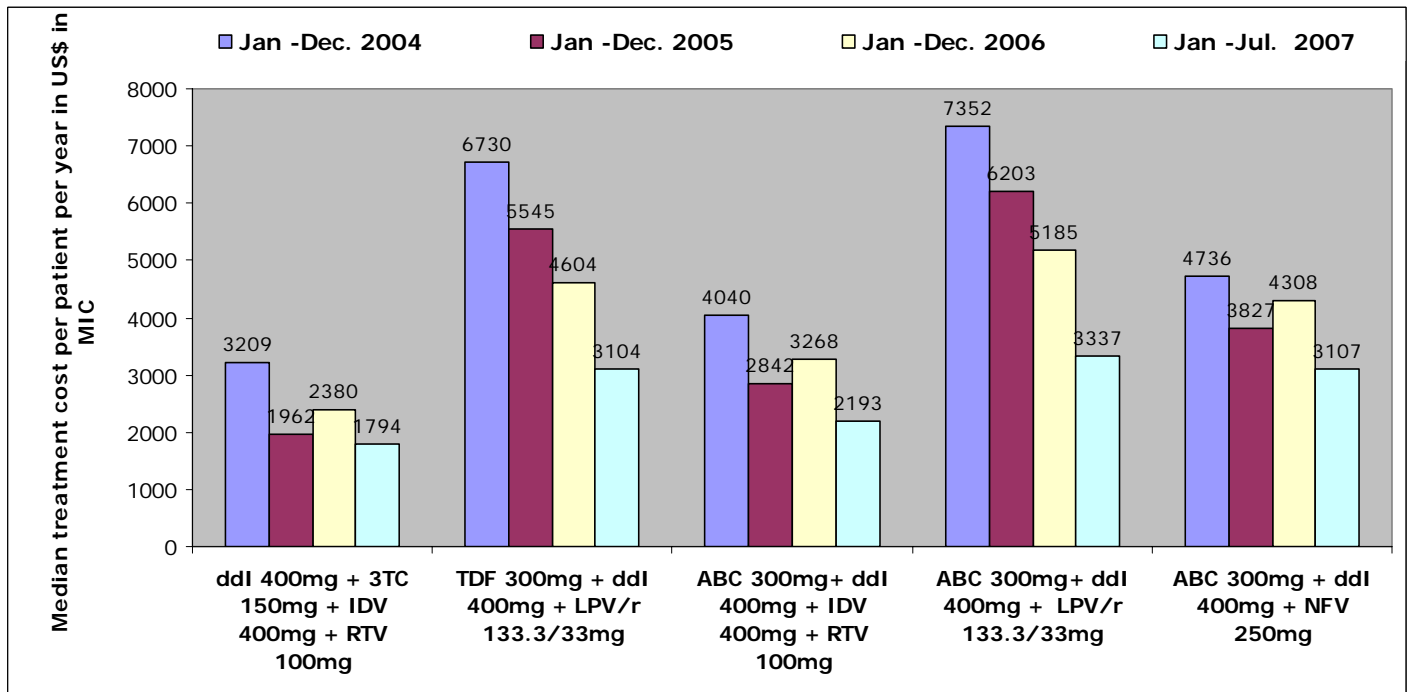
**Fig. 1b:** The price trend for the most commonly used **first-line regimens in middle-income countries (MIC)** for adult patients.



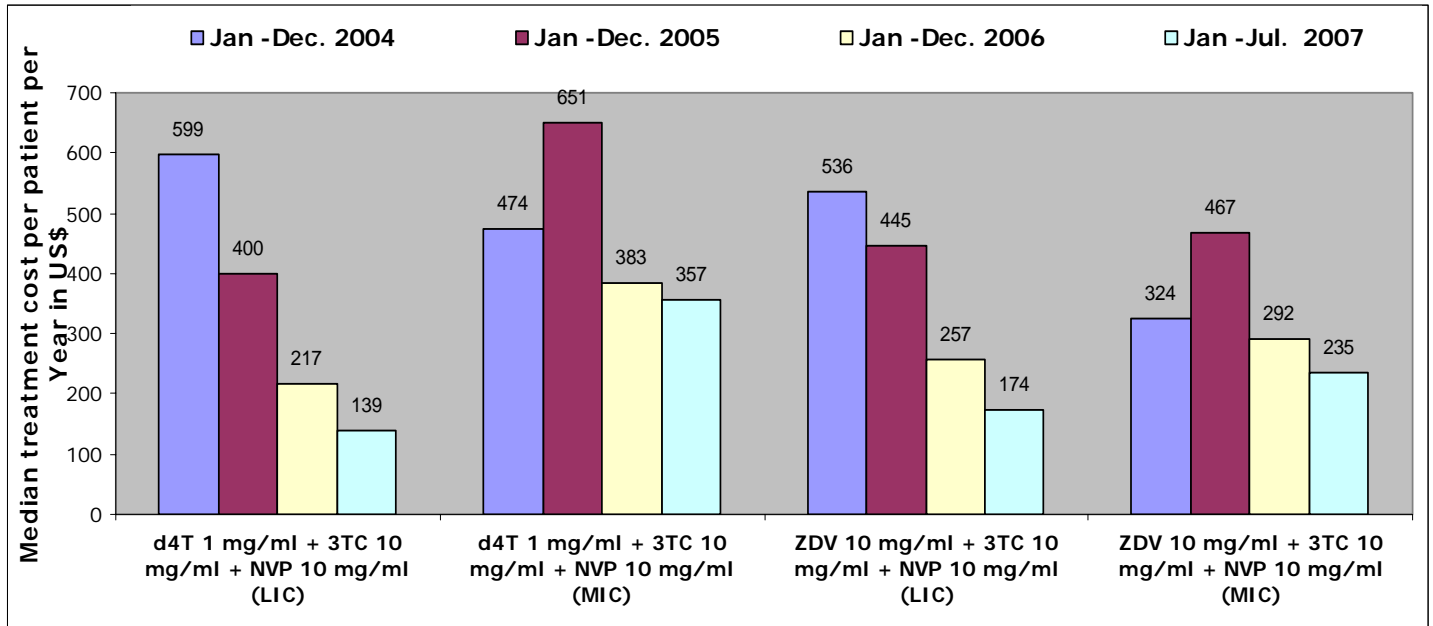
**Fig. 2a:** The price trend for the most commonly used **second-line regimens in low-income countries (LIC)** for adult patients.



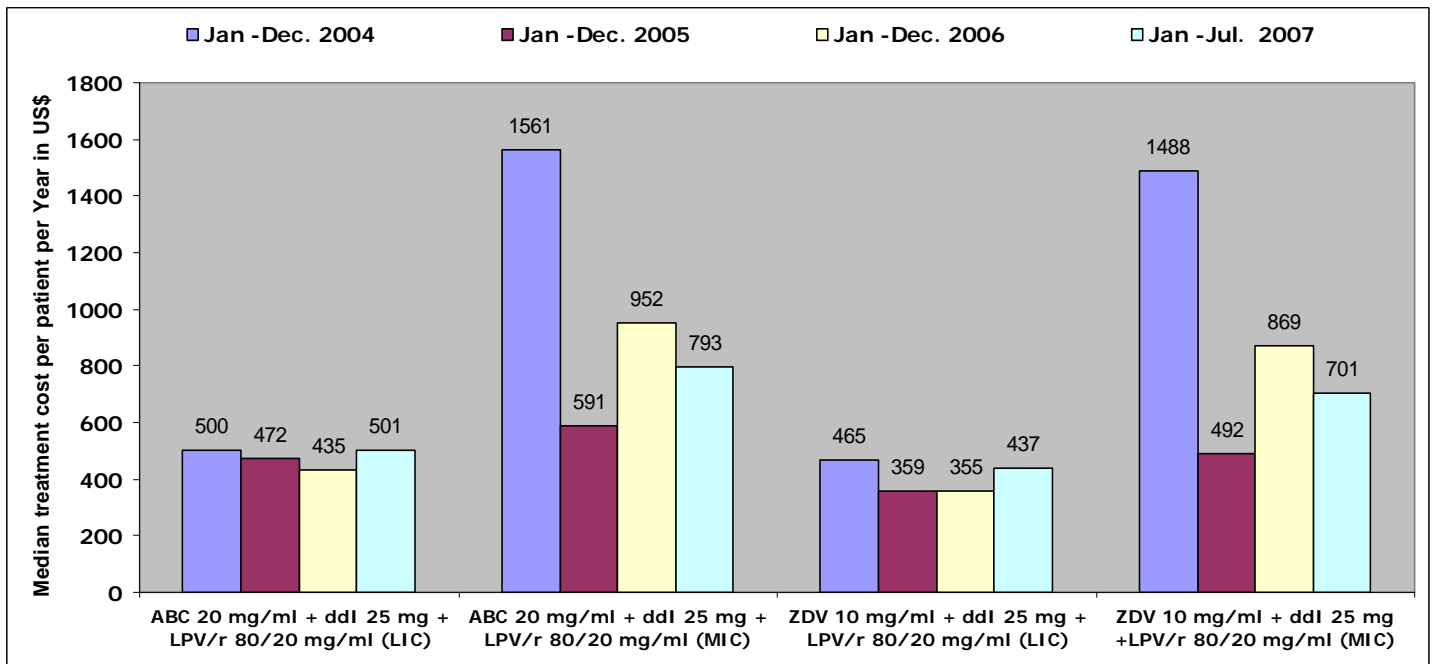
**Fig. 2b:** The price trend for the most commonly used **second-line regimens in middle-income countries (MIC)** for adult patients



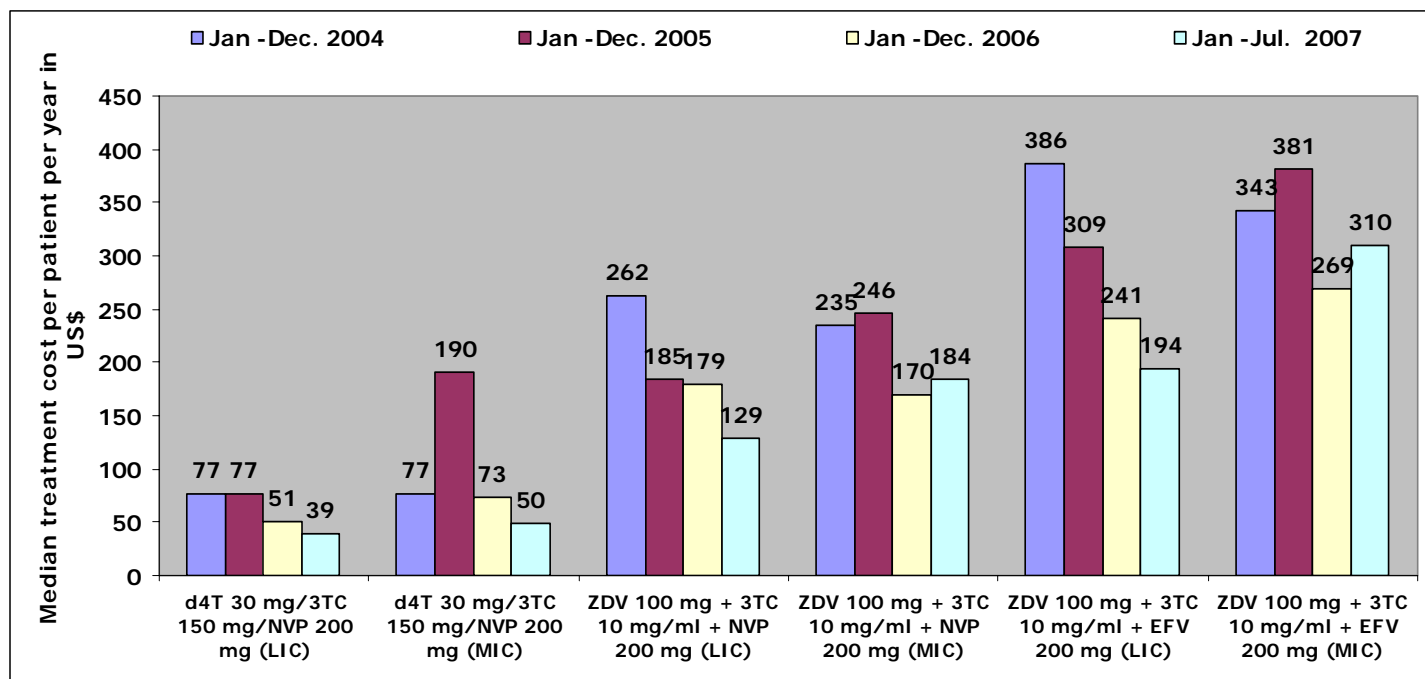
**Fig. 3a:** The price trend for the most commonly used **first-line regimens** in low- and middle-income countries (LIC/MIC) for paediatric patients (infant of 5 kg)



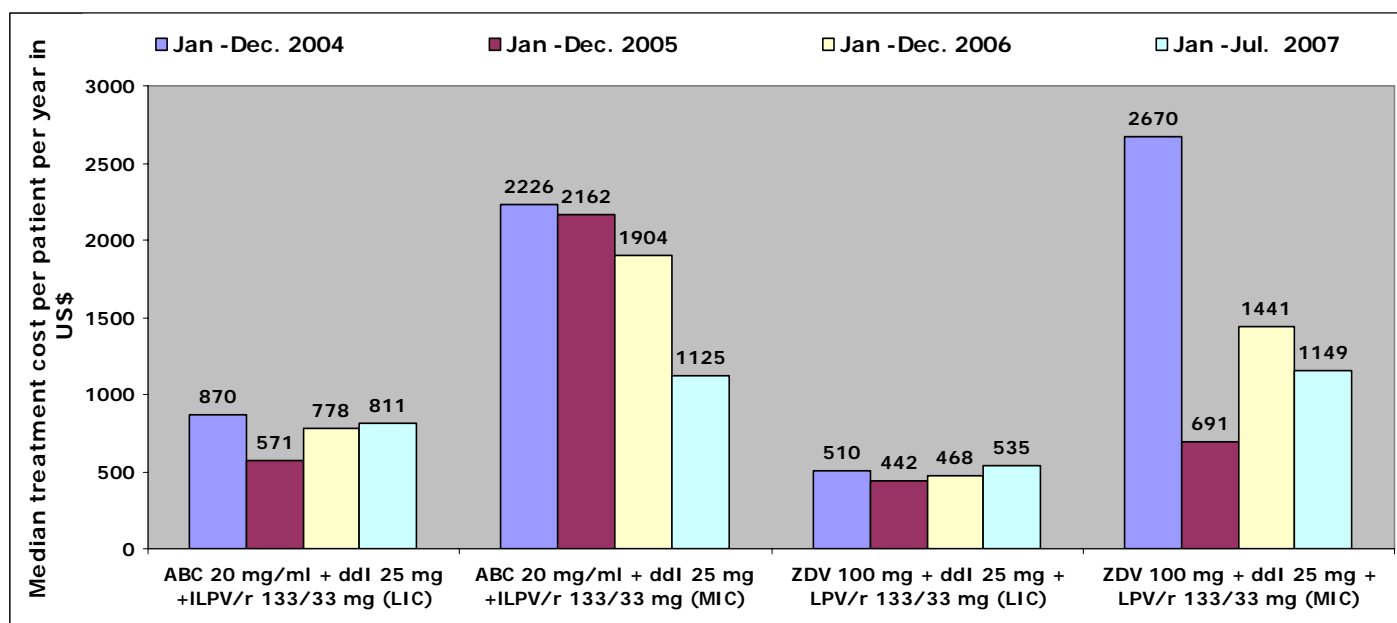
**Fig. 3b:** The price trend for the most commonly used **second-line regimens** in low- and middle-income countries (LIC/MIC) for paediatric patients (infant of 5 kg)



**Fig. 4a:** The price trend for the most commonly used **first-line regimens** in low- and middle-income countries (LIC/MIC) for paediatric patients (infant of 10 kg)



**Fig. 4b:** The price trend for the most commonly used **second-line regimens** in low- and middle-income countries (LIC/MIC) for paediatric patients (infant of 10 kg).



The summary report is intended to provide ARV pricing data to governments, non-governmental organizations, donors, international organizations, academia, and individuals or institutions directly involved or interested in the procurement of ARVs in resource-poor settings.

In order to make sure that this analysis reflects the reality of the ARV market, we have decided to update it regularly, and to increase annual production from two (2) to four (4) issues per year. The aim is to provide the stakeholders with genuinely up-to-date information. The next summary report will become available in October 2007, and will incorporate volume data for selected formulations.

Any suggestions you may have would be greatly appreciated. Please send your comments to Mr Boniface Dongmo Nguimfack at [dongmonguimfackb@who.int](mailto:dongmonguimfackb@who.int).

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