

REDACTED VERSION

ANNEX A – ANTIRETROVIRAL PRICES

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The tables contained in Appendix A report prices for individual antiretroviral drugs and for selected triple-drug antiretroviral therapies.

Tables A-1 through A-4 present VAT-inclusive wholesale prices in the private sector charged to pharmacies. Historical prices taken from the Pharmaceutical Blue Book were provided by Andrew Gray, Senior Lecturer at the University of Natal Nelson R. Mandela School of Medicine. Prices are shown over seven time periods from December 2000 to July 2003, and prices are presented for a “Pack” (30-day supply)¹, daily supply, and yearly supply of medicine. The data is also presented in US dollars according to the average exchange rate for the month to which the price quote applied. Exchange rates were taken from the historical database maintained by OANDA, Inc.

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2

Eight antiretroviral drugs are included: zidovudine (AZT), lamivudine (3TC), combivir (AZT+3TC), didanosine (ddl), stavudine (d4T), nevirapine, efavirenz, and nelfinavir. In addition, four triple-drug therapies are included: d4T+3TC+nevirapine, AZT+3TC+nevirapine, AZT+3TC+efavirenz, and AZT+3TC+nelfinavir. In the three regimens containing AZT+3TC, the price for combivir – not that of each drug individually – is added to the third drug.

The nucleoside reverse transcriptase inhibitors in the tables are sold by GlaxoSmithKline and Bristol Myers Squibb. Since the end of year 2000, the private-sector prices charged by GSK for Combivir and 3TC have fallen 20%, and price for AZT has not changed. The prices for Bristol-Myers Squibb’s ddl and d4T have fallen 55% and 96%, respectively.

The two non-nucleoside reverse transcriptase inhibitors are sold by Boehringer-Ingelheim and Merck. Boehringer-Ingelheim’s private sector price for nevirapine fell 68% between December 2000 and February 2001, and has not

¹ A “pack” of didanosine contains enough of the drug for a 15 day supply. Therefore, the tables presented in this report give the price for a 30-day supply, which amounts to one “pack” of each drug except for didanosine, for which the price of two “packs” is given.

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changed since then. Shortly after this price cut, Merck lowered the price of efavirenz by 75%. In both cases, the private sector prices leveled off after a one-time steep price cut.

Tables A-5 through A-8 show the best global price offered to the public sector for each of the drugs and triple-drug-therapies described above. (With the exception of nelfinavir, the best prices are offered by generic firms.) The data comes from the four issues of "Untangling the Web of Price Reductions: A Pricing Guide for the Purchase of ARVs for Developing Countries," editions 1 through 4, published by Medecins Sans Frontieres. Prices are shown over four time periods from October 2001 to May 2003. The original data listed prices as the cost of a drug per patient per year in U.S. dollars. These yearly prices were calculated into daily and monthly prices. The conversion to rand was then made based on monthly exchange rates taken from the OANDA, Inc. database.

The best global public sector prices are considerably lower than the private sector prices, and they fall over time as well. For nucleoside reverse transcriptase inhibitors, the price for generic versions of GlaxoSmithKline's AZT, 3TC and Combivir fell 27%, 28% and 29%, respectively, while the price for generic versions of Bristol-Myers Squibb's ddI and d4T fell 3% and 30%, respectively. For generic non-nucleoside reverse transcriptase inhibitors, the price of nevirapine fell 30% and the price of efavirenz fell 10%.

The best global public sector prices of the triple-drug therapies vary substantially from one to another. The lowest cost therapy (d4T+3TC+nevirapine), is 53% the price of the second-lowest (AZT+3TC+nevirapine), and 19% the price of the highest (AZT+3TC+nelfinavir).

Table A-9 presents the best world public-sector price offered by branded pharmaceutical manufacturers and the lowest prices offered by any manufacturer, branded or generic. Prices in this table are taken from the fourth edition of "Untangling the Web of Price Reductions: A Pricing Guide for the Purchase of ARVs for Developing Countries," by Medecins San Frontieres, which gives prices for May 2003. Aurobino sells AZT and AZT+3TC for 51% and 62% of the GSK price, respectively. Hetero sells 3TC for 51% of the GSK price, and it sells nevirapine for 24% of the Boehringer-Ingelheim price.

The private sector prices used in this annex were those found in the Pharmaceutical Blue Book, which is published by

Over the time period covered, exchange rates were highly volatile, ranging from 7.524 to 11.446. The tables in which prices have been converted from the original currency to the other currency are highly effected by the changes in the exchange rates.

REDACTED VERSION

This document benefited from suggestions and data provided by a number of persons, including Professor Andrew Gray, Senior Lecturer, Nelson R. Mandela School of Medicine, University of Natal, and by Rachel Cohen from Médecins Sans Frontières.

TABLES

TABLE A-1	Wholesale private sector prices of single drugs charged to pharmacies by branded pharmaceutical companies, VAT-included, in US Dollars
TABLE A-2	Wholesale private sector prices of triple-drug therapies charged to pharmacies by branded pharmaceutical companies, VAT-included, in US Dollars
TABLE A-3	Wholesale private sector prices of single drugs charged to pharmacies by branded pharmaceutical companies, VAT-included, in South African Rand
TABLE A-4	Wholesale private sector prices of triple-drug therapies charged to pharmacies by branded pharmaceutical companies, VAT-included, in South African Rand
TABLE A-5	Best world price (generic or branded) available to the South African public sector for single drugs, in US Dollars
TABLE A-6	Best world price (generic or branded) available to the South African public sector for triple-drug therapies, in US Dollars
TABLE A-7	Best world price (generic or branded) available to the South African public sector for single drugs, in South African Rand
TABLE A-8	Best world price (generic or branded) available to the South African public sector for triple-drug therapies, in South African Rand
TABLE A-9	Best world public-sector price offered by branded pharmaceutical manufacturers versus lowest world public-sector price offer
TABLE A-10	[REDACTED]
TABLE A-11	Exchange Rates
NOTE	Sources

TABLE A-1 Wholesale private sector prices of single drugs charged to pharmacies by branded pharmaceutical companies, VAT-included, in US Dollars*

DAY		Formulation	Quantity	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
AZT	300mg	2 Tabs					1.93	2.20	2.14	2.94
3TC	150mg	2 Tabs		3.98	3.89	3.52	2.13	2.42	2.36	3.23
AZT+3TC	300 + 150 mg	2 Tabs		4.98	4.86	4.40	2.66	3.02	2.95	4.04
Didanosine	200mg	4 Tabs		2.53	2.47	0.92	1.09	1.02	1.05	1.16
Stavudine	40 mg	2 Tabs		4.56	4.45	0.16	0.19	0.19	0.18	0.20
Nevirapine	200mg	2 Tabs		5.55	1.75	1.58	1.20	1.36	1.33	1.82
Efavirenz	200mg	3 Tabs		6.37	6.21	1.43	1.07	1.47	1.43	1.62
Nelfinavir	250mg	9 Tabs		9.86	9.63	8.72	6.57	8.89	8.67	3.44

MONTH		Formulation	Quantity	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
AZT	300mg	60 Tabs					57.98	65.92	64.32	88.20
3TC	150mg	60 Tabs		119.55	116.69	105.68	63.75	72.51	70.76	97.02
AZT+3TC	300 + 150 mg	60 Tabs		149.44	145.86	132.10	79.68	90.59	88.40	121.21
Didanosine	200mg	2 Packs of 60		76.04	74.22	27.62	32.10	30.61	31.36	34.81
Stavudine	40 mg	60 Tabs		136.83	133.55	4.88	5.65	5.40	5.54	6.14
Nevirapine	200mg	60 Tabs		166.39	52.51	47.58	35.86	40.77	39.78	54.55
Efavirenz	200mg	90 Tabs		190.99	186.41	42.74	32.23	43.96	42.90	48.51
Nelfinavir	250mg	270 Tabs		295.90	288.81	261.56	197.21	266.56	260.12	103.31

YEAR		Formulation	Quantity	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
AZT	300mg	730 Tabs					704.45	803.00	781.10	1073.10
3TC	150mg	730 Tabs		1452.70	1419.85	1284.80	777.45	883.30	861.40	1178.95
AZT+3TC	300 + 150 mg	730 Tabs		1817.70	1773.90	1606.00	970.90	1102.30	1076.75	1474.60
Didanosine	200mg	1460 Tabs		924.90	902.74	336.25	397.67	372.34	381.74	423.51
Stavudine	40 mg	730 Tabs		1664.63	1624.75	59.21	68.56	65.62	67.22	74.71
Nevirapine	200mg	730 Tabs		2025.75	638.75	576.70	438.00	496.40	485.45	664.30
Efavirenz	200mg	1095 Tabs		2323.49	2267.84	520.24	392.25	534.77	521.84	590.39
Nelfinavir	250mg	3285 Tabs		3600.07	3513.84	3182.37	2399.41	3243.05	3164.69	1256.95

TABLE A-2 Wholesale private sector prices of triple-drug therapies charged to pharmacies by branded pharmaceutical companies, VAT-included, in US Dollars*

DAY	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
Cocktail							
d4T+3TC+nevirapine	14.09	10.09	5.26	3.52	3.97	3.87	5.25
Combivir+nevirapine	10.53	6.61	5.98	3.86	4.38	4.28	5.86
Combivir+Efavirenz	11.35	11.07	5.83	3.73	4.49	4.38	5.66
Combivir+Nelfinavir	14.84	14.49	13.12	9.23	11.91	11.62	7.48

MONTH	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
Cocktail							
d4T+3TC+nevirapine	422.77	302.75	158.14	105.26	118.68	116.08	157.71
Combivir+nevirapine	315.83	198.37	179.68	115.54	131.36	128.18	175.76
Combivir+Efavirenz	340.43	332.27	174.84	111.91	134.55	131.30	169.72
Combivir+Nelfinavir	445.34	434.67	393.66	276.89	357.15	348.52	224.52

Year	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
Cocktail							
d4T+3TC+nevirapine	5143.08	3683.35	1920.71	1284.01	1445.32	1414.07	1917.96
Combivir+nevirapine	3843.45	2412.65	2182.70	1408.90	1598.70	1562.20	2138.90
Combivir+Efavirenz	4141.19	4041.74	2126.24	1363.15	1637.07	1598.59	2064.99
Combivir+Nelfinavir	5417.77	5287.74	4788.37	3370.31	4345.35	4241.44	2731.55

For dosage and quantity required of each drug in cocktail, see the price charts for individual drugs.

REDACTED VERSION

TABLE A-3 Wholesale private sector prices of single drugs charged to pharmacies by branded pharmaceutical companies, VAT-included, in South African Rand*

DAY

Drug	Formulation	Quantity	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
AZT	300mg	2 Tabs				22.12	22.12	22.12	22.12
3TC	150mg	2 Tabs	30.40	30.40	30.40	24.32	24.33	24.33	24.33
AZT+3TC	300 + 150 mg	2 Tabs	38.00	38.00	38.00	30.40	30.40	30.40	30.40
Didanosine	100mg	4 Tabs	19.33	19.33	7.95	12.47	10.27	10.79	8.73
Stavudine	40mg	2 Tabs	34.79	34.79	1.40	2.15	1.81	1.90	1.54
Nevirapine	200mg	2 Tabs	42.31	13.68	13.68	13.68	13.68	13.68	13.68
Efavirenz	200mg	3 Tabs	48.56	48.56	12.30	12.30	14.75	14.75	12.17
Nelfinavir	250mg	9 Tabs	75.24	75.24	75.24	75.24	89.45	89.45	25.91

MONTH

Drug	Formulation	Quantity	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
AZT	300mg	60 Tabs				663.62	663.62	663.62	663.62
3TC	150mg	60 Tabs	912.00	912.00	912.00	729.60	730.00	730.00	730.00
AZT+3TC	300 + 150 mg	60 Tabs	1140.00	1140.00	1140.00	912.00	912.00	912.00	912.00
Didanosine	100mg	2 Packs of 60	580.04	580.04	238.38	367.40	308.16	323.56	261.90
Stavudine	40mg	60 Tabs	1043.78	1043.78	42.07	64.63	54.38	57.11	46.22
Nevirapine	200mg	60 Tabs	1269.30	410.40	410.40	410.40	410.40	410.40	410.40
Efavirenz	200mg	90 Tabs	1456.92	1456.92	368.85	368.85	442.61	442.61	365.00
Nelfinavir	250mg	270 Tabs	2257.20	2257.20	2257.20	2257.20	2683.56	2683.56	777.29

YEAR

Drug	Formulation	Quantity	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
AZT	300mg	730 Tabs				8073.80	8073.80	8073.80	8073.80
3TC	150mg	730 Tabs	11069.00	11069.00	11069.00	8876.80	8880.45	8880.45	8880.45
AZT+3TC	300 + 150 mg	730 Tabs	13870.00	13870.00	13870.00	13870.00	11096.00	11096.00	11096.00
Didanosine	100mg	1460 Tabs	7055.45	7055.45	2901.75	4551.55	3748.55	3938.35	3186.45
Stavudine	40mg	730 Tabs	12698.35	12698.35	511.00	784.75	660.65	693.50	562.10
Nevirapine	200mg	730 Tabs	15443.15	4993.20	4993.20	4993.20	4993.20	4993.20	4993.20
Efavirenz	200mg	1095 Tabs	17724.40	17724.40	4489.50	4489.50	5383.75	5383.75	4442.05
Nelfinavir	250mg	3285 Tabs	27462.60	27462.60	27462.60	27462.60	32649.25	32649.25	9457.15

TABLE A-4 Wholesale private sector prices of triple-drug therapies charged to pharmacies by branded pharmaceutical companies, VAT-included, in South African Rand*

DAY	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
Cocktail							
d4T+3TC+nevirapine	107.50	78.87	45.48	40.15	39.82	39.91	39.55
Combivir+nevirapine	80.31	51.68	51.68	44.08	44.08	44.08	44.08
Combivir+Efavirenz	86.56	86.56	50.30	42.70	45.15	45.15	42.57
Combivir+Nelfinavir	113.24	113.24	113.24	105.64	119.85	119.85	25.91

MONTH	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
Cocktail							
d4T+3TC+nevirapine	3225.08	2366.18	1364.47	1204.63	1194.78	1197.51	1186.62
Combivir+nevirapine	13838.30	1550.40	1550.40	1322.40	1322.40	1322.40	1322.40
Combivir+Efavirenz	2596.92	2596.92	1508.85	1280.85	1354.61	1354.61	1277.00
Combivir+Nelfinavir	3397.20	3397.20	3397.20	3169.20	3595.56	3595.56	1689.29

Year	Price - 12/00	Price - 02/01	Price - 09/01	Price - 02/02	Price - 07/02	Price - 10/02	Price - 07/03
Cocktail							
d4T+3TC+nevirapine	39210.50	28760.55	16573.20	14654.75	14534.30	14567.15	14435.75
Combivir+nevirapine	29313.15	18863.20	18863.20	16089.20	16089.20	16089.20	16089.20
Combivir+Efavirenz	31594.40	31594.40	18359.50	15585.50	16479.75	16479.75	15538.05
Combivir+Nelfinavir	41332.60	41332.60	41332.60	38558.60	43745.25	43745.25	20553.15

For dosage and quantity required of each drug in cocktail, see the price charts for individual drugs.

TABLE A-5 Best world price (generic or branded) available to the South African public sector for single drugs, in US Dollars**

DAY	Drug	Dosage	Quantity	Oct-01	Jun-02	Dec-02	May-03
	AZT	300mg	2 Tabs	0.53	0.38	0.38	0.38
	3TC	150mg	2 Tabs	0.25	0.18	0.18	0.18
	AZT+3TC	300+150mg	2 Tabs	0.78	0.56	0.56	0.56
	Didanosine	100mg	4 Tabs	0.52	0.54	0.51	0.51
	Stavudine	40mg	2 Tabs	0.12	0.08	0.08	0.08
	Nevirapine	200mg	2 Tabs	0.41	0.31	0.29	0.29
	Efavirenz	200mg	3 Tabs	1.33	1.20	1.20	1.20
	Nelfinavir	250mg	9 Tabs	8.01	4.20	4.11	2.41

MONTH	Drug	Dosage	Quantity	Oct-01	Jun-02	Dec-02	May-03
	AZT	300mg	60 Tabs	15.90	11.40	11.40	11.40
	3TC	150mg	60 Tabs	7.50	5.40	5.40	5.40
	AZT+3TC	300+150mg	60 Tabs	23.40	16.80	16.80	16.80
	Didanosine	100mg	2 Packs of 60	15.60	16.20	15.30	15.30
	Stavudine	40mg	60 Tabs	3.60	2.40	2.40	2.55
	Nevirapine	200mg	60 Tabs	12.30	9.30	8.70	8.70
	Efavirenz	200mg	90 Tabs	39.90	36.00	36.00	36.00
	Nelfinavir	250mg	270 Tabs	240.30	126.00	123.30	72.30

YEAR	Drug	Dosage	Quantity	Oct-01	Jun-02	Dec-02	May-03
	AZT	300mg	730 Tabs	193.00	140.00	140.00	140.00
	3TC	150mg	730 Tabs	91.00	66.00	65.00	65.00
	AZT+3TC	300+150mg	730 Tabs	285.00	204.00	204.00	204.00
	Didanosine	100mg	1460 Tabs	190.00	197.00	185.00	185.00
	Stavudine	40mg	730 Tabs	44.00	31.00	31.00	31.00
	Nevirapine	200mg	730 Tabs	150.00	112.00	105.00	105.00
	Efavirenz	200mg	1095 Tabs	485.00	438.00	438.00	438.00
	Nelfinavir	250mg	3285 Tabs	2924.00	1533.00	1500.00	880.00

TABLE A-6 Best world price (generic or branded) available to the South African public sector for triple-drug therapies, in US Dollars**

DAY		Oct-01	Jun-02	Dec-02	May-03
Cocktail					
d4T+3TC+nevirapine		0.81	0.57	0.55	0.55
Combivir+nevirapine		1.19	1.15	1.05	1.05
Combivir+Efavirenz		2.11	1.76	1.76	1.76
Combivir+Nelfinavir		8.79	4.76	4.67	2.97

MONTH		Oct-01	Jun-02	Dec-02	May-03
Cocktail					
d4T+3TC+nevirapine		24.30	17.10	16.65	16.65
Combivir+nevirapine		35.70	34.50	31.50	31.50
Combivir+Efavirenz		63.30	52.80	52.80	52.80
Combivir+Nelfinavir		263.70	142.80	140.10	89.10

Year		Oct-01	Jun-02	Dec-02	May-03
Cocktail					
d4T+3TC+nevirapine		295.00	209.00	201.00	201.00
Combivir+nevirapine		435.00	419.00	383.00	383.00
Combivir+Efavirenz		770.00	642.00	642.00	642.00
Combivir+Nelfinavir		3209.00	1737.00	1704.00	1084.00

For dosage and quantity required of each drug in cocktail, see the price charts for individual drugs.

TABLE A-7 Best world price (generic or branded) available to the South African public sector for single drugs, in South African Rand**

DAY	Drug	Dosage	Quantity	Oct-01	Jun-02	Dec-02	May-03
	AZT	300mg	2 Tabs	4.91	3.87	3.41	2.90
	3TC	150mg	2 Tabs	2.31	1.83	1.62	1.38
	AZT+3TC	300+150mg	2 Tabs	7.22	5.70	5.03	4.28
	Didanosine	100mg	4 Tabs	4.81	5.49	4.58	3.90
	Stavudine	40mg	2 Tabs	1.11	0.81	0.72	0.61
	Nevirapine	200mg	2 Tabs	3.80	3.15	2.60	2.22
	Efavirenz	200mg	3 Tabs	12.31	12.21	10.77	9.17
	Nelfinavir	250mg	9 Tabs	74.15	42.72	36.89	18.41

MONTH	Drug	Dosage	Quantity	Oct-01	Jun-02	Dec-02	May-03
	AZT	300mg	60 Tabs	147.20	115.96	102.31	87.09
	3TC	150mg	60 Tabs	69.43	54.93	48.46	41.25
	AZT+3TC	300+150mg	60 Tabs	216.63	170.90	150.78	128.34
	Didanosine	100mg	2 Packs of 60	144.42	164.79	137.32	116.88
	Stavudine	40mg	60 Tabs	33.33	24.41	21.54	19.48
	Nevirapine	200mg	60 Tabs	113.87	94.60	78.08	66.46
	Efavirenz	200mg	90 Tabs	369.38	366.20	323.09	275.01
	Nelfinavir	250mg	270 Tabs	2224.63	1281.71	1106.60	552.31

YEAR	Drug	Dosage	Quantity	Oct-01	Jun-02	Dec-02	May-03
	AZT	300mg	730 Tabs	1786.74	1424.13	1256.48	1069.47
	3TC	150mg	730 Tabs	842.45	671.37	583.37	496.54
	AZT+3TC	300+150mg	730 Tabs	2638.46	2075.16	1830.87	1558.38
	Didanosine	100mg	1460 Tabs	1758.97	2003.95	1660.35	1413.23
	Stavudine	40mg	730 Tabs	407.34	315.34	278.22	236.81
	Nevirapine	200mg	730 Tabs	1388.66	1139.30	942.36	802.11
	Efavirenz	200mg	1095 Tabs	4490.00	4455.48	3930.98	3345.93
	Nelfinavir	250mg	3285 Tabs	2706963.00	15594.20	13462.28	6722.41

TABLE A-8 Best world price (generic or branded) available to the South African public sector for triple-drug therapies, in South African Rand**

DAY		Oct-01	Jun-02	Dec-02	May-03
Cocktail					
d4T+3TC+nevirapine		7.50	5.80	4.94	4.21
Combivir+nevirapine		11.02	11.70	9.42	8.02
Combivir+Efavirenz		19.53	17.90	15.80	13.44
Combivir+Nelfinavir		81.38	48.42	42.72	22.69

MONTH		Oct-01	Jun-02	Dec-02	May-03
Cocktail					
d4T+3TC+nevirapine		224.96	173.95	149.43	127.19
Combivir+nevirapine		330.50	350.95	282.71	240.63
Combivir+Efavirenz		586.01	537.10	473.87	403.34
Combivir+Nelfinavir		2441.27	1444.47	1257.38	680.64

Year		Oct-01	Jun-02	Dec-02	May-03
Cocktail					
d4T+3TC+nevirapine		2731.03	2126.02	1803.94	1535.46
Combivir+nevirapine		3999.34	4262.21	3437.37	2925.76
Combivir+Efavirenz		7128.45	6530.64	5761.85	4904.30
Combivir+Nelfinavir		29708.09	17669.35	15293.14	8280.78

For dosage and quantity required of each drug in cocktail, see the price charts for individual drugs.

TABLE A-9 Best world public-sector price offered by branded pharmaceutical manufacturers versus lowest world public-sector price offer**

Drug	Branded Company	Branded USD per year	Lowest-Price Company	Lowest-Price USD per year
AZT	GSK	274.00	Aurobindo	140.00
3TC	GSK	128.00	Hetero	65.00
AZT+3TC	GSK	329.00	Aurobindo	204.00
Didanosine	BMS	310.00	Cipla	185.00
Stavudine	BMS	49.00	Aurobindo	31.00
Nevirapine	BI	438.00	Hetero	105.00
Efavirenz	Merck	500.00	Aurobindo	438.00
Nelfinavir	Roche	880.00	Roche	880.00

Table A-10 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

TABLE A-11 Exchange rates****

Chapter A Rand to Dollar

December 2000	0.13109
February 2001	0.12795
September 2001	0.11588
February 2002	0.08737
July 2002	0.09933
October 2002	0.09693
July 2003	0.13291

Chapter B Dollar to Rand

October 2001	9.25774
June 2002	10.17234
December 2002	8.97485
May 2003	7.63910

Sources:

* Public sector prices from the “Pharmaceutical Blue Book,” published by Pharmaceutical Publishers, a subsidiary of Alex WhiteHoldings Limited .

** Best possible prices from “Untangling the Web of Price Reductions,” published by Médecins Sans Frontières. Volumes 1-4.

*** **[REDACTED]**

****Exchange rates taken from historical exchange rate database maintained by OADNA Inc.