Follow up RPM Plus Activities and Forecast of Antiretrovirals Required for President's Emergency Plan for AIDS Relief Programs in Haiti, April 4-9, 2005: Trip Report

Laila Akhlaghi
Michael Derosena

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Rational Pharmaceutical Management Plus
Center for Pharmaceutical Management
Management Sciences for Health
4301 N. Fairfax Drive, Suite 400
Arlington, VA 22203 USA
Phone: 703-524-6575
Fax: 703-524-7898
E-mail: rpmplus@msh.org

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About RPM Plus

RPM Plus works in more than 20 developing and transitional countries to provide technical assistance to strengthen drug and health commodity management systems. The program offers technical guidance and assists in strategy development and program implementation both in improving the availability of health commodities—pharmaceuticals, vaccines, supplies, and basic medical equipment—of assured quality for maternal and child health, HIV/AIDS, infectious diseases, and family planning and in promoting the appropriate use of health commodities in the public and private sectors.

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Rational Pharmaceutical Management Plus
Center for Pharmaceutical Management
Management Sciences for Health
4301 North Fairfax Drive, Suite 400
Arlington, VA 22203 USA
Telephone: 703-524-6575
Fax: 703-524-7898
E-mail: rpmplus@msh.org
Web: www.msh.org/rpmplus

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ACRONYMS

ART	Antiretroviral treatment
ARV	Antiretroviral
CDC	Center for Disease Control
COP	Country operating plan
GHESKIO	Haitian Group of Study of the Kaposi Sarcoma and Opportunistic Infections
HIV/AIDS	Human immunodeficiency virus/acquired immune deficiency syndrome
HS2007	Haiti Health 2007
IDA	International Dispensary Association
MSH	Management Sciences for Health
PEPFAR	President's Emergency Plan For AIDS Relief
PMTCT	Prevention of mother to child transmission
PROMESS	Central Medical Store
RPM Plus	Rational Pharmaceutical Management Plus
SOGEBANK	General society of bank
USAID	United States Agency for International Development
USG	United States Government
VCT	Voluntary council testing

BACKGROUND

The national VCT/PMTCT/HIV/AIDS program in Haiti has made significant progress during the past year with support from the Global Fund and the US Government through USAID and CDC. Although the number of HIV infected people in need of treatment is still high, the number currently receiving services has doubled to reach approximately 3,000. The Presidential Emergency Plan aims to target 3,900 infected people by the end of March, which means that national authorities and donors should ensure that ARVs stock and other HIV/AIDS related products are enough to cover this target and are constantly available in the country. In order to meet this condition, managers in ART centers should be able to provide accurate data on patients, regimen, and drug consumption, for forecasting and quantification of needs. Haiti has been struggling for years to conduct a national quantification exercise providing accurate data for procurement of ARVs. Lack of information, knowledge, and drug management tools leads generally to underestimate the quantity of drugs required for case management and scaling up. As a result, ART centers always experience shortages in basic products and materials. RPM Plus has been requested by USAID to assist national authorities with a drug management tool and provide adequate training for improving capacities in quantification.

RPM Plus has developed a software called *Quantimed* which was designed to facilitate the process of determining the quantities of medicines and medical supplies required for a health program and to assist in planning and budgeting. As the country is aggressively extending the ART program, RPM Plus plans to implement Quantimed for use at the national level, and a less sophisticated quantification tool for use at the facility level.

Purpose of Trip

Michael Derosena and Laila Akhlaghi will work with the USG team, other donors and implementing agencies, as well as with RPM Plus staff in Haiti, to conduct a quantification exercise in the light of current needs and scale up of ART services as planned under the President's Emergency Plan For AIDS Relief (PEPFAR) and the Global Fund objectives. Michael Derosena will also assist RPM Plus/Haiti in preparation for and serve as a resource person for upcoming USG audit in Haiti.

Scope of Work

- Meet with USAID and other partners as needed to solicit their input concerning the quantification exercise in preparation for the planned procurement of medicines and supplies.

- Ensure the collection of data related to ART services and HIV/AIDS-related medicines and supplies required for the quantification exercise.

- Discuss approaches for follow up and technical assistance as needed in the utilization of Quantimed as a tool for future quantification exercises.

- Assist RPM Plus team in providing the necessary information for the USG audit.

- Participate in a departure debriefing for USAID/Haiti as requested.

ACTIVITIES

- Meet with USAID and other partners as needed to solicit their input to the quantification exercise in preparation for the planned procurement of medicines and supplies.

- Ensure the collection of data related to ART services and HIV/AIDS-related medicines and supplies required for the quantification exercise.

  Laila Akhlaghi met with Erlie Blot on Monday April 4th. Ms. Blot shared data on ARV orders placed with the International Dispensary Association (IDA) by various partners in Haiti, specifically which orders had arrived and which orders remained to be delivered. Ms. Akhlaghi also met with staff at GHESKIO (Chief pharmacist and Chief Medical Officer) to gather data on the number of patients on antiretroviral therapy, inventory of ARVs at GHESKIO and projections for the number of adults and children to be placed on ART by the end of the procurement period. RPM Plus and HS 2007 staff were also consulted on inventory of ARVs kept at the RPM Plus office, number of patients to be placed on treatment by other ART programs in Haiti, and projections for growth.

  The gathered data was entered into Excel spreadsheets and assumptions were made on data that could not be gathered. This document was shared with USAID Mission and other stakeholders. Once approval was given on the use of data and assumption, the quantification exercise was completed with the use of Quantimed. The initial data and assumptions used and the result of the exercise are attached in Annex 1. Following the Haiti trip, additional data and information were shared and included in updated quantification exercises to finalize the procurement figures. The final procurement figures are not represented in Annex 1.

- Discuss approaches for follow up and technical assistance as needed in the utilization of Quantimed as a tool for future quantification exercises.

  Training of relevant staff was planned for a later time when representatives from SOGEBANK, HS 2007 and USAID/Haiti would be available.

- Assist RPM Plus team in providing the necessary information for the USG audit.

  Different meetings were conducted with the RPM Plus team to discuss tasks and responsibilities in preparation of the PEPFAR audit. Michael Derosena met with the local RPM Plus Advisor to review the management aspects of RPM Plus activities and the technical work being conducted as well as all logistics and distribution of HIV/AIDS products to ART centers. In anticipation of the audit, the list of tasks was reviewed and discussed during a preparatory meeting with Max Mondestin and Georges Duperval. There were some issues related to the assessment visits of the depots at the ART centers, especially with regard to the final results and follow up for interventions. The USAID Mission had, during a previous meeting, given approval to RPM Plus to conduct the rehabilitation of selected ART warehouses. Any work exceeding $ 5,000 would be taken over by the bilateral project HS2007. At the time of the visit, preliminary information on the number of warehouses to be covered by RPM Plus was available, but the overall assessment report was

not finalized yet since there was missing information from a consultant hired by RPM Plus, who covered the Southern part of the country (Jacmel, Cayes, and Jérémie Hospitals), and another consultant provided by HS2007. The team was instructed to speed up the process of finalization of the report and coordinate with the CDC staff in Haiti who also contributed to the assessment.

Another issue was the reconciliation of the physical stock of HIV/AIDS products with the stock cards. Numerous discrepancies were found between the reported quantities on the stock cards and the physical count, especially for Nevirapine and Efavirenz. Furthermore, the logistician experienced some problems in filling the required information on the stock cards. It was necessary to reenter the data on new stock cards while providing appropriate training to the logistician. However, this work was only partially done due to the abrupt departure of the logistician to Miami.

This visit also offered an opportunity to review the storage conditions of the products. RPM Plus provided a sheet that was placed on the walls as a guideline to the warehouse manager (annex 2). Although he seemed theoretically aware of the required temperatures, there were some problems with the Kaletra and the test kits that were not maintained according to the norms. These products were destroyed and replaced later by RPM Plus.

- Participate in a departure debriefing for USAID/Haiti as requested.

  USAID/Haiti did not request a departure debriefing.

Collaborators and Partners

USAID: Chris Barratt, Erlie Blot;
GHESKIO: Dr. Reynold Grand Pierre,
HS2007: Georges Dubuche,
PROMESS: Sandra Guerrier
RPM Plus/Haiti: Georges Ntumba, Max Mondestin, Georges Duperval

Adjustments to Planned Activities and/or Additional Activities

Quantification of ARVs did not end on Friday of April 2005. Following the Haiti trip, additional data and information were shared and were included in updated quantification exercises to finalize the procurement figures. Moreover, updating the stock cards and reviewing the storage conditions of the products required extra work following the return of the logistician from Miami.

NEXT STEPS

Immediate Follow-up Activities

Training of HS2007, USAID/Haiti and SOGEBANK staff on Quantimed was planned at the RPM Plus office in Arlington VA for the Fall of 2005.

The quantification exercise was continually updated to reflect changes in treatments, program growth, donor(s) requirements and updates to other data and assumptions used in the exercise.

The local team will also continue to collect the missing documents and finalize the preparation of the audit.

Important Upcoming Activities or Benchmarks in Program

The Audit of PEPFAR activities.

ANNEX 1. INFORMATION AND ASSUMPTIONS USED IN HAITI ARV QUANTIFICATION FOR COP '05

Background:

The national VCT/PMTCT/HIV/AIDS program in Haiti has made significant progress for the past year with support from the Global Fund and the US Government through USAID and CDC. Although the number of HIV infected people in need of treatment is still high, the number currently receiving services has doubled to reach approximately 3,000. The Presidential Emergency Plan aims to target 3,900 infected people by the end of March, which means that national authorities and donors should ensure that ARVs stock and other HIV/AIDS related products are enough to cover this target and are constantly available in the country. In order to meet this condition, managers in ART centers should be able to provide accurate data on patients, regimen, and drug consumption for forecasting and quantification of needs. Haiti has been struggling for years to conduct a national quantification exercise providing accurate data for procurement of ARVs. Lack of information, knowledge, and drug management tools leads generally to underestimate quantity of drugs required for case management and scaling up. As a result, ART centers always experience shortages in basic products and materials.

RPM Plus has developed a software called *Quantimed* which was designed to facilitate the process of determining the quantities of medicines and medical supplies required for a health program and to assist in planning and budgeting. This tool was used in determining the quantities of ARVs required in Haiti for COP'05.

RPM Plus (including staff from the Haiti office) worked with other donors and implementing agencies, to conduct the quantification exercise in the light of current needs and scale up of ART services as planned under the President's Emergency Plan and the Global Fund objectives.

Information on regimens used at various facilities, ARVs in stock and on order was gathered by RPM Plus Haiti staff and used in the quantification exercise. All information and assumption gathered and the resulting ARV needs are listed below.

SCOPE:
The focus of the quantification was on ARVs used in antiretroviral therapy (ART). ARVs used in PMTCT were not considered as they are obtained through donation programs. The number of patients used at each facility on treatment each month is detailed below.

SCALE-UP TRENDS:

Assumptions for GHESKIO:

Information was not available at GHESKIO on the total number of active patients on each ART regimen per month. The total number of patients started on each ART regimen through the course of the program was available. Some assumptions were required to be made based on this information and these are listed below:

- Attrition rates have been decreasing and were not considered in the exercise.
- Attrition rates were considered to be in the same proportion with pediatrics as with adults.
- 14.5% of all patients placed on treatment at GHESKIO are pediatric patients. There is also an average growth of 10 pediatric patients per month looking at recruitment trend of pediatric patients. Ten (10) active pediatric patients added per month were used in the quantification exercise.
- The difference of 85.5% of all recruited patients is assumed to be adults and so the average scale-up of adult patient per month would be 55 patients. But, the average recruitment of adult patients (no attrition withstanding) looks to be about 68 adult patients per month. This may indicate that the majority of patients dying and lost to follow up are the adult patients. Sixty-five (65) active adult patients added each month was used in the quantification exercise.
- Based on conversations with GHESKIO staff, they will not scale-up past about 2,400 total patients on ART (including their satellite site).

Assumptions for all facilities:

Total figures provided by the USAID office in Haiti were used for the latest Quantimed projections. These figures reflect the total target that you had provided for 8,070 patients by March 2006 (5,055 by August 2005). However, demarcations for the adult and pediatric targets for GHESKIO were made. These targets took into account the actual baseline patient figures as of March 2005 as well as the maximum capacity for scale-up that were communicated for GHESKIO.

The above information was used when determining the number of patients treated each month at each facility.

Total number of patients treated in each facility by month:

The total number of patients on ART for all facilities used in the quantification exercise is listed in the following table.

The "All other" facilities includes: Bethel, Hop A Schweitzer, March, GCH, Pignon, Cayes, Jeremie, Jacmel, Fame Peres, Bereca, Justinien and any other facilities that the ART may roll out to.

	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06
GEHSKIO adults	1,453	1,518	1,583	1,648	1,713	1,778	1,843	1,908	1,973	2,038	2,103	2,103	2,103	2,103	2,103	2,103	2,103	2,103	2,103
GHESKIO-pediatrics	246	256	266	276	286	296	306	316	326	336	346	346	346	346	346	346	346	346	346
All other	420	503	588	668	753	868	983	1,098	1,213	1,328	1,443	1,593	1,743	1,893	2,043	2,193	2,343	2,493	2,643
Lascahobas	330	352	374	396	418	458	498	538	578	618	658	708	758	808	858	908	958	1,008	1,058
Hinch	300	322	347	372	397	437	477	522	567	612	657	707	757	807	857	907	957	1,007	1,057
Thomonde	175	197	219	241	263	293	323	363	403	443	483	528	573	618	663	708	753	798	843
Belladere	161	183	205	227	249	289	329	369	409	449	489	539	589	639	689	739	789	839	889
Boucan-Carre	150	172	194	216	238	263	293	333	373	413	453	493	543	588	633	678	723	768	813
Cange	650	672	694	716	738	778	818	863	908	953	998	1,043	1,098	1,148	1,198	1,248	1,298	1,348	1,398
Total at the end of each month:	3,885	4,175	4,470	4,760	5,055	5,460	5,870	6,310	6,750	7,190	7,630	8,060	8,510	8,950	9,390	9,830	10,270	10,710	11,150

ART TREATMENT:

Information was gathered on the number of patients on the different ART regimens at each facility providing ART. For some facilities this data was not up to date. The following tables detail this information.

Data from March 2005

Facility	March		Bethel		HAS		Pignon		Cayes		GCH		F. Pereo		Jacmel		Total	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
AZT/3TC/EFV	20	50.00%	71	46.41%	20	50.00%	9	40.91%	14	63.64%	10	100.00%	2	50.00%	2	33.33%	**148**	**49.83%**
AZT/3TC/NVP	20	50.00%	82	53.59%	20	50.00%	12	54.55%	7	31.82%			2	50.00%	2	33.33%	**145**	**48.82%**
D4T/3TC/NVP									1	4.55%					2	33.33%	**3**	**1.01%**
AZT/3TC/IDV							1	4.55%									**1**	**0.34%**
Total	**40**	**100%**	**153**	**100.00%**	**40**	**100.00%**	**22**	**100.00%**	**22**	**100.00%**	**10**	**100.00%**	**4**	**100.00%**	**6**	**100.00%**	**297**	**100.00%**

Data from December 14, 2004

	Cange		Lascahobas		Hinche		Thomonde		Belladere		Boucan-Carre	
ZDV/3TC/EFV	109	20.53%	37	13.17%	44	19.21%	22	14.67%	1	0.89%	6	6.32%
ZDV/3TC/NVP	103	19.40%	90	32.03%	34	14.85%	16	10.67%	4	3.57%	17	17.89%
ZDV/3TC/IDV	25	4.71%	0	0.00%	0	0.00%	5	3.33%	5	4.46%	1	1.05%
D4T/3TC/EFV	48	9.04%	41	14.59%	21	9.17%	8	5.33%	10	8.93%	10	10.53%
D4T/3TC/NVP	243	45.76%	113	40.21%	130	56.77%	99	66.00%	92	82.14%	61	64.21%
D4T/DDI/EFV	1	0.19%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
ZDV/DDI/EFV	1	0.19%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
D4T/DDI/NVP	1	0.19%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
total	**531**	**100%**	**281**	**100%**	**229**	**100%**	**150**	**100%**	**112**	**100%**	**95**	**100.00%**

For the facilities listed in the above two tables, the assumption was used that 60% of patients weighted below 60kg and 40% weighted over 60Kg. Pediatrics patients were not being treated at these facilities.

ART treatments at GHESKIO:

ART Regimen	Adults	
	Number	%
AZT/3TC/EFV	813	47.02%
AZT/3TC/NVP	652	37.71%
D4T/3TC/NVP	75	4.34%
D4T/3TC/EFV	58	3.35%
AZT/3TC/IDV	20	1.16%
DDI/3TC/EFV	7	0.40%
AZT/3TC/ABC	14	0.81%
DDI/3TC/NVP	10	0.58%
DDI/ABC/LPVR	23	1.33%
DDI/ABC/EFV	7	0.40%
AZT/3TC/NFV	6	0.35%
ABC/3TC/EFV	8	0.46%
3TC/ABC/NVP	7	0.40%
3TC/ABC/DDI/NFV	2	0.12%
AZT/3TC/LPVR	2	0.12%
D4T/3TC/IDV	2	0.12%
D4T/ABC/EFV	2	0.12%
D4T/ABC/NVP	2	0.12%
DDI/ABC/NVP	1	0.06%
D4T/3TC/ABC	1	0.06%
D4T/3TC/LPVR	1	0.06%
DDI/AZT/EFV	2	0.12%
DDI/D4T/NFV	1	0.06%
DDI/ABC	1	0.06%
DDI/ABC/IDV	1	0.06%
PI Regimen	4	0.23%
TDF/AZT/3TC/LPV/r	1	0.06%
AZT/DDI/3TC/LPV/r	1	0.06%
DDI/ABC/AZT	1	0.06%
DDI/D4T/IDV	2	0.12%
DDI/D4T/NVP	2	0.12%
Total	**1729**	**100.00%**

Assumption in Adult ART:

- 60% of patients on D4T weigh over 60Kg
- All patients on DDI are on 200mg, twice daily
- IDV is dosed 800mg three times daily
- NFV is dosed 750mg three times daily.

ART Regimen	Pediatrics	
	number	%
AZT/3TC/EFV	124	49.80%
AZT/3TC/NVP	47	18.88%
D4T/3TC/EFV	2	0.80%
AZT/3TC	23	9.24%
DDI/3TC/EFV	13	5.22%
AZT/3TC/ABC	16	6.43%
DDI/3TC/NVP	10	4.02%
AZT/3TC/NFV	1	0.40%
AZT/3TC/LPVR	3	1.20%
DDI/3TC	5	2.01%
D4T/3TC	1	0.40%
3TC/NVP	1	0.40%
ABC/DDI/3TC/LPV/r	1	0.40%
DDI/3TC/ABC	1	0.40%
DDI/D4T/IDV	1	0.40%
Total	**249**	**100.00%**

Assumption in Pediatric ART, based on conversations with GHESKIO pharmacist:

- 100% receive 3TC suspension (3 bottles were used in calculations, corresponding to an average weight of 30Kg)
- 100% receive ZDV suspension (3 bottles were used in calculations, corresponding to average BSA of .72m^2)
- 100% receive NVP suspension (3 bottles were used in calculations, corresponding to average BSA of .59m2 to .98m^2)
- LPV/r suspension is not given, Tablets are used at 266-400mg twice daily. The max of 400mg were used in the calculations.
- D4T suspension is not used, tablets are given (30mg)
- All but 8 patients on AZT/3TC/EFV are on EFV 200mg, OD. Others are on 600mg OD
- DDI patients are placed on two 50mg tabs, twice daily.
- ABC patients on 300mg BID

INVENTORY and INCOMING ORDERS:

Product	Strength/ Concentration	Total in Stock in Country	Total in Stock and on Order Excluding PIH	Total in Stock and on Order
Lamivudine oral susp.	10mg/ml	528,960	528,960	593,760
Lamivudine (3TC)	150mg	231,436	260,236	811,036
D4T40/3TC/NVP	40/150/200			18,000
Zidovudine+lamivudine	300+150mg	503,473	1,068,673	1,068,673
Abacavir	300mg	5,385	26,265	26,265
Stavudine	30mg	115,583	134,399	134,399
Stavudine	40mg	58,966	67,030	391,030
Didanosine	200mg	30,861	30,861	33,021
Didanosine	50mg	4,593	4,593	4,593
Efavirenz	200mg	7,210	7,210	7,210
Efavirenz	600mg	316,131	438,051	438,051
Indinavir	400mg	15,482	18,002	18,002
Lopinavir +Ritonavir	133+33 mg	52,580	138,980	138,980
Nelfinavir	250mg	38,136	38,136	38,136
Nevirapine, oral susp.	10mg/ml	182,920	182,920	325,420
Nevirapine	200mg	345,572	555,992	555,992
Zidovudine oral susp.	10mg/ml	692,400	692,400	811,200
Zidovudine	300	40,720	70,720	70,720
Stavudine oral susp.	1mg/ml	86,800	86,800	86,800
Didanosine	25mg	6,900	6,900	6,900

REQUIREMENTS:
The requirements listed below do not include the ARVs required for treatment at PIH/Cange facilities.

Detailed table:

product	units	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06
3TC 10MG/ml	ml	176,628	183,808	190,988	198,168	205,348	212,528	219,708	226,888	234,068	241,248	248,428	248,428
3TC 150MG/tab	tab	9,504	10,042	10,583	11,116	11,657	12,251	12,846	13,440	14,034	14,628	15,222	15,486
3TC-ZDV 150MG+300MG/tab	tab	102,454	110,841	119,347	127,557	136,062	146,346	156,629	166,912	177,195	187,478	197,761	206,648
ABC 300MG/tab	tab	4,683	4,889	5,094	5,299	5,504	5,709	5,914	6,119	6,324	6,529	6,734	6,734
D4T 30MG/tab	tab	3,704	3,938	4,173	4,403	4,639	4,907	5,174	5,442	5,709	5,977	6,244	6,404
D4T 40MG/tab	tab	4,856	5,119	5,384	5,646	5,911	6,197	6,484	6,770	7,057	7,343	7,630	7,738
DDI 200MG/tab	tab	3,146	3,287	3,428	3,569	3,710	3,850	3,991	4,132	4,273	4,413	4,554	4,554
DDI 50MG/tab	tab	3,616	3,763	3,910	4,057	4,204	4,351	4,499	4,646	4,793	4,940	5,087	5,087
EFV 200MG/tab	tab	4,012	4,175	4,338	4,501	4,664	4,827	4,990	5,153	5,316	5,480	5,643	5,643
EFV 600MG/tab	tab	30,745	33,210	35,710	38,124	40,624	43,633	46,642	49,651	52,660	55,669	58,678	61,227
IDV 400MG/tab	tab	4,620	4,939	5,262	5,577	5,900	6,275	6,651	7,027	7,402	7,778	8,154	8,417
LPV-r 133.3MG+33.3MG/tab	tab	4,888	5,105	5,321	5,537	5,754	5,970	6,187	6,403	6,619	6,836	7,052	7,052
NFV 250MG/tab	tab	2,380	2,485	2,590	2,696	2,801	2,906	3,012	3,117	3,222	3,328	3,433	3,433
NVP 10MG/ml	ml	41,154	42,827	44,500	46,173	47,846	49,519	51,192	52,865	54,538	56,211	57,884	57,884
NVP 200MG/tab	tab	49,736	53,694	57,705	61,582	65,593	70,414	75,235	80,055	84,876	89,697	94,518	98,565
ZDV 10MG/ml	ml	170,568	177,502	184,435	191,369	198,303	205,236	212,170	219,104	226,037	232,971	239,905	239,905
ZDV 300MG/tab	tab	160	167	174	181	188	195	202	209	217	224	231	231

Detailed table cont.

		Lead Time				Buffer (Safety Stock)		
product	**units**	**Apr-06**	**Aug-06**	**Sep-06**	**Oct-06**	**May-06**	**Jun-06**	**Jul-06**
3TC 10MG/ml	ml	248,428	248,428	248,428	248,428	248,428	248,428	248,428
3TC 150MG/tab	tab	15,749	16,803	17,067	17,330	16,013	16,276	16,540
3TC-ZDV 150MG+300MG/tab	tab	215,534	251,080	259,967	268,853	224,421	233,307	242,194
ABC 300MG/tab	tab	6,734	6,734	6,734	6,734	6,734	6,734	6,734
D4T 30MG/tab	tab	6,564	7,203	7,363	7,523	6,724	6,883	7,043
D4T 40MG/tab	tab	7,846	8,278	8,386	8,494	7,954	8,062	8,170
DDI 200MG/tab	tab	4,554	4,554	4,554	4,554	4,554	4,554	4,554
DDI 50MG/tab	tab	5,087	5,087	5,087	5,087	5,087	5,087	5,087
EFV 200MG/tab	tab	5,643	5,643	5,643	5,643	5,643	5,643	5,643
EFV 600MG/tab	tab	63,776	73,970	76,519	79,068	66,324	68,873	71,422
IDV 400MG/tab	tab	8,681	9,735	9,998	10,262	8,944	9,208	9,471
LPV-r 133.3MG+33.3MG/tab	tab	7,052	7,052	7,052	7,052	7,052	7,052	7,052
NFV 250MG/tab	tab	3,433	3,433	3,433	3,433	3,433	3,433	3,433
NVP 10MG/ml	ml	57,884	57,884	57,884	57,884	57,884	57,884	57,884
NVP 200MG/tab	tab	102,612	118,800	122,847	126,894	106,659	110,706	114,753
ZDV 10MG/ml	ml	239,905	239,905	239,905	239,905	239,905	239,905	239,905
ZDV 300MG/tab	tab	231	231	231	231	231	231	231

Summary Table:

			Requirements in Units (tabs or mls)			
Product	**Units**	**Packs**	**April '05-Aug '05**	**Sep '05-March '06**	**April '06-Oct '06** LT (4 m) & SS (3 m)	**Total**
3TC 10MG/ml SOLUTION	ml	240	954,940	1,631,296	1,738,996	4,325,232
3TC 150MG/tab TABLE	tab	60	52,902	97,907	115,778	266,587
3TC-ZDV 150MG+300MG/tab TABLET	tab	60	596,261	1,238,969	1,695,356	3,530,586
ABC 300MG/tab TABLET	tab	60	25,469	44,063	47,138	116,670
D4T 30MG/tab TABLET	tab	56	20,857	39,857	49,303	110,017
D4T 40MG/tab TABLET	tab	56	26,916	49,219	57,190	133,325
DDI 200MG/tab TABLET	tab	60	17,140	29,767	31,878	78,785
DDI 50MG/tab TAB	tab	60	19,550	33,403	35,609	88,562
EFV 200MG/tab TABLET	tab	90	21,690	37,052	39,501	98,243
EFV 600MG/tab TABLET	tab	30	178,413	368,160	499,952	1,046,525
IDV 400MG/tab TABLET	tab	180	26,298	51,704	66,299	144,301
LPV-r 133.3MG+33.3MG/tab TABLET	tab	180	26,605	46,119	49,364	122,088
NFV 250MG/tab TABLET	tab	270	12,952	22,451	24,031	59,434
NVP 10MG/ml SUSPEN	ml	240	222,500	380,093	405,188	1,007,781
NVP 200MG/tab TABLET	tab	60	288,310	593,360	803,271	1,684,941
ZDV 10MG/ml SOLUTION	ml	200	922,177	1,575,328	1,679,335	4,176,840
ZDV 300MG/tab TABLET	tab	60	870	1,509	1,617	3,996

QUANTITIES TO ORDER:

Product	Units	Packs		Total Packs Required	Purchased Emergency Order	Total Remaining Packs Required
3TC 10MG/ml SOLUTION (PO)	ml	240		15,818	4,524	11,294
3TC 150MG/tab TABLET (PO)	tab	60		106		106
3TC-ZDV 150MG+300MG/tab TABLET (PO)	tab	60		41,032		41,032
ABC 300MG/tab TABLET (PO)	tab	60		1,507		1,507
D4T 30MG/tab TABLET (PO)	tab	56		(436)		
D4T 40MG/tab TABLET (PO)	tab	56		1,184		1,184
DDI 200MG/tab TABLET (PO)	tab	60		799		799
DDI 50MG/tab TAB (PO)	tab	60		1,400	351	1,049
EFV 200MG/tab TABLET (PO)	tab	90		1,012	328	684
EFV 600MG/tab TABLET (PO)	tab	30		20,283		20,283
IDV 400MG/tab TABLET (PO)	tab	180		702	157	545
LPV-r 133.3MG+33.3MG/tab TABLET (PO)	tab	180		(94)		
NFV 250MG/tab TABLET (PO)	tab	270		79		79
NVP 10MG/ml SUSPEN (PO)	ml	240		3,437	805	2,632
NVP 200MG/tab TABLET (PO)	tab	60		18,816		18,816
ZDV 10MG/ml SOLUTION (PO)	ml	200			4,332	13,091
ZDV 300MG/tab TABLET (PO)	tab	60		(1,113)		

ANNEX 2: ARV MANAGEMENT CHART

Generic Name	Trade Name	Preparation	Manufacturer	Facts & Comparisons 2004	Pharmaceutical Company Findings on Stability	Stability Outside Manufacturer's Packaging	Manufacturer Contact	Date
Abacavir Sulfate	Ziagen	Tablets: 300 mg	Glaxo SmithKline	Controlled Room Temp (CRT): 20-25C (68-77F)	Stable at 40C (104F) up to 9 months.	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004
Abacavir Sulfate	Ziagen	Oral solution: 20 mg/mL	Glaxo SmithKline	Store at CRT: 20-25C (68-77F). Do not freeze. May be refrigerated	Does not require reconstitution. Stable at 40C (104F) for up to 3 months.	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004
Abacavir Sulfate /Lamivudine/Zidovidine	Trizivir	Tablet: (300/150/300 mg respectively per tablet)	Glaxo SmithKline	Store at 25C (77F). Excursions permitted to 15-30C (59-86F).	No additional stability data.	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004
Amprenavir	Agenerase	Capsules: 50, 150 mg	Glaxo SmithKline	Store at controlled room temp of 25C (77F)	Chemically stable when stored up to 6 months at 40C (104F) and 75% relative humidity. Some capsules stuck together and leaked when pulled apart, at which point, they should be discarded. Drug is stable at higher temps.; capsule may not be.	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004
Amprenavir	Agenerase	Oral solution: 15 mg/mL	Glaxo SmithKline	Store at controlled room temp of 25C (77F)	Stable for 6 months at 40C and 20% relative humidity	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004

Atazanavir Sulfate	Reyataz	Capsules: 100, 150, 200 mg	Bristol-Myers Squibb (BMS)	Store at 25C (77F); excursions permitted to 15-30C (59-86F).		No data provided	Ronda Bucksmaster 800-426-7644	07/23/2004
Delaviradine Mesylate	Rescriptor	Tablets: 100, 200 mg	Agouron/Pfizer	Store at room temp, 20-25C (68-77F) in tightly-closed container. Avoid excessive humidity.	No stability data	Heat and moisture affect stability.	Matt DiGiorgi 800-438-1985	08/03/2004
Didanosine (ddl, dideoxyinosine)	Videx EC	Capsules (delayed-release w/ enteric-coated beadlets): 125, 200, 250, 400 mg	Bristol-Myers Squibb (BMS)	Store at 25C (77F) in tightly closed bottle. Excursions permitted between 15-30C (59-86F)	No published stability data	No data provided	Ronda Bucksmaster 800-426-7644	07/23/2004
Didanosine (ddl, dideoxyinosine)	Videx	Tablets: 25, 50, 100, 150, 200 mg	Bristol-Myers Squibb (BMS)	Store at 15-30C (59-86F) in tightly closed bottles. If dispersed in water, dose may be held for up to an hour at ambient temp.	Remains stable for 2 weeks at 50C (122F).	No data provided	Ronda Bucksmaster 800-426-7644	07/23/2004
Didanosine (ddl, dideoxyionosine)	Videx	Powder for oral solution 100, 250 mg – single dose packet	Bristol-Myers Squibb (BMS)	Store at 15-30C (59-86 F). Dissolved solution stores for up to 4hrs at room temp 20-25 C (68-77F).	No published stability data	No data provided	Ronda Bucksmaster 800-426-7644	07/23/2004
Didanosine (ddl, dideoxyionosine)	Videx	Powder for oral solution, pediatric 2g, 4g - 4 oz & 8oz bottles	Bristol-Myers Squibb (BMS)	Store at 15-30C (59-86 F). Admixtures may be stored up to 30 days in refrigerator at 2-8C (36-46F). Discard unused portion after 30 days.	No published stability data	No data provided	Ronda Bucksmaster 800-426-7644	07/23/2004
Efavirenz	Sustiva	Capsules: 50,100, 200 mg	Bristol-Myers Squibb (BMS)	Store at 25C (77F); excursions permitted to 15-30 (59-86F)	Product can withstand 40C (104F) at 75% relative humidity for 6 months. Under refrigeration, stable after 3 months in original packaging.	No data provided	Ronda Bucksmaster 800-426-7644	07/23/2004

Efavirenz	Sustiva	Tablets: 600 mg	Bristol-Myers Squibb (BMS)	Store at 25C (77F); excursions permitted to 15-30 (59-86F)	Stable at 50C (122F) for one month in original packaging.	No data provided	Ronda Bucksmaster 800-426-7644	07/23/2004
Efavirenz	Stocrin	Oral suspension: 30 mg/ml	Merck		Stable at 30C/60% RH for up to 36 months. Not manufactured in US. American version=Sustiva made by BMS		Christophe Longuet christophe_longuet@merck.com	10/27/2004
Efavirenz	Stocrin	capsules and tablets: 50, 100, 200, 600mg	Merck		Stable up to 36 months at 30C/70% RH. Not manufactured in US. American version=Sustiva made by BMS	No data provided	Christophe Longuet christophe_longuet@merck.com	10/27/2004
Emtricitabine	Emtriva	Capsules: 200 mg	Gilead Sciences	Store at 25C (77F); excursions permitted to 15-30C (59-86F).	Stable for 6 mos. when stored at 40C(104F) and 75% relative humidity. Do not refrigerate.	No data provided	Chi Chang 800-445-3235	07/23/2004
Enfuvirtide	Fuzeon	Powder for injection, lyophilized: 108 mg	Hoffman-LaRoche	Store at 25C (77F); excursions permitted to 15-30C (59-86F). Refrigerate reconstituted solution at 2-8C (36-46F). Use within 24 hours.	Not considered in the WHO treatment guidelines for resource - limited settings "because of the requirement for parenteral administration and the cost of the drug"	No data provided	Maria Vigneau maria.vigneau@roche.com	09/30/2004
Fosamprenavir	Lexiva	Tablet: 700 mg	Glaxo SmithKline	Store at controlled room temp of 25C (77F); excursions permitted to 15-30C (59-86F)	No additional stability data.	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004

Indinavir Sulfate	Crixivan	Capsule: 200, 400 mg	Merck	Store at 15-30C (59-86F) tightly closed. Protect from moisture. Dispense in original container with dessicant in the bottle.	Stable at 30C/60% RH for up to 36 months. If kept in the original unopened container (intact with desiccants), the product will maintain its full potency if stored for up to 6 months at 40C and 75% relative humidity.	(Limited) in-house study: 3 days supply of Indinavir packed into a polypropylene vial with a child resistant lid and no desiccant stored at 30C and 60% relative humidity kept its potency for 7 days.	Greg 800-672-6372 and Christophe Longuet christophe_longuet@merck.com	07/27/2004
Lamivudine (3TC)	Epivir	Tablets: 150, 300 mg	Glaxo SmithKline	Store at 25C (77F); excursions permitted to 15-30C (59-86F)	Stable in extreme heat 100C, (212F) for 3 days.	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004
Lamivudine (3TC)	Epivir	Oral solution: 10 mg/mL	Glaxo SmithKline	Store at 25C (77F) tightly closed. Excursions permitted at 30C (86F).	Unaffected at 40C (104F) for 6 months, one month under in-use conditions. Stable for 1 month under high-intensity florescent lighting at 23C (75F).	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004
Lamivudine (3TC)	Epivir-HBV	Tablets: 100 mg	Glaxo SmithKline	Store between 20-25C (68-77F) tightly closed.	Extended stability for excursions up to 30C (86F)	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004
Lamivudine (3TC)	Epivir-HBV	Oral solution: 5 mg/mL	Glaxo SmithKline	Store between 20-25C (68-77F) tightly closed	Extended stability for excursions up to 30C (86F)	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004

Lamivudine/Zidovudine (3TC/ZDV, 3TC/AZT)	Combivir	Tablet: (150 mg lamivudine/ 300 mg ZDV)	Glaxo SmithKline	Store between 2-30C (36-86F)	Stable at 40C (104F) at 75% humidity up to 6 months. Stable at 30C (86F) at 60% humidity for up to 48 months.	No data provided	Lisa Burney 888-825-5249; 215-751-4000	07/23/2004
Lopinavir/Ritonavir	Kaletra	Capsules: 133.33/33.33 mg respectively,	Abbott	Refrigerate at 2-8C (36-46F). Avoid exposure to excessive heat. If refrigerated, remains stable until date printed on label. If stored at room temp (up to 25C/77F) use within 2 months.	Very unstable at higher temps. (above 77F). Long-term storage is not recommended in temps. above 90F. Drug can degrade within a day at higher temps. Can be kept unrefrigerated for 2 months at 77F.	No data provided	Linda DeLaney 800-441-4987	07/23/2004
Lopinavir/Ritonavir	Kaletra	Oral solution: 80mg / 20 mg/mL respectively	Abbott	Refrigerate oral solution at 2-8C (36-46F) until dispensed. Avoid exposure to excessive heat. If refrigerated, remains stable until date printed on label.If stored at room temp (25C/77F), use within 2 months. Should be stored and dispensed in the original container.	Will degrade at higher temps (15-30C)	No data provided	Linda DeLaney 800-441-4987	07/23/2004
Nelfinavir Mesylate	Viracept	Tablet: 250, 650 mg	Agouron/Pfizer	Store at 15-30C (59-86F) in original container, tightly closed.	1.) Short-term excursion (within a week) is fine at higher temps, especially if product remains sealed. 2.) Product most sensitive to humidity. FOR OLDER UNCOATED TABLET - stable for 12 months at 25C and 60% humidity in blister packs. Dissolution and disintegration failuers	Heat and moisture affect stability. No studies have been done outside of original containers.	Matt DiGiorgi 800-438-1985	08/03/2004

					were observed after 6 mos. at 40C and 80% humidity.			
Nelfinavir Mesylate	Viracept	Powder: 50 mg/g	Agouron/Pfizer	Store at 15-30C (59-86F) in original container, tightly closed. Mixed powder stores 6hrs, refrigerated.	1.) Short-term excursion (within a week) is fine at higher temps, especially if product remains sealed. 2.) Product most sensitive to humidity.	Heat and moisture affect stability. No studies have been done outside of original containers.	Matt DiGiorgi 800-438-1985	08/03/2004
Nevirapine	Viramune	Tablet: 200 mg	Roxane (BI)	15-30C (59-86F) in tightly closed bottle (tablet & oral suspension)	If stored in original bottle, stable for 24 mo. at 25C (77F) and 60% RH; for 24 mos. at 30C (86F) and 70% RH; for 6 mo. at 40C (104F) and 75% RH. Blister packs stable for 12 months at 25C (77F) and 60% humidity.	Storage outside original packaging is not recommended.	Jana Carabino 800-542-6257 (Option 4); Petra Kirsch, BI-Germany	10/18/2004
Nevirapine	Viramune	Oral suspension (as nevirapine hemihydrate) : 50 mg/5 mL	Roxane (BI)	15-30C (59-86F) in tightly closed bottle (tablet & oral suspension)	Stable for 24 mos. at 30C (86F) and 45% RH and for 6 mos.at 40C (104F) and 75% RH. In-use stability for oral suspension should be shown for 60 days.	Storage outside original packaging is not recommended.	Jana Carabino 800-542-6257 (Option 4); Petra Kirsch, BI-Germany	10/18/2004

Ritonavir	Norvir	Capsules, soft gel: 100mg	Abbott	Refrigerate at 2-8C (36-46F) Stable at room temp (< 25C, 77F) for 30 days. Protect from light/excessive heat. Store and dispense in original container. Keep cap tightly closed.	No additional stability data	No data provided	Linda DeLaney 800-441-4987	07/23/2004
Ritonavir	Norvir	Oral solution: 80 mg/mL	Abbott	Store at room temp (20-25C, 68-77F) in original container, tightly closed. Do not refrigerate. Shake well before use. Avoid exposure to excessive heat. Store and dispense in original container. Keep cap tightly closed.	No additional stability data	No data provided	Linda DeLaney 800-441-4987	07/23/2004
Saquinavir	Fortovase	Capsule, soft gel: 200 mg	Roche	Refrigerate at 2-8C (36-46F) in tightly closed bottles. Once brought to room temp. (up to 25C/77F) use within 3 months.	Stable for 21 months at 5C. Stable for 3 months at 25C.	No data provided	800-526-6367 (973-235-5000) and Maria Vigneau maria.vigneau@roche.com	09/30/2004
Saquinavir	Invirase	Capsule: 200 mg	Roche	Store at 15-30C (59-86F) in tightly closed bottles.	Stable for 3 years at 25 and 30C. Stable for 6 months at 40C(104F).	No data provided	Name not given 800-526-6367 (973-235-5000) and Maria Vigneau maria.vig	09/30/2004

							neau@roche.com	
Stavudine (d4T)	Zerit XR	Capsules (extended release): 37.5, 50, 75, 100 mg	Bristol-Myers Squibb (BMS)	Store in tightly closed containers at 25C (77F); excursions permitted between 15-30C (59-86F).	No published stability data	No data provided	Ronda Bucksmaster 800-426-7644	07/23/2004
Stavudine (d4T)	Zerit	Capsules: 15, 20,30, 40 mg	Bristol-Myers Squibb (BMS)	Store in tightly closed container at 15-30C (59-86F).	Can be kept out of refrigerator for 24 hours	No data provided	Ronda Bucksmaster 800-426-7644	07/23/2004
Stavudine (d4T)	Zerit	Powder for oral solution: 1mg/mL oral solution	Bristol-Myers Squibb (BMS)	Store in tightly closed container at 15-30C. Protect from excessive moisture. After reconstitution, refrigerate (2-8 C, 36-46 F). Discard unused portion after 30 days.	Constituted solution should not be stored at room temp. for any time period or risk losing 30-day refrigerated shelf life.	No data provided	Ronda Bucksmaster 800-426-7644	07/23/2004
Tenofovir disoproxil fumarate	Viread	Tablets: 300 mg	Gilead Sciences	Store at 25C (77F). excursions permitted to 15-30C (59-86F).	Stable for 6 mos. when stored at 40C(104F) and 75% relative humidity. Very sensitive to moisture. Do not refrigerate. Store in original container with dessicant.	No data provided	Chi Chang 800-445-3235 Peter Karlton, pkarlton@gilead.com	07/23/2004
Zalcitabine; (Dideoxycytidine; ddC)	Hivid	Tablets: 0.375 , 0.75 mg	Roche	Store at 15-30C (59-86F) in tightly closed bottle	No additional stability data is available	No data provided	Name not given 800-526-6367 (973-	07/27/2004

							235-5000)	
Zidovudine (Azidothymidine; AZT; Compound S)	Retrovir	Capsule: 100 mg	Glaxo SmithKline	Store at 15-25C (59-77F).	No data provided	No data provided	Name not given: 888-825-5249; 215-751-4000	07/29/2004
Zidovudine (Azidothymidine; AZT; Compound S)	Retrovir	Tablet: 300 mg	Glaxo SmithKline	Store at 15-25C (59-77F).	Stable at 40C (104F) for 6 months in original bottle.	Stable at 104F for 1 month in polypropylene bottle	Name not given: 888-825-5249; 215-751-4000	07/29/2004
Zidovudine (Azidothymidine; AZT; Compound S)	Retrovir	Syrup: 50mg/5 mL	Glaxo SmithKline	Store at 15-25C (59-77F).	Stable at 40C (104F) for 3 months in unopened container.	No data provided	Name not given: 888-825-5249; 215-751-4000	07/29/2004
Zidovudine (Azidothymidine; AZT; Compound S)	Retrovir	Injection: 10 mg/mL	Glaxo SmithKline	After dilution, stable for up to 24 hours at 25C (77F); best to administer within 8 hours to minimize microbial contamination. Stable up to 48 hours if refrigerated at 2-8C (36-46F); best to administer within 24 hours. Store undiluted vials at 15-25C (59-77F). Protect from light.	No data provided	No data provided	Name not given: 888-825-5249; 215-751-4000	07/29/2004