Government of Malawi Ministry of Health

Integrated HIV Program Report
January – March 2013

- *HIV Testing and Counselling*
- *Post Exposure Prophylaxis*
- *HIV Exposed Child Follow-Up*
- *Pre-ART*
- *Prevention of Mother to Child Transmission / Antiretroviral Therapy*
- *TB / HIV*
- *Sexually Transmitted Infections*
- *Supply of HIV Program Commodities*

1 Executive Summary

This is the 7th quarterly HIV Program report after implementation of the 2011 Integrated Clinical HIV Guidelines in July 2011. A summary of the key achievements between **January and March 2013** is provided below:

- Scale-up of integrated HIV services had reached the following number of sites:
  - **825** static (607 within and 218 outside of health facilities) and 534 outreach HTC sites
  - **655** (static) ART sites
  - **580** PMTCT sites (Option B+)
  - **602** Pre-ART sites
  - **590** sites with HIV-exposed child follow-up
- **460,559** persons were tested and counselled for HIV and **41,321 (9%)** were HIV positive; **170,334 (37%)** people tested for the first time.
- **127,167 (78%)** of 163,522 women at ANC had their HIV status ascertained; **10,282 (8%)** of these were HIV positive. **102,506 (89%)** of 114,376 women at maternity had their HIV status ascertained; **8,306 (8%)** of these were HIV positive.
- **26,881** patients started ART during this quarter; this is an 11% increase from the previous quarter (**24,168**), probably related to the improved management of HIV test kit supplies.
- **422,866** patients were alive and on ART by end of March 2013; **84,499 (22%)** of 390,576 on first line adult regimens were on ART regimen 5A (tenofovir / lamivudine / efavirenz).
- **81%** of adults and **78%** of children were retained alive on ART at 12 months after ART initiation.
- A total of **11,120** HIV positive pregnant women were on ART: **4,134 (37%)** of these were already on ART when getting pregnant and **6,986 (63%)** started ART during pregnancy/delivery. **6,773** (97%) of pregnant women started ART due to ***Option B+*** (in WHO clinical stage 1 or 2) and **213** (3%) due to a low CD4 count and/or WHO clinical stage 3 or 4.
- An additional **2,279** breastfeeding women started ART due to ***Option B+*** (in WHO clinical stage 1 or 2).
- **6,695 (77%) of 8,648** women started under ***Option B+*** were retained at 6 months after ART initiation (6-month retention outcomes were not available for some women, mainly at sites with electronic data systems).
- **7,740 (8%)** of infants discharged alive from maternity were known to be HIV exposed, **6,975 (90%)** of these received ARV prophylaxis. **5,096 (73%)** were enrolled in exposed child follow-up before age 2 months.
- A total of **10,319** HIV exposed children and **9,510** pre-ART patients were enrolled for follow-up in *HIV Care Clinics (HCC)* during this quarter.
- **195** medical staff were newly trained and certified in PMTCT/ART and an additional **23** medical records clerks were trained in M&E for the PMTCT/ART program this quarter. This brings the total number trained in the 2011 guidelines to **5,711**.
- **513** HTC counsellors and **1,239** HSAs at **152** facilities received mentoring for collection of dried blood samples for Early Infant Diagnosis and documentation of results.
- In preparation for a nationwide retraining of all HTC providers, **20** Master trainers were trained in the *HTC Skills Intensive Training* curriculum, who in turn trained **197** trainers.
- **418** health workers and **182** support staff at 70 facilities in the SE Zone received clinical mentoring in provision of PMTCT/ART. **45** of these health workers were in the intensive phase, **223** in the continuation phase and **150** graduated from the mentoring program this quarter.

2 Integrated HIV Program Overview

In July 2011, Malawi started implementing a revised HIV Program in all health facilities following the ***2011 Malawi Integrated Clinical HIV Guidelines***. These guidelines were developed in 2010/11 by the PMTCT/ART Technical Working Group led by the Department for HIV and AIDS of the Ministry of Health. Key program policies include:

- **PMTCT Option B+:** universal life-long ART for all HIV infected pregnant and breastfeeding women regardless of clinical or immunological stage.

- Standard **HIV exposed child follow-up** to age 24 months. This program aims to improve early infant diagnosis and ART initiation using DNA-PCR testing for all infants from age 6 weeks; rapid antibody testing is considered diagnostic from age 12 months and repeated at 24 months. HIV exposed child enrolment and follow-up is integrated with maternal ART follow-up (*Option B+*) to improve retention and adherence.

- **Early ART initiation**: universal ART for children under 2 years (confirmed HIV infection), children 2-4 years with an absolute CD4 count of ≤750 (CD4% no longer required), children over 5 years and adults with a CD4 count ≤350, patients co-infected with HIV and hepatitis B.

- Transition to **more favourable first line ART regimens** for adults (Malawi regimen 5A: tenofovir / lamivudine / efavirenz) and children (Malawi regimen 2: zidovudine / lamivudine / nevirapine), including provision of paediatric ARV formulations for all children under 25kg. Transition to regimen 5A had to be restricted to certain patient groups due to funding limitations. Additional funding from Global Fund and from PEPFAR has now been secured and a full transition is scheduled to start in July 2013.

- Standard **pre-ART services** for all HIV-infected persons not yet eligible for ART. The pre-ART program aims to reduce the incidence of HIV-related diseases and to enable early ART initiation based on the new CD4 cell threshold (350) through scheduled CD4 count monitoring. Malawi had no standard pre-ART program until July 2011, although some sites had already started offering elements of the new standard pre-ART package.

- Provider-initiated provision of **contraceptives and condoms** for all adults in pre-ART and ART clinics to reduce the rate of unwanted pregnancies among HIV-infected adults and to reduce HIV-transmission between sexual partners.

- Isoniazid preventive therapy (**IPT**) for pre-ART patients to reduce the incidence of TB and intensified TB case finding (**ICF**) for all patients in pre-ART and ART follow-up to enable early diagnosis and treatment of TB.

- Roll-out of scheduled **viral load monitoring** to improve early detection of treatment failure and initiation of second line ART.

Implementation of PMTCT Option B+ requires provision of ART services at <u>all</u> health facilities with Maternal and Child Health services. This required a massive acceleration of the **decentralization of ART services** from 303 (static) sites by June 2011 to over 600 sites.

3 Supportive Site Supervision

3.1 Methods

The Department for HIV and AIDS has coordinated quarterly supportive supervision visits to all health facilities with ART services since the start of the national treatment program in 2004. Supervision teams are composed of: experienced HIV clinicians; nurses and M&E staff from health facilities in the public and private sector; district and zonal PMTCT and ART coordinators; program officers and technical staff from the Department for HIV and AIDS; technical staff from implementing partners. The TB and HIV programs are working towards a full integration of their respective site supervision exercises.

The integrated laboratory supervision for the quality improvement of HIV testing services could not take place this time due to the ongoing preparation for the *2013 HTC Skills Intensive Trainings.*

Each quarter, a one day pre-supervision meeting is organised for all supervisors participating in the upcoming round to share program updates, discuss observations from the previous round, distribute materials and organise logistics, transport and accommodation.

Standard supervision forms are used to guide implementation of the supervision protocol, to update site information and collect M&E reports. Custom forms with previous data for each site are printed from the HIV Department database. The supervision forms include:

- Contact details of HIV service providers at each site
- Quality of service checklist
- Follow up on action points noted during the previous visit
- Next visit date
- M&E reports from HTC, ANC, maternity, exposed child and pre-ART follow-up, ART and TB
- Physical drug stock-level assessment
- Identification of sites as priority for Clinical Mentoring program

One copy of the supervision form is returned to the Department for HIV and AIDS, where data are entered in a custom MS Access database to produce national reports and to manage program logistics and the commodity supply chain. A second copy of the supervision form is left at the sites.

The supervision protocol includes a systematic review and verification of primary records (patient cards and registers) at all sites. This effectively provides a quarterly quality audit for M&E records, which has resulted in exceptional accuracy and completeness of HIV Program data in Malawi. At the same time, the systematic chart review helps to identify complex cases or deviations from clinical protocol, allowing the supervision team to provide targeted mentoring and clinical advice. The quarterly supervision exercise also aims to boost staff morale and motivation through *Certificates of Excellence* that are awarded by MOH to sites with an excellent score on the quality of service checklist. The involvement of a growing number of health workers from sites all over the country who participate in the quarterly supervision exercise has helped to build a strong identity for the national HIV Program and has greatly facilitated communication between program staff at the national, zonal, district and facility level.

The HTC Program usually conducts a separate supportive site supervision exercise each quarter, targeting a sample of HTC sites both within and outside of health facilities. Supervision teams consist of district, zonal and national level HTC coordinators, supported by implementing partners. However, HTC site supervision was suspended this quarter due to preparations for the *HTC Skills Intensive Trainings*.

3.2 Supervision Outcomes

668 public and private sector facilities were visited for **clinical HIV program supervision** between 15th April and 3rd May 2013. The large number of sites was covered by **64** supervisors working in **20** teams. The teams spent a total of **1,799 working hours** at the sites. Each site visit lasted on average **2.7** hours, but up to 2 days were spent at the busiest sites. **267** clinic teams were awarded a *Certificate of Excellence* for **excellent performance.** The number of sites with excellent performance increased by 99 compared with the previous quarter. This signifies an actual improvement in operational performance, such as the integration of PMTCT/ART into ANC and MNCH services, which was added to the service quality checklist in the previous supervision round. **61** sites had significant weaknesses and were rated to require **intensive mentoring**. This is a slight increase from 47 in the previous quarter. The capacity to provide site mentoring will need to be further expanded over the next months.

Table 1: Outcomes of integrated HIV services supervision for 2013 Q1

Zone	Total facil. visited*	Supervision hours spent at facilities		Performance (# and % of sites)	
		Total	Average per site	Excellent perform.	Mentoring needed
NZ	115	273	2.4	55 48%	16 14%
CEZ	93	226	2.4	18 19%	7 8%
CWZ	151	392	2.6	78 52%	18 12%
SEZ	154	479	3.1	50 32%	14 9%
SWZ	155	429	2.8	66 43%	6 4%
Malawi	668	1,799	2.7	267 40%	61 9%

* includes facilities that were visited for assessment of readiness, but that may have not (yet) been designated to provide integrated HIV services.

Table 1 provides a summary of the supervision outcomes by zone. Most facilities were using the standard national M&E tools. **84** sites had cumulatively registered more than 2,000 ART patient and **29** of these had registered more than 5,000. **34 (41%)** of these high burden sites were using electronic data system for ART (EDS). Some NGO supported sites were using custom tools compatible with the national standard reporting requirements.

4 Inventory of Sites and Services

A total of **825** static sites were reporting HTC services in Q1 2013 and **218** of these were outside of health facilities. In addition, HTC was provided at 534 mobile or outreach sites.

Table 2: Facilities with integrated HIV services in the 5 Zones. Availability of services defined by performance (at least 1 patient enrolled) during 2013 Q1

Zone	Total fac.(1)	Facilities providing HIV services				CD4 count machines (2)		
		Exp. child	Pre-ART	PMTCT B+	ART	Installed	Functional	Results
NZ	119	106 89%	110 92%	102 86%	113 95%	18 15%	16 89%	2,747
CEZ	92	89 97%	87 95%	85 92%	92 100%	9 10%	8 89%	3,360
CWZ	161	124 77%	129 80%	126 78%	148 92%	16 10%	15 94%	2,934
SWZ	157	123 78%	133 85%	126 80%	150 96%	25 16%	22 88%	16,577
SEZ	157	148 94%	143 91%	141 90%	152 97%	17 11%	15 88%	5,096
Malawi	686	590 86%	602 88%	580 85%	655 95%	85 12%	76 89%	30,714

(1) Total facilities in the public / private sector designated to provide integrated HIV services in this quarter. Individual site selection is reviewed and may change each quarter.

(2) CD4 machines that have produced at least 1 result during the reporting period are defined as functional.

Table 2 shows the distribution of the **686** sites designated to provide clinical HIV services in Q1 2013, by zone. At the national level, there were **655** (static) sites with at least one patient on ART, **580** sites had enrolled women under PMTCT Option B+; **602** sites were providing pre-ART services and **590** had enrolled HIV exposed children for follow-up. ART services were now available at almost all designated sites in the 5 zones. The CE zone had reached 100% of designated sites with ART services and was also leading in terms of PMTCT Option B+ sites (92% of designated sites).

CD4 count machines (including 'point of care' machines) were installed at **85** sites, but only **76 (89%)** of these had produced at least 1 result during Q1. The total number of CD4 results produced increased slightly from 28,845 in Q4 to **30,714** during Q4. Half of these outputs were generated in the SW zone, implying that many CD4 machines continued to be down or to be running considerably below capacity.

5 HIV Testing and Counselling Program Outputs

460,559 people[1] were tested and counselled for HIV between January and March 2013. This is an increase of 81,999 from the previous quarter. **41,321** (9%) of all people tested were HIV positive.

Out of 460,559 people tested and counselled, **32%** were males and **68%** were females. **50%** of females were pregnant. The proportion of males (**49%**) and non-pregnant females (**51%**) was very similar, implying gender balanced access to HTC services. Pregnant women have to be excluded from the comparison of male and female access to HTC because testing among pregnant women is almost entirely provider-initiated and there is no comparable access route targeting males.

[1] Reports from the HTC register are based on client encounters. It is not possible to de-duplicate people who access HTC multiple times in the reporting period. However, very few individuals come for repeat testing in less than 3 months and the number of HTC encounters in one quarter is therefore assumed to represent individual people.

49% of all people tested and counselled were 25 years and above, **41%** were between 15-24 years and **12%** were children below 15 years. **95,908 (21%)** accessed HTC with their partners (as a couple), which is similar to the previous quarter.

170,334 (37%) of 460,559 people tested and counselling accessed HTC for the first time in their life. Based on the cumulative number of people who accessed HTC for the first time, a total of **4,528,795** people were tested since introduction of the 'first time HTC access' indicator in July 2007. Detailed HTC service data are shown in the Annex.

6 DNA-PCR testing for Early Infant Diagnosis of HIV

A total of **7,268** DNA-PCR test results were dispatched from the **5 laboratories** that contributed to the national EID program in Q1 2013 (Mzuzu Central Hospital, Kamuzu Central Hospital, Queen Elizabeth Central Hospital, DREAM Blantyre and University of North Carolina in Lilongwe). Detailed data on the specimens processed were available from the lab management information system at KCH and QECH. These 2 labs dispatched a total of **6,032** DNA-PCR results to health facilities in Q1 2013. **4,806 (80%)** of these results were from samples collected in Q1 2013, while 1,229 (20%) were from samples collected in the previous quarters (for 13 results the collection date was missing). The median time between sample collection and dispatch of the result was **30 days**; 75% of results were dispatched between 23 and 39 days after sample collection.

2,712 (45%) of all results were from infants under 2 months old at the time of sample collection. 2,200 (36%) were 2-5 months, 868 (14%) were 6-11 months and 195 (3%) were 12 months or older when the sample was collected (date of birth was missing for 57).

Age at sample collection	Positives	
Infants under 2 months	**64**	*2.4%*
Infants 2-5 months	**96**	*4.4%*
Infants 6-11 months	**91**	*10.5%*
Children 12 months or older	**19**	*9.7%*

272 (4.5%) of the 6,032 results were positive. The age-specific number (%) of positive results is shown on the left. Receipt of the DNA-PCR result at the health facility is a prerequisite to updating of patient records and for appropriate clinical management. Considering the delays between sample collection and dispatch of the test result from the lab, the child's age at the time of dispatch of the result from the lab is a useful indicator for the process of early infant diagnosis and early initiation of ART for confirmed infected infants. The table below shows the distribution of ages when results were dispatched from the lab.

Age when result dispatched from lab	Tot. Results	*(Col %)*	Positives	*(Col %)*
<2 months	**257**	*4%*	**5**	*2%*
2-5 months	**4,369**	*72%*	**131**	*48%*
6-11 months	**1,022**	*17%*	**99**	*36%*
12 months +	**340**	*6%*	**36**	*13%*
(missing date)	**44**	*1%*	**1**	*<1%*
Total	**6,032**	*100%*	**272**	*100%*

Out of 272 positive results dispatched, only 5 (2%) were sent before the child was 2 months old. A total of 136 (50%) positive results were sent before the child was 6 months old and 235 (86%) were sent before the child was 12 months old. A total of 126 infants were started on ART in WHO stage 1 or 2 on the basis of confirmed HIV infection (see ART section below). This is equivalent to **54%** of the positive DNA-PCR results dispatched from the lab for children <12 months this quarter.

7 Post Exposure Prophylaxis (PEP)

A total of **523** persons received PEP during Q1 2013. This is a decline from the previous quarter (649).

8 Provider-Initiated Family Planning (PIFP)

The 2011 Integrated Clinical HIV Guidelines encourage health workers to routinely provide condoms to all adults in pre-ART and ART clinics. Women should also be able to receive at least the standard injectable contraceptive (Depo-Provera) during any pre-ART or ART visit. This policy aims to address the significant unmet need for family planning that had been observed among HIV patients in Malawi and to reduce the number of unwanted pregnancies among HIV-infected women (***PMTCT Prong 2***). HIV program reporting on PIFP is limited to women who received an injection of Depo-Provera in pre-ART and ART clinics during the last quarter. The report does not account for family planning need nor does it include women who accessed family planning from elsewhere.

Table 3: Number and % of women retained in HIV care * who were on injectable contraceptives (Depo) by the end of 2013 Q1.

	Pre-ART		ART		Both patient groups	
Zone	Tot. women	On Depo	Tot. women	On Depo	Tot. women	On Depo
NZ	1,029	**198** *19%*	23,958	**5,874** *25%*	24,987	**6,072** *24%*
CEZ	644	**158** *24%*	19,416	**2,453** *13%*	20,060	**2,611** *13%*
CWZ	1,370	**416** *30%*	49,131	**10,787** *22%*	50,501	**11,203** *22%*
SEZ	4,411	**1,030** *23%*	69,396	**20,114** *29%*	73,807	**21,144** *29%*
SWZ	6,654	**1,375** *21%*	83,731	**13,170** *16%*	90,385	**14,545** *16%*
Malawi	14,109	**3,175** *23%*	245,632	**52,399** *21%*	259,740	**55,574** *21%*

* estimated from the total number of patients retained in pre-ART and ART, multiplied by the proportions of females and adults registered

Table 3 shows that **55,574 (21%)** women received Depo-Provera from HIV clinics in Q1 2013. This is an increase from 43,985 in Q4. The SE Zone had achieved the highest coverage among women in pre-ART and ART. PIFP access continued to be affected by stock-outs of Depo-Provera, but patient coverage and stock availability had improved this quarter with 490 (75%) of ART/PMTCT sites having stocks of Depo-Provera in April 2013. Inclusion of Depo-Provera in the quarterly distribution of ARVs and other HIV commodities is expected to further increase PIFP outputs in 2013.

9 Cotrimoxazole Preventive Therapy (CPT)

All patients in HIV care are universally eligible for CPT in order to reduce the frequency and severity of several HIV-related diseases. Patients with confirmed HIV infection are provided lifelong CPT in pre-ART and ART clinics. CPT is also given to HIV exposed children until exposure to breast milk has stopped and HIV infection has been ruled out (usually around age 24 months). Fewer than 5% of patients are expected to require stopping of CPT due to toxicity.

Table 4 shows that **412,307 (80%)** of all HIV patients were on CPT at the end of Q1 2013. Compared with the previous quarter, coverage had further increased among ART patients (from 73% to 80%), but there was a slight decline among HIV exposed children (from 66% to 62%). The overall increase

in coverage was due to the resumption of quarterly distribution of cotrimoxazole for CPT (see page 22 for further supply chain details). CPT coverage is expected to recover fully in 2013.

Table 4: Number and % of patients retained in HIV care who were on cotrimoxazole and isoniazid preventive therapy (CPT, IPT) by the end of 2013 Q1.

	CPT								IPT	
	Exp. child		Pre-ART		ART		All patient groups		Pre-ART	
Zone	Tot. pat.	On CPT	Tot. pat.	On CPT	Tot. pat.	On CPT	Tot. pat.	On CPT	Tot. pat.	On IPT
NZ	5,025	**2,825** *56%*	3,288	**2,780** *85%*	42,742	**37,562** *88%*	51,055	**43,166** *85%*	3,288	**1,756** *53%*
CEZ	5,104	**2,828** *55%*	2,262	**2,208** *98%*	33,992	**32,229** *95%*	41,358	**37,265** *90%*	2,262	**1,198** *53%*
CWZ	10,916	**6,821** *62%*	4,880	**4,267** *87%*	85,876	**54,192** *63%*	101,672	**65,280** *64%*	4,880	**2,326** *48%*
SEZ	19,177	**13,273** *69%*	12,768	**12,114** *95%*	111,067	**100,918** *91%*	143,012	**126,305** *88%*	12,768	**4,631** *36%*
SWZ	20,086	**11,912** *59%*	17,476	**14,504** *83%*	143,442	**113,874** *79%*	181,004	**140,291** *78%*	17,476	**7,935** *45%*
Malawi	60,308	**37,659** *62%*	40,674	**35,873** *88%*	417,119	**338,774** *81%*	518,101	**412,307** *80%*	40,674	**17,845** *44%*

10 TB / HIV Interventions

10.1 Intensified Case Finding (ICF)

TB is one of the most important HIV-related diseases in Malawi and a considerable proportion of (mainly early) deaths on ART are attributed to undiagnosed TB. ICF is carried out using a standard symptom checklist at every HIV patient visit. ICF outcomes are documented on HIV exposed child, pre-ART and ART patient cards, but routine M&E reporting is currently limited to ART patients in order to reduce the burden of reporting secondary cohort outcomes. It is assumed that implementation of ICF is similar in pre-ART and exposed child follow-up.

386,790 (93%) of all patients retained on ART were screened for TB at their last visit before end of March 2013. As of that visit, **1,931 (<1%)** patients were new TB suspects and had presumably been referred for examination by a clinician and for TB investigations. **3,081 (1%)** patients had confirmed TB (clinical or lab based). Out of these, **2,720 (88%)** were confirmed to be on TB treatment and **361 (12%)** had not yet started or had interrupted TB treatment. An excerpt from the data in the **Annex** (*Cumulative ART outcomes*) is shown below.

Current TB status among ART patients (ICF)

ICF not done (Current TB status unknown/ not circ)		**30,329**	**7%**
ICF done		**386,790**	**93%**
	TB not suspected	**381,778**	99%
	TB suspected	**1,931**	0%
	TB confirmed	**3,081**	1%
		TB confirmed, not on treatment	**361**	12%
		TB confirmed, on TB treatment	**2,720**	88%

10.2 Isoniazid Preventive Therapy (IPT)

All pre-ART patients with a negative screening outcome for TB symptoms are eligible for IPT. The first (large scale) distribution of isoniazid and pyridoxine for the HIV programs reached the sites during July 2012. **17,845 (44%)** of 40,674 patients retained in pre-ART were on IPT by the end of March 2013. This is a decrease in IPT coverage which was caused by stock –outs of INH at many

sites. The May 2013 distribution round will include the first consignment of INH and pyridoxine procured by VPP from the current Global Fund grant (SSF) and an increase in IPT implementation is expected over the next quarters.

11 HIV-Related Diseases

Table 5 shows the number of patients treated for key HIV-related indicator diseases. TB program data could not be reconciled with the National TB Control Program this quarter and TB case data cannot be presented.

The Diflucan (fluconazole) donation program has received renewed attention and significant stocks of fluconazole were distributed to all sites in November 2012. A modification of the reporting system led to data inconsistencies in Q4 2012, but the most recent report shows that the number of cases registered (and treated) for acute cryptococcal meningitis increased by almost 300% to **466** in Q1 2013. The number of cases treated for oesophageal candidiasis increased by over 200% to **900** compared with the previous quarters. This increase is attributed to the much wider availability of fluconazole in health facilities.

444 patients with Kaposi sarcoma were registered for ART in this quarter.

Table 5: Number new cases of key HIV-related diseases registered per quarter (KS = Kaposi Sarcoma, CM = cryptococcal meningitis, OC = oesophageal candidiasis).

	TB				KS *	CM *	OC *
	Tot. cases	HIV status asc.	HIV positive	Already on ART	Tot. cases	Tot. cases	Tot. cases
2012 Q2	4,961	4,572 *92%*	2,769 *61%*	1,577 *57%*	474	233	348
2012 Q3	5,723	5,257 *92%*	3,179 *60%*	1,775 *56%*	492	117	293
2012 Q4	5,013	4,654 *93%*	2,540 *55%*	1,423 *56%*	428		
2013 Q1					444	466	900

12 HIV-Exposed Child Follow-Up

12.1 Methods and Definition of Indicators

There are multiple entry points into HIV exposed child follow up: children of HIV infected mothers may be enrolled at birth at maternity; they may be found at Under 1 or Under 5 Clinics through active screening for HIV exposure; they may be identified when presenting sick to OPD; or they may be seen with their mothers in ART follow-up. Although the targeted enrolment age is below 2 months, children may theoretically be enrolled up to 23 months of age (when HIV infection can be ruled out by rapid antibody test and breast milk exposure is likely to have stopped).

Initial registration data and details for every visit are recorded on an *Exposed Child Patient Card* and a subset of the registration data is copied in the *HIV Care Clinic (HCC) register* (one record per patient). Registration data are reported from the HCC register on a quarterly basis. Follow-up outcomes are reported monthly, selecting children who were **2, 12 and 24 months** old in the respective reporting month. Outcomes are determined from the latest visit details recorded on each card. HIV infection status is evaluated as ***known negative*** if a negative DNA-PCR or rapid test result was available at the last visit; HIV infection status is evaluated as ***known positive*** if a positive DNA-PCR result was available at any age or a positive rapid antibody test was available from age 12 months; HIV infection status is counted as ***unknown*** if HIV infection has not been confirmed and/or

a negative test result pre-dated the last visit (assuming on-going HIV exposure through breast milk). All children under 24 months with confirmed HIV infection and those under 12 months with confirmed HIV infection through DNA-PCR or HIV antibody and symptoms of *presumed severe HIV disease* are ***eligible for ART***.

The main outcome indicator for the HIV exposed child follow-up program is ***HIV-free survival at 24 months of age***. This is defined as the proportion of children who were discharged as confirmed HIV uninfected by the age of 24 months.

12.2 HIV Exposed Child Registration Data

This is the 6th quarterly report from the standard follow-up program for HIV exposed children. **10,319** HIV exposed children were newly enrolled into follow-up during Q1 2013; **5,096 (49%)** of these were under the age of 2 months. This represents timely enrolment for **66%** of the 7,740 known HIV exposed children discharged from maternity this quarter. The total number of new enrolments (10,319) exceeds by 2,579 the total number of known HIV exposed children discharged from maternity (7,740). This apparent discrepancy may be explained by delayed enrolment of infants born in previous quarters; by double-counting of infants who transferred between sites; or by identification and enrolment of additional HIV exposed infants after birth. Overall, enrolment into follow-up for known HIV exposed infants appears to be almost complete.

The documentation of follow-up outcomes, particularly the updating of DNA-PCR results on patient cards, remained incomplete at several sites. This has led to an underreporting of ascertainment of HIV status among the 2 month old cohort.

12.3 Early Infant Diagnosis

12.4 Birth Cohort Outcomes

There were **7,468** infants in the **2 month age cohort**. **1,768 (24%)** had received a DNA-PCR result. **55 (3%)** of these were confirmed HIV infected. An additional **17** infants were diagnosed with *presumed severe HIV disease,* which means that a total of **72** infants were eligible for ART. **50 (69%)** of these had started ART. The proportion of positives starting ART early has increased from the previous quarter. Out of the entire 2-month age cohort, **6,430 (87%)** were retained in exposed child follow-up, **50 (1%)** had started ART and **82 (1%)** were discharged confirmed uninfected[2]. **20 (<1%)** were known to have died and **827 (11%)** had been lost to follow-up.

There were **6,764** children in the **12 month age cohort**. Current HIV infection status was known for **1,797 (27%)** children (DNA-PCR or rapid antibody test) and **137 (8%)** of these were confirmed HIV infected. **46 (1%)** additional children had been diagnosed with *presumed severe HIV disease,* which means that a total of **183** children were eligible for ART. **121 (66%)** of these had started ART. Out of the entire age cohort, **4,248 (64%)** were retained in exposed child follow-up, **121 (2%)** had started ART and **150 (2%)** were discharged confirmed uninfected[2]. **2,086 (31%)** were lost to follow-up and **47 (1%)** were known to have died.

There were **2,708** children in the **24 month age cohort**. Current HIV infection status was known for **1,233 (46%)** children (DNA-PCR or rapid antibody test) and **93 (8%)** of these were confirmed HIV infected. **11** additional children had been diagnosed with *presumed severe HIV disease,* which

[2] A small number of children may be rightfully discharged as 'confirmed uninfected' by 2 or 12 months of age, provided that HIV exposure through breast milk has definitely stopped (e.g. maternal death) and a negative HIV test was obtained at least 6 weeks thereafter.

means that a total of **104** children were eligible for ART. **93 (89%)** of these had started ART. Out of the entire age cohort, **757 (28%)** were retained in exposed child follow-up, **93 (4%)** had started ART and **856 (32%)** were discharged confirmed uninfected[2]. **920 (35%)** were lost to follow-up and **31 (1%)** were known to have died.

Confirmed HIV-free survival at age 24 months in this quarter was only **32%**, which was implausibly low and related to the fact that only 46% in this cohort had a known HIV status. 1,475 (54%) children were classified as '*current HIV infection status unknown'* and many of these may be among the 920 children lost to follow-up and the 31 children who had died. However, 757 (28%) were retained in follow-up beyond age 24 months and a final rapid test was not available for these children, possibly due to continued breast feeding. There are still problems with scheduled HIV testing (and documentation of test results) at 6 weeks, 12 and 24 months of age.

13 Pre-ART

13.1 Pre-ART Registration Data

A total of **9,510** patients were newly registered for pre-ART follow-up in Q1 2013. **944 (10%)** of these were children aged 2-14 years. Several sites had already established pre-ART services before July 2011 and the cumulative number of pre-ART patients ever registered was **121,106**.

13.2 Cumulative Pre-ART Follow-up Outcomes

40,674 (35%) of all patients ever registered were retained in pre-ART follow-up by the end of March 2013; **49,429 (42%)** had started ART; **26,235 (22%)** had been lost to follow-up; **1,552 (5%)** were known to have died. The proportion of patients starting ART is bound to increase in the cumulative pre-ART cohort analysis over time. Based on a subtraction of cumulative outcomes from the previous quarter, **12,731** pre-ART patients started ART during Q1 2013 and a net of **3,300** returned back into care after being counted as lost to follow-up in the previous quarter. It is likely that the wider availability of CPT motivated some pre-ART patients to return into care. The cumulative number of deaths showed an apparent decline by 3,652 compared with the previous quarter. This inconsistency originated from the report for Chiradzulu District, which was based on a non-standard reporting system.

CPT coverage among pre-ART patients increased from 80% in the previous quarter to **35,873 (88%)** in Q1 2013 while IPT coverage declined from 60% to **17,845 (44%)**. **3,175 (23%)** of 14,109 women had received Depo-Provera from their pre-ART clinic. Further details on CPT, Depo-Provera and IPT are presented in **Tables 3 and 4** in the sections above.

14 PMTCT / ART

The implementation of ***PMTCT Option B+*** has effectively integrated PMTCT and ART services. The program aims to initiate lifelong ART for all HIV infected women as early as possible from the 2nd trimester of pregnancy. ART may be started and continued at ANC, labour and delivery, and at ART clinics. All infants born to HIV-infected women are supposed to start daily nevirapine prophylaxis for the first 6 weeks of life. Nevirapine syrup is given to women at ANC at the earliest opportunity to take home with instructions how to give it to the new-born.

14.1 Data Sources and Reporting Methods

All patients starting ART are recorded using standard program monitoring tools (ART patient treatment cards and ART clinic registers). **ART baseline data** for all patients registered are reported each quarter from ART clinic registers. **ART outcomes** of all patients ever registered are reported

after reviewing the cards of all new patients and of those who were on ART at the end of the previous quarter, updating the status of patients who have subsequently died, stopped or been lost to follow-up. Secondary outcomes such as current regimen, CPT status, side effects, adherence and TB status are reported for all patients retained on ART.

ART scale-up has resulted in a growing proportion of HIV-infected women who are already on ART when becoming pregnant. Implementation of *Option B+* will further increase ART coverage in this group. **Maternal PMTCT coverage** is estimated from the number of pregnant women who were already on ART when getting pregnant (from maternity reports) ***plus*** those who newly started ART when pregnant (from ART reports): **Maternity reports** capture ART status at the time of delivery (up to the time of discharge from the postnatal ward). The timing of ART initiation is categorized into: (any time) before pregnancy; during 1st / 2nd trimester; during 3rd trimester; during labour. About 95% of pregnant women in Malawi attend ANC, but only 83% of women in the general population deliver at a health facility in Malawi. Maternity reports therefore have the potential for undercounting the number of mothers and infants receiving ARVs. However, there is evidence from ANC and maternity reports that almost all of the known HIV infected women deliver at health facilities. ARV coverage among known positives is therefore reliably calculated from maternity reports. In contrast, **ART program reports** capture pregnancy (and breastfeeding) status at the time of *ART initiation*, providing information on the number of new women starting ART while pregnant (or while breastfeeding). ART reports do not capture women who became pregnant after starting ART. This is why both data sources have to be combined for the estimation of the total ART coverage among pregnant women.

Infant PMTCT coverage is estimated from maternity reports, based on the number of infants born to known HIV-infected women and discharged alive who started nevirapine prophylaxis.

New standard M&E tools for ANC and maternity were implemented in Malawi in January 2010 and revised tools have been distributed in Q2 2012 to reflect the Option B+ policy. ANC and maternity clinic registers and reporting forms include patient management information as well as all relevant data elements for M&E of the maternal and child health and HIV programs. The ANC register was specifically designed to avoid data duplication that previously affected PMTCT reports from ANC due to the inability to account for individual women's outcomes in the course of multiple visits. The cohort reporting system is designed to aggregate women's outcome data after they have completed their ANC visits. Data from ANC and maternity are collated and presented separately because records do not allow identification of individual women and hence are subject to double counting if not separated.

Coverage was calculated by dividing the number of patients served by population denominators. The denominators were derived from expected pregnancies based on population projections and HIV prevalence from epidemiological surveillance (source: National HIV Prevalence and AIDS Estimates Report for 2010). There are an estimated 15,750 HIV infected pregnant women in the population per quarter (1/4 of 63,000 per annum).

14.2 ARV Coverage among Pregnant / Breastfeeding Women and Exposed Infants

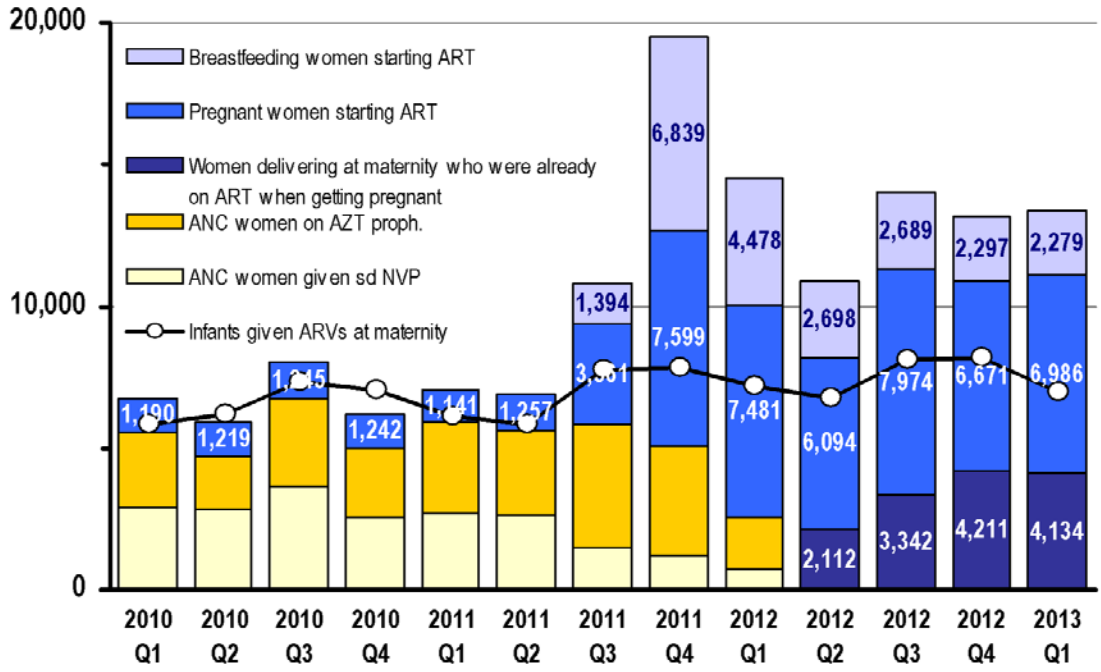
11,120 pregnant women were on ART in Q1 2013. This is based on the **4,134** women at maternity who were already on ART when getting pregnant (maternity report, see below) and the **6,986** women who newly initiated ART while pregnant (ART report, see below). An additional **2,297** breastfeeding women started ART due to ***Option B+*** (in WHO clinical stage 1 or 2), bringing the total number newly started on ART under *Option B+* to **9,283**. Most women starting ART while breastfeeding were probably identified late in maternity or early in the postnatal period, but this

group may also include some women who re-initiated after interrupting ART in pregnancy. **7,740** infants were confirmed to have started NVP prophylaxis at maternity.

Figure 1 shows the transition from prophylactic ARV regimens for HIV infected mothers to universal ART under ***Option B+***. The (less effective) single dose NVP regimen and AZT combination prophylaxis had been phased out by April 2012. The average number of pregnant women starting ART each quarter **increased almost 6-fold** from **1,221** in the 12 month period before introduction of Option B+ to an average of **7,134** since Q4 2011. The **11,120** pregnant women on ART in Q1 2013 represent **71% coverage** of the estimated 15,750 HIV positive pregnant women in the population per quarter. This is an increase from the previous quarter, but ART coverage among pregnant women has remained slightly below target. This was mainly due to challenges with supply and stock management of HIV test kits, compounded by sub-optimal sensitivity of testing under field conditions at ANC.

Figure 1: Transition from prophylactic ARV regimens for PMTCT to Option B+ in Malawi

Women who moved to Option B+ from sdNVP / AZT were double counted between Q3 2011 - Q1 2012. It is likely that <12,000 total women were on ARVs during these quarters. Data on women already on ART when getting pregnant are only available from Q2 2012.



14.3 HIV Services at ANC

The full national data from ANC are presented in the **Appendix**.

153,743 women attended ANC for their first visit between January and March 2013. This is slightly above the estimated 151,750 pregnant women in the Malawian population during one quarter.

The following report covers the outcomes of the **163,522** women who started ANC between July and September 2012 and who had finished ANC by March 2013. **12,363 (8%)** of the women started ANC in their first trimester. **31,922 (20%)** of the women were tested for syphilis at ANC and **651 (2%)** were syphilis positive. The low testing rate probably explains the higher (2%) than expected proportion (<1%) found positive as the testing was likely selective of those suspected to be positive. Only **31,691 (19%)** of women in this cohort attended the minimum of 4 focussed ANC visits.

14.3.1 HIV Ascertainment at ANC

127,167 (78%) of ANC attendees had their HIV status ascertained. This is an increase from 68% in the previous quarter which was mainly due to improved stock management of HIV test kits. Out of all women with ascertained HIV status, **8,603 (7%)** presented with a valid documented previous HIV test result and **118,564 (93%)** received a new HIV test result at ANC. A total of **10,282 (8%)** women were found HIV positive. This is lower than the estimated 11% HIV prevalence among pregnant women and this is likely due to problems with sensitivity of HIV rapid testing in high volume service settings.

14.4 ARV Coverage at ANC

9,093 (88%) of (known) HIV infected women attending ANC received ART. This represents **58%** coverage of the estimated 15,750 HIV positive pregnant women per quarter at the population level. ART coverage among pregnant women increased from the previous quarter, but overall levels remain unsatisfactory due to challenges with supply and stock management of HIV test kits, compounded by sub-optimal sensitivity of rapid HIV testing at ANC.

Of the **9,093** ANC women who were known to receive ART, **3,317 (36%)** were already on ART when starting ANC, **4,283 (47%)** initiated before 28 weeks of pregnancy and **1,493 (16%)** initiated during the last trimester of pregnancy. Based on the ART report, about **1,120** additional pregnant women initiated ART this quarter and most of these are assumed to have started ART after their last ANC visit.

8,526 (83%) of HIV infected women at ANC were on Cotrimoxazole Preventive Therapy.

6,362 (62%) of HIV infected women attending ANC received the infant dose of ARVs (nevirapine syrup) to take home. This is an increase by 13% from the previous quarter and probably a result of a series of clinical review meetings with service providers around the country where special emphasis was placed on weak implementation areas.

14.5 HIV Services at Maternity

The full national data from maternity are presented in the **Appendix**.

Between January and March 2013, **108,247** women were admitted for delivery to maternity; **6,129 (5%)** of these were referred to another facility before delivery, resulting in **114,376** total admissions to maternity during Q1 2012. Out of all admissions, **104,686 (94%)** delivered at health facilities, while **6,268 (6%)** had already delivered before reaching a facility. The **104,686** facility deliveries represent **69%** of the estimated 151,750 deliveries in the population which less than the 83% reported in the Integrated Household Survey Report of 2010-2011.

A total of **101,526 (93%)** deliveries were conducted by skilled birth attendants, **1,232 (1%)** by paramedical staff and **5,934 (5%)** were not attended by any of the above (probably mainly among women who delivered before reaching maternity). **12,770 (11%)** of women developed obstetric complications. The most common leading complications were obstructed / prolonged labour (**4,213** cases) and post-partum haemorrhage (**1,525** cases). A total of **110,954** babies were born, **106,389 (96%)** were singletons and **4,565 (4%)** were twins/multiples. There were **109,084 (98%)** live births and **1,870 (2%)** stillbirths. **107,971 (99%)** of babies born alive were discharged alive and **1,113 (1%)** died before discharge. **126,733 (>99%)** of women were discharged alive and **253 (<1%)** women died before discharge, which is equivalent to a maternal mortality ratio of **232 per 100,000** live births among women attending maternity.

14.5.1 HIV Ascertainment at Maternity

102,506 (89%) women had their HIV status ascertained at maternity. Out of these, **98,298 (96%)** presented with a valid previous HIV test result and **4,208 (4%)** received a new HIV test result. A total of **8,306 (8%)** women were HIV positive and **94,200 (92%)** were negative. The **102,506** women whose HIV status was ascertained at maternity represent **68%** of the expected 151,750 women delivering in the population.

HIV exposure status was ascertained for **97,726 (91%)** out of 107,971 babies born and discharged alive. **7,740 (8%)** of these were born to a known HIV positive mother.

14.5.2 ARV Coverage at Maternity

A total of **7,842 (94%)** of HIV infected women attending maternity received ART. This is a decrease from the previous quarter. Out of these, **4,134 (53%)** had started ART before pregnancy, **1,612 (21%)** initiated ART during the 1st or 2nd trimester, **1,807 (23%)** initiated during the 3rd trimester and **289 (4%)** initiated ART at maternity.

A total of **6,975 (90%)** of infants who were known HIV exposed and discharged alive started daily NVP prophylaxis at maternity. This represents **44%** coverage of the estimated 15,750 HIV exposed infants born in the population in this quarter.

15 ART Access and Follow-Up Outcomes

The full national data from the ART Program are shown in the **Annex**.

15.1 New ART Registrations during Q1 2013

By the end of March 2013, there were **655 static ART sites** in Malawi, managed by government, mission, NGOs and the private sector. Out of these, **70** were ART facilities in the private sector, charging a nominal MK500 per monthly prescription of drugs per patient.

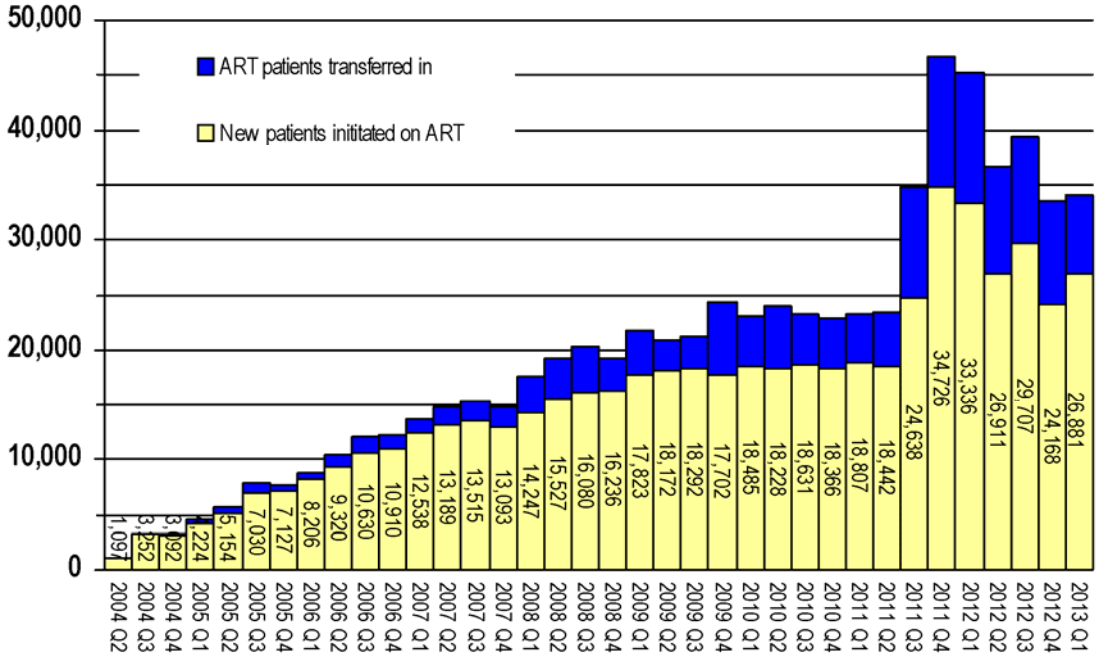
Implementation of the Malawi Integrated Clinical HIV Guidelines started in July 2011 and triggered a massive surge in new ART initiations (see **Figure 2**). **26,881** patients initiated ART in Q1 2013. This is an 11% increase from the previous quarter. The rate of transfers among all new clinic registrations has declined from 26% in the previous quarter to 19% (6,625 out of 34,075 registrations) in the current quarter.

Among all new registrations **33%** were males and **67%** females. **6,986 (31%)** of all females were pregnant and **6,773 (97%)** of these were started under ***Option B+*** in WHO stage 1 or 2, independent of their CD4 count. **213** pregnant women (the remainder) were otherwise eligible for ART, either due to WHO stage 3 or 4 conditions or because of a CD4 count <350. An additional **2,297** women in WHO stage 1 or 2 were started because of breastfeeding, bringing the total number of women started under ***Option B+*** [3] to **9,283**. The number of ART initiations in Q1 2013 remained lower than projected, probably mainly due to challenges with HIV testing.

[3] Universal ART for all HIV infected pregnant and breastfeeding women in WHO stage 1 or 2, independent of CD4 count

Figure 2: Patients newly inititated on ART and total ART clinic registrations per quarter

Total ART clinic registrations include patients who transferred between sites. This results in double counting of patients at the national level. For 'patients newly initiated on ART' every patient is only counted once.



A total of **18,224 (54%)** of all patients started in WHO stage 1 or 2. **8,647 (47%)** of these started due to a CD4 count below 350, which represents **68%** of the 12,731 pre-ART patients who started ART this quarter. This implies that about one third of pre-ART patients started ART with a WHO clinical stage 3 or 4 condition (or became pregnant). Access to CD4 count testing remains limited although the number of results produced increased slightly from 28,845 in Q4 2012 to 30,714 in Q1 2013. The roll-out of scheduled CD4 count monitoring in the Pre-ART program is expected to increase the number of early ART initiations.

13,204 (39%) of patients registered started in WHO stage 3 and **2,162 (6%)** started in stage 4.

2,941 children were registered in Q1 2013. **339** of these were registered under the policy of universal ART for children aged 12-23 months in WHO stage 1 or 2, independent of CD4 count. This is an increase from the previous quarter (261). **199** children started ART with presumed severe HIV disease, which was similar to the previous quarter (192). The number of infants in WHO stage 1 or 2 who started due to confirmed HIV infection through DNA-PCR decreased from 165 in Q4 to **126** in Q1 2013. This number is equivalent to **54%** of the 235 positive DNA-PCR results that were dispatched from the labs at KCH and QECH this quarter (for children under 12 months of age). Early paediatric ART access has remained below expectations, but the relatively low number is consistent with reduced transmission rates due to Option B+: considering that 7,740 HIV exposed infants were identified at maternity and assuming a 2% transmission rate among the 94% of HIV positive mothers at maternity who received ART (and 20% transmission in the 7% who did not receive ART)[4], only about 238 of these known HIV exposed infants may have been infected perinatally during Q1 2013.

1,586 (4%) out of all ART clinic registrations were patients with TB: **1,097 (3%)** had a current and **489 (1%)** a recent history of TB. **444 (1%)** of patients registered had Kaposi's sarcoma.

[4] UNAIDS Reference Group on Estimates Modelling and Projections (2011). Working paper on mother-to-child-transmission rates for use in Spectrum. Geneva, UNAIDS.

15.2 Cumulative ART Registrations up to March 2013

By the end of March, there were a cumulative total of **721,690** clinic registrations, representing **585,568 (81%)** patients who newly initiated ART and **129,845 (18%)** patients who transferred between clinics. **6,277** (1%) out of all clinic registrations were patients who re-initiated ART after treatment interruption. Out of all registrations, **36**% were males and **64**% were females, **91**% were adults and **9**% were children (<15 years). Private sector clinics accounted for **23,181** (3.2%) of total patient registrations.

15.3 ART Outcomes

422,866 patients were alive on ART by the end of March 2013. This number includes **5,747** patients who were assumed to be 'in transit' as of the 31st March 2013, based on the difference between **135,592** patients *transferred out* and **129,845** patients *transferred in* at the facilities around the country. This difference is explained by patients registered as a *transfer out* in the last 2 months of the quarter who have not yet arrived at their new site.

Out of the **585,568** patients ever initiated on ART, **422,866 (71%)** were retained alive on ART, **59,542 (10%)** were known to have died, **107,153 (18%)** were lost to follow-up and **2,284** (<1%) were known to have stopped ART. An estimated **385,680** adults and **37,186** children (<15 years) were alive on ART by the end of March 2013**.**

Figure 3: Patients alive on ART in public and private sector clinics in Malawi

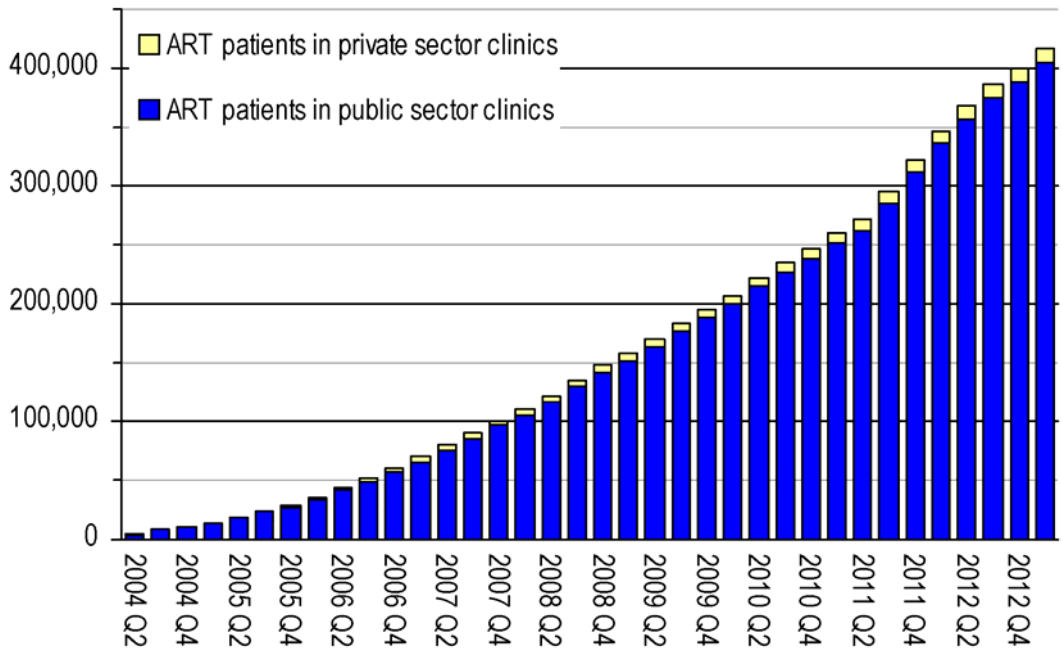


Figure 3 shows the increase of patients alive on ART by the end of each quarter. The number of patients alive on ART **increased by 17,961** in Q1 of 2013. This exceeds the growth observed in the previous quarter (13,567), which was affected by challenges with HIV testing.

Figure 4: Quarterly rates of ART drop out (ART stop, defaulters and deaths)

Numerator: new ART stops, new defaulters and new deaths in the respective quarter
Denominator: total patients retained alive at the end of the previous quarter plus new patients registered in the respective quarter)

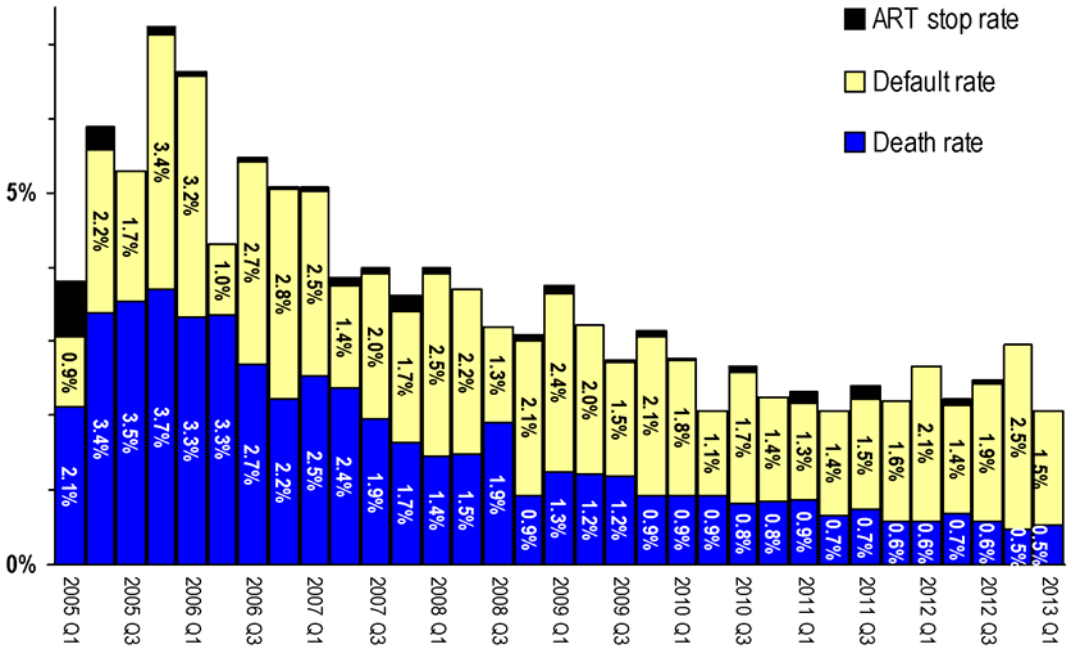


Figure 4 shows the considerable decrease of ART drop-out rates since the start of the national programme. There were **2,255** new deaths, **6,529** new defaulters, and **70** new ART stops in Q1 2013. This translates into a quarterly death rate of **0.5%** and a defaulter rate of **1.5%** among the patients alive and on treatment in this quarter. The default rate has decreased by 1% from the previous quarter. The observed fluctuation in the default rate is probably mostly explained by several known challenges with the ascertainment of patient follow-up status: Patients who have transferred to another ART clinic without notifying their previous site are misclassified as lost to follow-up while they are actually on ART at the new site. Based on previous operational studies, about half of the patients in stage 3 and 4 who are classified as lost to follow-up are thought to have died. There is also an indication that 5-10% of pregnant women who were registered as 'initiated on ART' under Option B+ may have never actually started taking ARVs due to inadequate preparation at ANC. Importantly, the ascertainment of loss to follow-up requires updating of patient treatment cards after analysis of the most recent dispensing visit. Any lack in rigour in this process will lead to a misclassification of patients who have been lost to follow-up as 'retained alive on ART'.

By end of March 2013, a cumulative **59,542 (10%)** patients were known to have died **107,153 (18%)** were lost to follow-up and **2,284** (**<1%**) were known to have **stopped ART.**

Figure 5: Patients starting ART in WHO stage 4 and deaths in the first 3 months after ART initiation. (Shown as proportions among new patients registered each quarter)

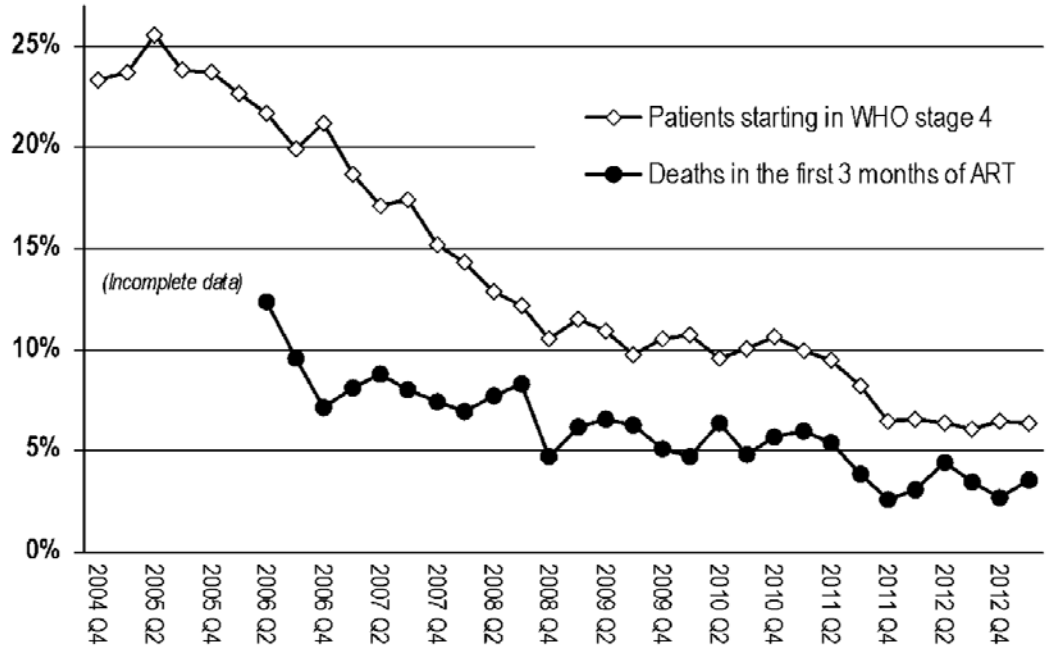
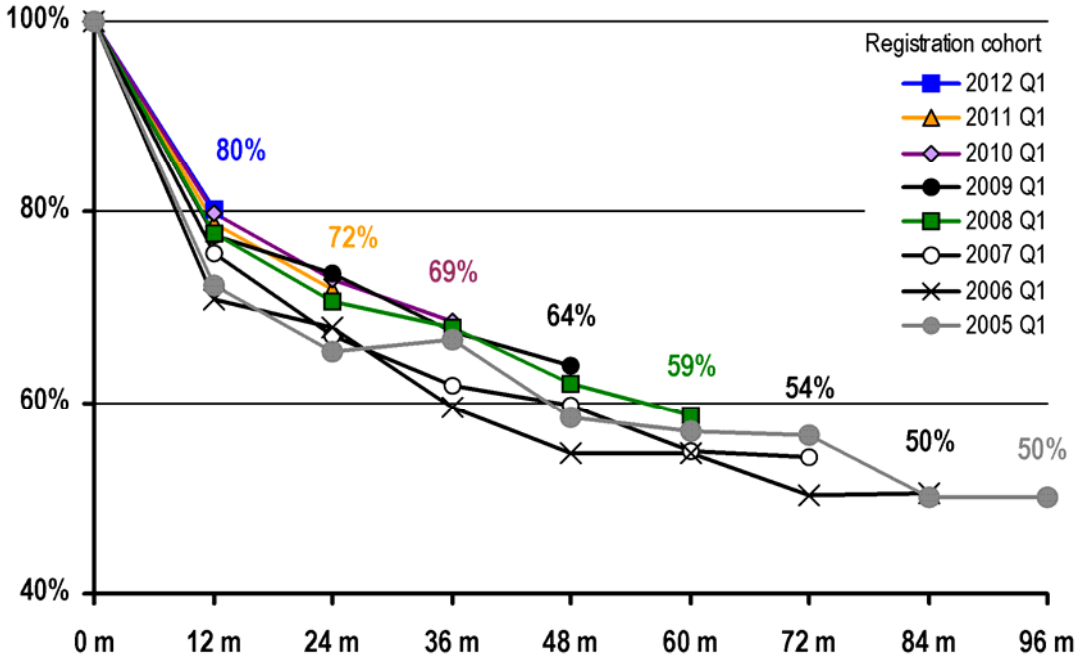


Figure 5 shows the considerable decline in **early mortality** since the start of the program. In Q2 of 2006 11% of new patients died within the first 3 months after ART initiation. There has been a remarkable decline in early mortality and the lowest point thus far was reached in Q4 2011. The decrease in early mortality is probably mainly due to earlier ART initiation (patients in WHO stage 2 with a CD4 count below the threshold or in stage 3). It correlates well with the decline in the proportion of patients starting ART in WHO clinical stage 4 from 25% in 2005 Q2 to **6%** in Q1 2013. Slight fluctuations in the calculated early mortality rates are mainly due to inconsistent classification of month of death at the sites with electronic patient record systems. The 2011 guidelines are expected to further reduce early mortality, as more patients will be started in WHO stage 1 and 2 (universal ART for HIV infected pregnant and breastfeeding women and children under 2 years).

15.3.1 ART Cohort Survival Analysis

A 12, 24, 36, 48, 60, 72, 84 and 96-month **'cohort outcome survival analysis'** was conducted for patients registered in Q1 of 2005, 2006, 2007, 2008, 2009, 2010, 2011 and 2012, respectively. A separate 12-month cohort outcome analysis was conducted for children who were under 15 years at the time of ART initiation and who registered for ART in Q1 2012. For the 4th time, a further subgroup analysis was done for women who started ART under ***Option B+*** during Q1 and Q3 2012. **81% of adults** and **78% of children** were retained alive on ART after 12 months on treatment. This is a slight increase for adults and a decrease for children from the previous quarter, but remains close to the WHO target of 85%. **Figure 6** shows the continuous improvement of long-term treatment outcomes over time. **59%** and **50%** of patients registered 5 and 8 years ago had been retained alive on ART.

Figure 6: Group cohort survival analysis: Proportion of patients retained alive on ART 12, 24, 36, 48, 60, 72, 84 and 96 months after ART initiation



6-month group cohort survival outcomes were known for **9,386** (90%) of the 10,443 women registered as having started ART under *Option B+* in Q3 2012[5]. This number represents 553 (6%) women who transferred out and are therefore double counted and **8,833 (94%)** patients not transferred. **6,842 (77%)** of these were retained at 6 months after registration. **1,870 (94%)** of those not retained were lost to follow-up, **46 (2%)** were known to have stopped ART and **75 (4%)** were known to have died.

12-month group cohort survival outcomes were known for **10,435** (89%) out of the 11,701 women registered as having started ART under *Option B+* in Q1 2012.[5] This number represents **751 (7%)** women who transferred out and are therefore double counted and **9,684 (93%)** patients not transferred. **7,485 (77%)** of these were retained at 12 months after registration. **2,044 (93%)** of those not retained were lost to follow-up, **49 (2%)** were known to have stopped ART and **106 (5%)** were known to have died.

The majority of women classified as lost to follow-up are likely to have stopped/ interrupted ART, but others are likely to have transferred to another facility without notifying the previous site and the actual proportion retained on ART may be higher than reported. The 6-month retention rate is slightly lower than in the previous quarter. These are satisfactory results. Most of the women lost to follow-up failed to return after their first visit and many of these may have never actually started ART due to inadequate counselling and preparation in the initial phase of implementation. The program is examining the different modes of delivery closely to further improve uptake and retention on *Option B+*.

[5] Group cohort survival analyses were not available from some sites running electronic data systems.

6 month survival OptionB+

Survival and retention in ART program *

ART cohort registration group outcomes

Total ART clinic registrations	9,386	100%
Transfers out (double counted)	553	6%
Total not transferred out (patients in cohort)	8,833	94%
Total alive on ART	6,842	77%
Total not retained	1,991	23%
Defaulted	1,870	94%
Stopped ART	46	2%
Died	75	4%

12 month survival OptionB+

Survival and retention in ART program *

ART cohort registration group outcomes

Total ART clinic registrations	10,435	100%
Transfers out (double counted)	751	7%
Total not transferred out (patients in cohort)	9,684	93%
Total alive on ART	7,485	77%
Total not retained	2,199	23%
Defaulted	2,044	93%
Stopped ART	49	2%
Died	106	5%

15.3.2 Secondary outcomes of patients retained on ART

Secondary outcomes are known for the **417,119** patients alive on ART who remained at their sites at end of the quarter. They are assumed to be similar for the 5,747 patients *in transit*.

ART Regimens

413,556 (99%) of patients were on first line and **2,838 (1%)** were on second line regimens; **725 (<1%)** were on non-standard regimens. Non-standard regimens are not necessarily substandard regimens and include patients continuing an ART regimen that was started outside Malawi, patients in research programmes and patients in specialist care.

Among patients on first line regimens, **22,980 (6%)** were on paediatric formulations and **21,762 (95%)** of these were on the new standard first line for children (regimen 2P: AZT/3TC/NVP).

265,905 (68%) of **390,576** patients on adult formulation first line regimen were on regimen 1A (stavudine / lamivudine / nevirapine); **28,835 (7%)** were on regimen 2A (zidovudine / lamivudine / nevirapine), which is the main alternative regimen for patients with stavudine side-effects.

By the end of March 2013, **84,499 (22%)** of patients on adult first line were receiving regimen **5A** (tenofovir / lamivudine / efavirenz). The majority of these were new initiations under Option B+ or because of concurrent TB treatment. Only a minority were substituted to regimen 5A due to confirmed lipodystrophy or other severe ART side effects.

Adherence to ART

Pill counts and the number of missed doses were documented for **393,620 (94%)** out of all patients retained on ART and **352,411 (90%)** of these were classified as >95% adherent in Q1 2013. Manual estimation of adherence from pill counts is practically difficult and classification can be misleading. To improve on accuracy of adherence assessment, the ART program has switched to a direct

evaluation of doses missed in 2010. Most ART sites are now recording this measure consistently and more plausible adherence levels are recorded with this method.

ART Side Effects

309,824 (74%) patients on ART had information on drug side effects documented at their last clinic visit before end of March 2013. **17,191 (6%)** of these had side-effects. This may be under-ascertainment of the true rate of drug side effects, as an assumed 20-25% of patients develop at least mild side effects on regimen 1 (stavudine / lamivudine / nevirapine). However, 29% of patients on first line regimen adult formulation are no longer on stavudine containing regimens, so a lower proportion of patients with side-effects is plausible. Malawi continues to increase access to alternative first line regimens for such patients, and those with severe lipodystrophy are now moved to regimen 5A (tenofovir / lamivudine / efavirenz).

16 TB / HIV Management

TB program data could not be reconciled with the National TB Control Program this quarter and ART treatment coverage among HIV infected TB patients could therefore not be estimated.

17 STI Treatment

STI program data remained incomplete in this quarterly report. **40,626** STI cases were reported through HMIS for Q1 2013. The average completeness of site-level monthly reports was 76% according to the District Health Information System (DHIS). This implies that up to **60,700** STI cases may have been treated in this quarter. This is equivalent to **a 62% STI treatment coverage** of the expected 98,600 STI cases in the population.

18 Supply of HIV Program Commodities

All procurement of HIV commodities were conducted by the Partnership for Supply Chain Management through the Voluntary Pooled Procurement mechanism under the Global Fund. During Q1 2013, ARV and medicines for opportunistic infections worth $17.13 million were received by the Central Medical Store Trust warehouse dedicated for HIV Program commodities. This comprised of 3.6 months of stock (MOS) of Tenofovir/Lamivudine/Nevirapine 300/300/200mg (Regimen 5A; 89% of the value of adult ARVs) and 6 months of stock for medicines for opportunistic infections (11% of the value for medicines for Opportunistic Infections). By end of Q1 2013, the program had received a total of 1,271,894 tins or 3.6 months of stock of Tenofovir/Lamivudine/Nevirapine 300/300/200mg.

In preparation for phase 2 of the first line regimen transition in the 2011 guidelines, the program has continued receiving additional quantities of 5A and an additional 1.835 million tins of Tenofovir/Lamivudine/Nevirapine 300/300/200mg, 5A will be delivered by August 2013. During the same quarter, Atazanavir/ritonavir 300/100mg was received to facilitate the transition from lopinavir/ritonavir 200/50mg from April 2013.

To maintain adequate stocks in the pipeline and hence ensure uninterrupted supply for subsequent orders, additional orders estimated at over 43million USD were confirmed in Q1 2013 and are awaiting disbursement of funds by the Global Funds following submission of an approved PSM plan by the PR. The total value of ARV medicines ordered in Q1 2013 was $ 34 million. These will be delivered in Q3; Q4 2013 and Q1 2014 as staggered shipments in time to facilitate a seamless transition from stavudine based to tenofovir based regimen.

The scheduled quarterly distribution of HIV commodities (DR 13) started on the 23rd April 2013 and over 672 sites had received their supplies by 12th June, 2013. The distribution included all paediatric and adult formulation ARVs and other medicines for opportunistic infections such as Co-trimoxazole 960mg. Both Determine and Unigold HIV test kits were also distributed to individual health facilities to enable the health facilities provide uninterrupted testing services.

Subsequent approvals for deliveries of HIV commodities were approved in Q1 2013 by the GF country team to cater for distribution through UNICEF. UNICEF is currently managing the third party distribution agent for the period ending December, 2013. A cost estimate and statement of account request was made to UNICEF to ensure continuity of funding hence facilitating reprogramming of additional funds before end of July 2013 to minimize delays in distribution experienced in distribution cycle 12.

The HIV Department Logistics team also conducted logistics monitoring of HIV commodities distribution as part of Cycle 12 and supply chain trail for HIV commodities at 34 ART sites in Q1 2013 with the aim of strengthening in-country logistics co-ordination activities pertaining storage, stock management, distribution planning and distribution of HIV commodities to all ART health facilities

Some of the challenges noted during the March 2013 logistics monitoring visits include: stock imbalances, poor stock management, and limited knowledge of ARV formulations by Drug Store Clerks, inadequate documentation of logistics data, parallel inventory management systems and lack of stock assessment skills.

The team conducted on job training in best practices of stock management and also conducted relocation of overstocked products between sites to minimize expires. The above findings of key logistics challenges at the health facilities will significantly influence the logistics strategies that will be adopted to strengthen logistics management of ARVs and medicines for opportunistic infections.

Physical stock counts for ARVs and other medicines for HIV-related diseases were performed at all sites during the supervision visits in April 2013. **Table 6** shows the total medicine stocks found at the sites and the estimated consumption periods. Following the quarterly distribution cycle and maintaining a 2-month minimum stock level at the sites, stocks of the main adult and pediatric regimens were estimated to last until end of May 2013.

Minimum stocks of AZT/3TC 300/150mg are maintained at all sites for post-exposure prophylaxis (PEP) and the total stocks at the sites therefore far exceeds the actual consumption from patients using this regimen in alternative ART regimens or as PEP.

84,499 patients were on Regimen 5A, which was 3,462 (4.0%) less than projected in the procurement plan for the end of this quarter (87,961). This confirms that mid-term ART program projections have a high degree of accuracy. The national ART program forecast and quantification was updated in May 2013, based on the last 6 quarters of new program data since implementation of the July 2011 guidelines.

Table 6: Total stocks of HIV program commodities at all sites visited during the 2013 Q1 supportive site supervision. Stock positions are from the date of the visit (between 1-4 weeks after the end of the quarter). Warehouse stock positions are from 25/03/2013

Inventory unit	Item	Sites with any Stock	Total Physical Stock		Consump-tion/ Month	Months of Stock *	
			At Sites	In Warehouse		At Sites	Wareh.
tins	ABC / 3TC 60 / 30mg tins (60 tabs)	**28**	**2,377**	**8,382**	1,278	1.9	6.6
	AZT / 3TC 60 / 30mg tins (60 tabs)	**578**	**15,833**	**13,457**	1,858	8.5	7.2
	AZT / 3TC 300 / 150mg tins (60 tabs)	**511**	**18,863**	**21,878**	1,694	11.1	12.9
	AZT / 3TC / NVP 60 / 30 / 50mg tins (60 tabs)	**583**	**189,073**	**382,084**	54,405	3.5	7.0
	AZT / 3TC / NVP 300 / 150 / 200mg tins (60 tabs)	**551**	**118,324**	**171,902**	28,835	4.1	6.0
	d4T / 3TC 6 / 30mg tins (60 tabs)	**349**	**3,767**	**15**	421	9.0	0.0
	d4T / 3TC 30 / 150mg tins (15 tabs)	**406**	**11,410**		5,825	2.0	
	d4T / 3TC 30 / 150mg tins (60 tabs)	**465**	**33,916**	**43,474**	10,717	3.2	4.1
	d4T / 3TC / NVP 6 / 30 / 50mg tins (60 tabs)	**410**	**38,873**	**3,880**	2,078	18.7	1.9
	d4T / 3TC / NVP 30 / 150 / 200mg tins (15 tabs)	**398**	**14,898**		5,825	2.6	
	d4T / 3TC / NVP 30 / 150 / 200mg tins (60 tabs)	**621**	**621,400**	**526,464**	265,905	2.3	2.0
	EFV 200mg tins (90 tabs)	**136**	**3,133**	**2,921**	141	22.2	20.7
	EFV 600mg tins (30 tabs)	**558**	**25,145**	**11,698**	10,277	2.4	1.1
	LPV / r 100 / 25mg tins (60 tabs)	**32**	**1,616**	**7,558**	1,278	1.3	5.9
	LPV / r 200 / 50mg tins (120 tabs)	**83**	**3,541**		2,412	1.5	
	ATV / r 300 / 100mg tins (30 tabs)	**30**	**3,665**	**14,713**	2,412	1.5	6.1
	NVP 200mg tins (60 tabs)	**531**	**15,639**	**12,539**	1,060	14.8	11.8
	TDF / 3TC 300 / 300mg tins (30 tabs)	**535**	**28,156**	**22,834**	3,124	9.0	7.3
	TDF / 3TC / EFV 300 / 300 / 600mg tins (30 tabs)	**599**	**310,711**	**1,200,000**	84,499	3.7	14.2
bottles	Gentian violet 25g bottles (1 each)	**66**	**3,539**	**15,960**			
	Fluconazole (Diflucan) 50mg / 5ml bottles (35 ml)	**91**	**3,229**	**0**	21	151.4	0.0
	NVP 10mg/ml bottles (25 ml)	**584**	**106,872**	**40,888**	16,088	6.6	2.5
vials	Depo-Provera 150mg/1ml vials (25 each)	**489**	**983,287**	**617,950**	45,371	21.7	13.6
	Ceftriaxone 1g vials (50 each)	**490**	**48,920**	**32,000**			
	Benzathine Penicillin 1.44g vials (50 each)	**546**	**174,682**	**30,000**			
	Bleomycine 15,000IU vials (1 each)	**19**	**762**	**2,340**			
	Gentamicin 80mg / 2ml vials (50 each)	**494**	**259,895**	**76,571**			
	Vincristine 1mg / 1ml vials (1 each)	**43**	**8,745**	**24,000**			
tabs	Azithromycin 500mg blist packs (3 tabs)	**45**	**17,664**	**13,770**			
	Erythromycin 250mg tins (1000 tabs)	**516**	**11,038,875**	**1,504,000**			
	Aciclovir 200mg blist packs (25 tabs)	**484**	**3,677,594**	**5,046,575**			
	Cotrimoxazole 100 / 20mg blist packs (1000 tabs)	**273**	**5,077,247**	**18,541,000**	3,128,771	1.6	5.9
	Ibuprofen 200mg tins (1000 tabs)	**352**	**1,401,502**	**800,000**			
	Metronidazole 200mg tins (1000 tabs)	**537**	**10,136,249**	**5,996,000**			
	Codeine 30mg tins (100 tabs)	**48**	**229,253**	**336,000**			
	Aciclovir 400mg blist packs (500 tabs)	**113**	**956,517**	**1,500,000**			
	Amitriptylline 25mg tins (500 tabs)	**113**	**311,240**	**1,520,000**			
	Doxycycline 100mg tins (1000 tabs)	**544**	**29,908,298**	**5,198,000**			
	Ciprofloxacin 500mg blist packs (100 tabs)	**242**	**1,670,539**	**4,668,800**			
	Cotrimoxazole 400 / 80mg blist packs (60 tabs)	**251**	**17,621,930**	**48,947,040**	29,642,197	0.6	1.7
	Cotrimoxazole 400 / 80mg tins (1000 tabs)	**545**	**33,771,949**	**14,794,000**			
	Fluconazole (Diflucan) 200mg tins (28 tabs)	**576**	**571,764**	**4,508**	40,845	14.0	0.1
	Isoniazid 100mg blist packs (100 tabs)	**263**	**246,887**				
	Isoniazid 300mg blist packs (672 tabs)	**401**	**3,959,884**		2,320,812	1.7	
	Morphine 10mg blist packs (60 tabs)	**13**	**60,385**	**604,800**			
	Pyridoxine 25mg tins (100 tabs)	**280**	**1,562,145**	**38,600**			
sheets	Exposed child card (pink) bundles (100 sheets)	**574**	**66,701**	**24,000**	3,440	19.4	7.0
	Pre-ART pat. card (green) bundles (100 sheets)	**593**	**114,684**	**50,700**	3,170	36.2	16.0
	ART pat. card adult (yellow) bundles (100 sheets	**617**	**276,687**	**316,800**	10,378	26.7	30.5
	ART pat. card paed. (blue) bundles (100 sheets)	**588**	**97,926**	**55,100**	980	99.9	56.2

Table 6: Total stocks of HIV program commodities at all sites visited during the 2013 Q1 supportive site supervision. Stock positions are from the date of the visit (between 1-4 weeks after the end of the quarter). Warehouse stock positions are from 25/03/2013

Inventory unit	Item	Sites with any Stock	Total Physical Stock		Consump-tion/ Month	Months of Stock *	
			At Sites	In Warehouse		At Sites	Wareh.
tests	Determine HIV1/2 boxes (100 each)	476	262,550	1,020,500	144,378	1.8	7.1
	Uni-Gold HIV1/2 boxes (20 each)	515	70,400	130,220	13,192	5.3	9.9
	Determine syphilis boxes (100 each)	61	64,519	157,500	54,453	1.2	2.9
	DBS kit (filter paper, lancet, etc.) bundles (20 eac	305	11,770	0			
pieces	Condoms male boxes (1 each)	404	8,341,476				
	Condoms female boxes (1 each)	296	883,546				

* 'Consumption per month' and 'Months of stock' are only estimated for commodities that are directly related to patient-regimen groups in the standard service reports. Estimates are based on the number of patients on the respective regimen at the end of the quarter evaluated and do not account for potential (positive or negative) growth. 'Months of stock' is calculated from the day of the physical stock count, which is on average 1 month after the end of the quarter.

19 Trainings and Mentoring

19.1 HIV Testing and Counselling, Early Infant Diagnosis

In preparation for a nationwide retraining of all HTC providers, **20** Master trainers were trained in the *HTC Skills Intensive Training* curriculum, who in turn trained **197** trainers.

513 HTC counsellors and **1,239** HSAs at **152** facilities received mentoring for collection of dried blood samples for Early Infant Diagnosis and documentation of results.

19.2 PMTCT/ART

195 medical staff were newly trained and certified in PMTCT/ART and an additional **23** medical records clerks were trained in M&E for the PMTCT/ART program this quarter. This brings the total number trained in the 2011 guidelines to **5,711**.

40 Participants from Balaka and Machinga Districts attended a Clinical Review Meeting for the HIV Programs (funded by I-TECH Malawi). Some of the challenges identified during this review include:

- Weak documentation on patient treatment cards and registers due to delegation of the record keeping to poorly trained clerks
- Low paediatric ART uptake through early infant diagnosis (DNA-PCR), presumed severe HIV disease and universal treatment among children aged 12-23 months. Some of these shortfalls were attributed to competing responsibilities for HSAs who are supposed to provide most of the EID testing. Other reasons include the low health worker confidence with paediatric HIV.
- Lack of male involvement in PMTCT

The 2 districts developed action plans to address the challenges and progress will be reviewed in next quarter meeting.

19.3 HIV Clinical Mentoring Program

418 health workers and **182** support staff at 70 facilities in the SE Zone received clinical mentoring in provision of PMTCT/ART. **45** of these health workers were in the intensive phase, **223** in the continuation phase and **150** graduated from the mentoring program this quarter.

20 Participants in Q1 2013 Supervision (Site visits 15 Apr – 3 May 2013)

Lincy Chalunda (CO, MOH)
Janet Chikonda (Nurse, MOH)
Bonface Chione (CO, Lighthouse)
Zengani Chirwa (TA, MOH, Department of HIV and AIDS)
Jane Chiwoko (Nurse, Lighthouse)
Stuart Chuka (CO, MBCA)
Peter Donda (CO, Dedza DH)
John Kabichi (CO, MOH)
Lilian Kachali (Nurse, MOH)
Eviness Kafumbi (, Private)
Vera Kajawo (Nurse, MOH)
Mathilda Kamanga (Nurse, Army)
Rhoda Jamu Kamoto (Nurse, CHAM)
Christopher Kandionamaso (CO, Dignitas)
Oscar Kasiyamphanje (Nurse, CHAM)
Joseph Kasola (CO, MOH, Chitipa DH)
Catherine Kassam (, MOH)
Martin Katanga (CO, MOH)
Absalom Kaunda (CO, MOH, Mzimba DHO)
Jean Kayamba (Nurse, MOH)
Jesse Lobeni (Nurse, MOH)
Prospere Lutala (HIV Zonal Supervisor, MOH, UNV)
Eliza Mahimanya (Logistics Officer, MOH)
Chikayiko Majamanda (Nurse, MOH)
Mercy Makaika (Nurse, MOH)
Simon Makombe (ART officer, MOH, Dept of HIV and AIDS)
Amos Makwaya (CO, MOH)
Roseby Malombe (Nurse, CHAM)
Davie Maseko (CO, SOS)
Hannock Matupi (ARV clinician, MOH, Rumphi DH)
Benjamin Mazalo (CO, SUCOMA Clinic)
Kingsley Mbewa (CO, MOH)
Eustice Mhango (ART officer, MOH, Dept of HIV and AIDS)
Erik Mittochi (CO (ART coord), MOH)
Everista Mkandawire (Nurse, MOH)
Frazer Mkawa (Nurse, MOH)
Pax Mkupani (Logistics Fellow, MOH)
Christopher Mkwezalamba (CO, MOH)
Offrey Mnduwira (CO, Police)
Moreen Mtambo (PMTCT, MOH)
Andraida Mtoseni (Nurse, MOH)
Fainala Muyila (Nurse, MOH)
Ruockia Mwachumu (Nurse, MOH Nsanje DHO)
Stanley Ngoma (CO, MOH)
Joseph Njala (HIV fellow, MOH, Department of HIV and AIDS)
Grace Nkhata (Clerk, MOH)
Angela Nkhoma (Nurse, MOH)
Mourine Gumbo Ntambo (Nurse, MOH)
Ormisher Joe Nthala (CO, Lighthouse)
Judith Ntopa (Nurse, Army)
Jonas Nyasulu (IT Fellow, MOH)
Misonzi Nyatuka (Nurse, MOH)
Sabina Phiri (Nurse, MOH)
Macleod Piringu (ART CORDINATOR, MOH)
Abdul Richard (CO, MOH)
Monica Simfukwe (Nurse, MOH, Chintheche RH)
Juliana Soko (ARV nurse, MOH, Livingstonia MH)
Mark Suzumire (CO, MOH)
Elizabeth Tamula (Nurse, Baylor)
Andrea Tembo (Nurse, Dignitas)
Harrison Tembo (CO, MOH)
M Willie (Lab Cleaner, CHAM)
Mathias Willie (CO, Dignitas)
Gerald Zomba (HIV Fellow, MOH))

Report compiled by:
Frank Chimbwandira (MO/Head of Dept. for HIV and AIDS)
Austin Mnthambala (MO/Deputy of Dept. for HIV and AIDS
Simon Makombe (ART Officer, Dept. for HIV and AIDS)
Eustice Mhango (ART Officer, Dept. for HIV and AIDS)
Michael Eliya (PMTCT Officer, Dept. for HIV and AIDS)
Dalitso Midiani (PMTCT Officer, Dept. for HIV and AIDS)
Mtemwa Nyangulu (HTC Officer, Dept. for HIV and AIDS)
Lucius Ng'omang'oma (HTC Officer, Dept. for HIV and AIDS)
Amon Nkhata (STI Officer, Dept. for HIV and AIDS)
Andreas Jahn (MO/TA, Dept. for HIV and AIDS)
Zengani Chirwa (MO/TA, MOH, Dept. of HIV and AIDS)
Caroline Ntale (TA Logistics, MOH, Dept of HIV and AIDS)
Lyson Tenthani (M&E Fellow, Dept. for HIV and AIDS)
Gerald Zomba (Clin. HIV Fellow, Dept. for HIV and AIDS)
Jonas Nyasulu (IT Fellow, Dept. for HIV and AIDS)
Joseph Njala (Clin. HIV Fellow, Dept. for HIV and AIDS)

We thank all facility staff for their sincere welcome and co-operation with the HIV Department and its partners during these supportive visits. We congratulate all staff for their excellent work.

21st June 2013

21 Appendix (Full National HIV Program Data)

2013 Q1 HTC Report

			National coverage	
			Population denominator	
Total Number of Clients	**460,559**		3,772,503	**12%**
Gender and Pregnancy				
Males	149,621	32%	1,891,196	**8%**
Females	310,938	68%	1,881,306	**17%**
Females Non Pregnant	156,478	50%	1,274,306	**12%**
Females Pregnant	154,460	50%	151,750	**102%**
Age				
25 years and above	225,870	49%	1,256,106	**18%**
15 - 24 years	187,403	41%	789,500	**24%**
Children Below 15	47,286	10%	872,055	**5%**
18months - 14 years	25,485	54%	41,215	**62%**
Below 18months	21,801	46%	830,840	**3%**
HIV Test History				
Previously tested	290,225	63%		
Never tested before	170,334	37%		
Number of people ever tested since 2007	4,528,795			
Counselling Type				
Counseled with partner	95,908	21%		
Counseled alone	364,651	79%		
HIV Test Resuts				
Single test negative	417,964	91%		
First and second test negative	378	0%		
First and second test positive	41,066	9%		
First and second test discordant	1,151	0%		
Final Result				
No of children <18months with antibody positive	1,194	0.3%		
Positive	41,321	9.0%		
Negative	417,314	90.6%		
Inconclusive	730	0.2%		

HIV Care Clinic (HCC) cohort analysis

Malawi (national)

2013 Q1 (Quarter)

Registration details

*

HCC clinic registrations

Total HCC registrations	19,829	100%

Registration type

Patients enrolled first time	19,113	96%
Patients re-enrolled	98	0%
Patients transferred in	618	3%

Sex

Males (all ages)	8,781	44%
Females (all ages)	11,048	56%
Non-pregnant	11,039	100%
Pregnant	9	0%

Age at registration

Adults 15+ yrs	8,664	44%
Children 0-14 yrs	11,165	56%
Children 24 months - 14 years	944	8%
Children below 24 months (exposed children)	10,221	92%
Children 2 - below 24 months	5,125	50%
Infants below 2 months	5,096	50%

Reason for HCC registration

Exposed infants	10,319	52%
Confirmed infected patients (pre-ART)	9,510	48%

* Subgroups may not add to 100% due to rounding

HIV Care Clinic (HCC) cohort analysis

Malawi (national)

2013 Q1 (Cumulative)

Registration details

*

HCC clinic registrations

Total HCC registrations	190,545	100%

Registration type

Patients enrolled first time	184,524	97%
Patients re-enrolled	571	0%
Patients transferred in	5,450	3%

Sex

Males (all ages)	76,007	40%
Females (all ages)	114,538	60%
Non-pregnant	109,810	96%
Pregnant	4,728	4%

Age at registration

Adults 15+ yrs	109,641	58%
Children 0-14 yrs	80,904	42%
Children 24 months - 14 years	10,765	13%
Children below 24 months (exposed children)	70,139	87%
Children 2 - below 24 months	41,015	58%
Infants below 2 months	29,124	42%

Reason for HCC registration

Exposed infants	69,439	36%
Confirmed infected patients (pre-ART)	121,106	64%

Pre-ART follow-up outcome

*

Primary follow-up outcomes

Total retained in pre-ART	87,000	73%
Started ART	13,969	12%
Defaulted	17,083	14%
Died	361	0%

Transfers between sites

Total not transferred out	118,413	98%
Transferred out	2,693	2%

* Subgroups may not add to 100% due to rounding

HIV exposed child follow-up

Malawi (national)

2013 Q1 (1st month of quarter, 2nd month of quarter, 3rd month of quarter)

Age 2 months

Age cohort outcomes

*

Total children in birth cohort

Total children registered	7,468	100%

CPT status

On CPT	6,329	85%
Not on CPT	1,139	15%

HIV status

Current HIV infection status unknown	5,700	76%
HIV infection not confirmed, not ART eligible	5,683	100%
HIV infection not confirmed, ART eligible (PSHD)	17	0%
Current HIV infection status known	1,768	24%
Confirmed not infected	1,713	97%
Confirmed infected (ART eligible)	55	3%

ART eligibility summary

Not eligible for ART	7,396	99%
ART eligible	72	1%
ART not initiated	22	31%
Initiated ART	50	69%

Primary follow-up outcome

Discharged uninfected	82	1%
Continue follow-up	6,430	87%
Started ART	50	1%
Defaulted	827	11%
Died	20	0%

Transfers between sites

Total not transferred out	7,409	99%
Transferred out	59	1%

Age 12 months

Age cohort outcomes

*

Total children in birth cohort

Total children registered	6,764	100%

CPT status

On CPT	4,490	66%
Not on CPT	2,274	34%

HIV status

Current HIV infection status unknown	4,967	73%
HIV infection not confirmed, not ART eligible	4,921	99%
HIV infection not confirmed, ART eligible (PSHD)	46	1%
Current HIV infection status known	1,797	27%
Confirmed not infected	1,660	92%
Confirmed infected (ART eligible)	137	8%

* Subgroups may not add to 100% due to rounding

HIV exposed child follow-up

Malawi (national)

2013 Q1 (1st month of quarter, 2nd month of quarter, 3rd month of quarter)

Age cohort outcomes

*

ART eligibility summary

Not eligible for ART	6,581	97%
ART eligible	183	3%
ART not initiated	62	34%
Initiated ART	121	66%

Primary follow-up outcome

Discharged uninfected	150	2%
Continue follow-up	4,248	64%
Started ART	121	2%
Defaulted	2,086	31%
Died	47	1%

Transfers between sites

Total not transferred out	6,652	98%
Transferred out	112	2%

Age 24 months

Age cohort outcomes

*

Total children in birth cohort

Total children registered	2,708	100%

CPT status

On CPT	1,079	40%
Not on CPT	1,629	60%

HIV status

Current HIV infection status unknown	1,475	54%
HIV infection not confirmed, not ART eligible	1,464	99%
HIV infection not confirmed, ART eligible (PSHD)	11	1%
Current HIV infection status known	1,233	46%
Confirmed not infected	1,140	92%
Confirmed infected (ART eligible)	93	8%

ART eligibility summary

Not eligible for ART	2,604	96%
ART eligible	104	4%
ART not initiated	11	11%
Initiated ART	93	89%

Primary follow-up outcome

Discharged uninfected	856	32%
Continue follow-up	757	28%
Started ART	93	4%
Defaulted	920	35%
Died	31	1%

Transfers between sites

Total not transferred out	2,657	98%
Transferred out	51	2%

* Subgroups may not add to 100% due to rounding

Antenatal Care

Malawi (national)

2013 Q1 (1st month of quarter, 2nd month of quarter, 3rd month of quarter)

New ANC registrations in reporting period *

Women with first visit in reporting period

New women registered	153,743	100%

ANC cohort analysis *

Total women completing ANC in the reporting period

Total women in booking cohort	163,522	100%

Visits per woman

Women with 1 visit	38,058	23%
Women with 2 visits	45,451	28%
Women with 3 visits	48,322	30%
Women with 4 visits	26,152	16%
Women with 5+ visits	5,539	3%

Trimester of first visit

Started ANC 0-12 wks	12,363	8%
Started ANC 13+ wks	151,159	92%

Pre-eclampsia

No pre-eclampsia	162,145	99%
Pre-eclampsia	1,377	1%

TTV doses

0-1 TTV doses	74,894	46%
2+ TTV doses	88,628	54%

SP tablets

0 SP doses	18,388	11%
1 SP dose (1 x 3 tabs)	51,936	32%
6+ SP tablets (2 x 3 tabs)	93,198	57%

FeFo tablets

0-119 FeFo tablets	130,590	80%
120+ FeFo tablets	32,932	20%

Albendazole (Deworming)

0 Albend. doses	44,067	27%
1 Albend. dose	120,177	73%

ITN (bednets)

No ITN	52,739	32%
ITN received	110,324	68%

Syphilis status

Not tested for syphilis		131,600	80%
Tested for syphilis		31,922	20%
	Syphilis negative	31,271	98%
	Syphilis positive	651	2%

* Subgroups may not add to 100% due to rounding

Antenatal Care

Malawi (national)

2013 Q1 (1st month of quarter, 2nd month of quarter, 3rd month of quarter)

ANC cohort analysis

*

HIV status ascertainment

HIV status not ascertained	36,355	22%
HIV status ascertained	127,167	78%
Valid previous test result	8,603	7%
Previous negative	4,558	53%
Previous positive	4,045	47%
New test at ANC	118,564	93%
New negative	112,327	95%
New positive	6,237	5%

HIV status summary

Total women HIV negative	116,885	92%
Total women HIV positive	10,282	8%

CPT status (among HIV pos)

Not on CPT	1,756	17%
On CPT	8,526	83%

Final PMTCT regimen mother

No ARVs	1,189	12%
Any ARVs	9,093	88%
ART (by time of initiation)	9,093	100%
Already on ART when starting ANC	3,317	36%
Started ART at 0-27 weeks of pregnancy	4,283	47%
Started ART at 28+ weeks of preg.	1,493	16%

Baby's ARVs dispensed

No ARVs dispensed for infant	3,920	38%
ARVs dispensed for infant	6,362	62%

* Subgroups may not add to 100% due to rounding

Maternity

Malawi (national)

2013 Q1 (1st month of quarter, 2nd month of quarter, 3rd month of quarter)

Maternal details

*

Admissions in the reporting period

Total admissions (referrals double-counted)	114,376	100%
Not referred to other site (total women)	108,247	95%
Referred out before delivery (multiple admissions)	6,129	5%

HIV status ascertainment

HIV status not ascertained	12,315	11%
HIV status ascertained	102,506	89%
Valid previous test result	98,298	96%
Previous negative	90,435	92%
Previous positive	7,863	8%
New test at maternity	4,208	4%
New negative	3,765	89%
New positive	443	11%

HIV status summary

Total women HIV negative	94,200	92%
Total women HIV positive	8,306	8%

ARVs during pregnancy (among HIV pos)

None	464	6%
Any ARVs	7,842	94%
ART (by time of initiation)	7,842	100%
ART initiated before pregnancy	4,134	53%
ART initiated in 1st / 2nd trimester	1,612	21%
ART initiated in 3rd trimester	1,807	23%
ART initiated during labour	289	4%

Obstetric complications

None	102,051	89%
Any complications	12,770	11%
Haemorrhage	2,288	18%
Haemorrhage ante-partum	763	33%
Haemorrhage post-partum	1,525	67%
Obstr / prol labour	4,213	33%
(pre-) Eclampsia	669	5%
Maternal sepsis	197	2%
Ruptured uterus	153	1%
Other	5,250	41%

Emergency obstetric care

Oxytocin	90,387	95%
Anticonvulsive	425	0%
Antibiotics	3,148	3%
Blood transfusion	392	0%
Manual removal of placenta	387	0%

Vitamin A

Vit A not given	46,171	40%
Vit A given	68,650	60%

* Subgroups may not add to 100% due to rounding

Maternity

Malawi (national)

2013 Q1 (1st month of quarter, 2nd month of quarter, 3rd month of quarter)

Maternal details

*

Staff conducting delivery

Category A: MO, CO, nurse/midwife, MA	101,526	93%
Category B: PA, WA, HSA	1,232	1%
Category C: Other	5,934	5%

Mother survival

Mother alive	108,439	100%
Mother died	253	0%

Infant details

*

Single babies / multiple deliveries

Total babies delivered	110,954	100%
Single babies	106,389	96%
Twin / multiple babies	4,565	4%

Delivery place

Total deliveries at a health facility	104,686	94%
This facility	104,371	100%
Other facility	315	0%
Total deliveries before reaching the facility	6,268	6%
In transit	3,779	60%
Home / TBA	2,489	40%

Delivery mode

Spontaneous vaginal	100,858	91%
Vacuum extraction	1,597	1%
Breech	2,165	2%
Caesarean section	6,334	6%

Infant complications

None	97,159	88%
Total infants with complications	13,795	12%
Prematurity	3,454	25%
Weight less 2500g	4,831	35%
Asphyxia	3,048	22%
Sepsis	772	6%
Other newborn complication	1,690	12%

Infant survival

Total live births	109,084	98%
Discharged alive	107,971	99%
Neonatal deaths	1,113	1%
Stillbirths	1,870	2%
Stillbirth, fresh	988	53%
Stillbirth, macerated	882	47%

* Subgroups may not add to 100% due to rounding

2013 Q1 (1st month of quarter, 2nd month of quarter, 3rd month of quarter)

Infant details

*

HIV exposure / ARV proph. (among discharged alive)

Infants with unknown HIV exposure status	10,245	9%
Infants with known HIV exposure status	97,726	91%
Not HIV exposed	89,986	92%
HIV exposed	7,740	8%
Received no ARVs	765	10%
Received ARVs	6,975	90%
Nevirapine	6,975	100%

Breastfeeding initiated

BF not started within 60min	7,616	7%
BF started within 60min	103,338	93%

Tetracycline eye ointment given

TO not given	34,477	31%
TO given	76,477	69%

ART cohort analysis

Malawi (national)

2013 Q1 (Quarter)

Registration details

*

ART clinic registrations

Total ART clinic registrations	34,075	100%

Registration type

First time ART initiations (total patients)	26,881	79%
ART re-initiations	569	2%
ART transfers in	6,625	19%

Sex

Males	11,346	33%
Females	22,729	67%
Non-pregnant	15,743	69%
Pregnant	6,986	31%

Age at ART initiation

Adults 15+ yrs	31,134	91%
Children 0-14 yrs	2,941	9%
Children 2-14 yrs	2,111	72%
Children below 24 mths	830	28%

Reason for starting ART

Presumed severe HIV Disease	199	1%
Confirmed HIV infection	33,876	99%
WHO stage 1 or 2	18,224	54%
Total lymphocytes <threshold	60	0%
CD4 below threshold	8,647	47%
CD4 unknown or >threshold	9,517	52%
PCR infants	126	1%
Children 12-23 mths	339	4%
Pregnant women	6,773	71%
Breastfeeding mothers	2,279	24%
WHO stage 3	13,204	39%
WHO stage 4	2,162	6%
Unknown / reason outside of guidelines	286	1%

TB at ART initiation

Never TB / TB > 24 months ago	32,489	95%
TB within the last 24 months	489	1%
Current episode of TB	1,097	3%

Kaposi's sarcoma at ART initiation

No KS	33,631	99%
Patients with KS	444	1%

* Subgroups may not add to 100% due to rounding

ART cohort analysis

Malawi (national)

2013 Q1 (Cumulative)

Registration details

*

ART clinic registrations

Total ART clinic registrations	721,690	100%

Registration type

First time ART initiations (total patients)	585,568	81%
ART re-initiations	6,277	1%
ART transfers in	129,845	18%

Sex

Males	262,408	36%
Females	459,282	64%
Non-pregnant	396,349	86%
Pregnant	62,933	14%

Age at ART initiation

Adults 15+ yrs	658,226	91%
Children 0-14 yrs	63,464	9%
Children 2-14 yrs	49,251	78%
Children below 24 mths	14,213	22%

Reason for starting ART

Presumed severe HIV Disease	2,775	0%
Confirmed HIV infection	718,915	100%
WHO stage 1 or 2	261,257	36%
Total lymphocytes <threshold	454	0%
CD4 below threshold	190,379	73%
CD4 unknown or >threshold	70,424	27%
PCR infants	2,254	3%
Children 12-23 mths	2,141	3%
Pregnant women	43,747	62%
Breastfeeding mothers	22,282	32%
WHO stage 3	368,276	51%
WHO stage 4	84,024	12%
Unknown / reason outside of guidelines	5,358	1%

TB at ART initiation

Never TB / TB > 24 months ago	658,765	91%
TB within the last 24 months	35,806	5%
Current episode of TB	27,119	4%

Kaposi's sarcoma at ART initiation

No KS	704,872	98%
Patients with KS	16,818	2%

ART cohort analysis

Malawi (national)

2013 Q1 (Cumulative)

ART outcomes

*

Primary follow-up outcomes

Total alive on ART	422,866	71%
Alive on ART at site of last registration	417,119	99%
ART patients in transit between sites	5,747	1%
Defaulted	107,153	18%
Stopped ART	2,284	0%
Total died	59,542	10%
Died month 1	16,009	27%
Died month 2	10,342	17%
Died month 3	5,834	10%
Died month 4+	27,357	46%

Transfers between sites

Total not transferred out	586,098	81%
Transferred out	135,592	19%

ART regimens

First line regimens	413,556	99%
Adult formulation	390,576	94%
Regimen 1A	265,905	68%
Regimen 2A	28,835	7%
Regimen 3A	9,104	2%
Regimen 4A	1,173	0%
Regimen 5A	84,499	22%
Regimen 6A	1,060	0%
Paed. formulation	22,980	6%
Regimen 1P	831	4%
Regimen 2P	21,762	95%
Regimen 3P	150	1%
Regimen 4P	237	1%
Second line regimens	2,838	1%
Adult formulation	2,412	85%
Regimen 7A	2,064	86%
Regimen 8A	348	14%
Paed. Formulation	426	15%
Regimen 9P	426	100%
Other regimen (adult / paed)	725	0%

Adherence

Adherence unknown (not recorded)	23,499	6%
Adherence recorded	393,620	94%
0-6 doses missed	352,411	90%
7+ doses missed	41,209	10%

ART side effects

Side effects unknown (not recorded)	107,295	26%
Side effects recorded	309,824	74%
No side effects	292,633	94%
Any side effects	17,191	6%

* Subgroups may not add to 100% due to rounding

ART cohort analysis

Malawi (national)

2013 Q1 (Cumulative)

ART outcomes

*

Current TB status among ART patients (ICF)

ICF not done (Current TB status unknown/ not circ)	30,329	7%
ICF done	386,790	93%
TB not suspected	381,778	99%
TB suspected	1,931	0%
TB confirmed	3,081	1%
TB confirmed, not on treatment	361	12%
TB confirmed, on TB treatment	2,720	88%

* Subgroups may not add to 100% due to rounding