

## ARV THERAPY IN MALAWI - UP TO 30<sup>th</sup> JUNE, 2006

### Executive Summary:

**By the end of June 2006, there were 94 facilities in Malawi in the public health sector delivering ART free of charge to HIV-positive eligible patients. In the second quarter of 2006 (April to June), there were 10,465 new patients started on ART. Up until the end of June 2006, there were 57,366 patients who had ever started on ART. For the quarter, 38% of patients were male and 7% were children (14 years and below). For the cumulative analysis, 39% of patients were male and 6% were children (14 years and below).**

**Of 57,366 patients who ever started on free ART, their outcomes by end of June 2006 were as follows: 72.5% were alive and on ART at the site of registration, 11.5% had died, 8% were lost to follow-up, 7 % had transferred out to another facility (and were presumably alive) and 1% had stopped treatment.**

**Of 41,549 patients alive and on ART:- 96% were on the first line regimen, 3% were on an alternative first line regimen and a small number (124) were on a second line regimen. Of those alive and on ART, 95% were ambulatory; 92% were fit to work; 5% had one or more major side effects assessed during the month of June; and 91% of patients showed 95% or more adherence to therapy based on pill counts.**

**A 6-month survival analysis (with outcomes censored on June 30<sup>th</sup> 2006) was performed on 7,647 patients starting free ART from 60 sites between October – December 2005: 77% were alive (70% alive and on ART + 7% transferred out). A 12-month survival analysis (with outcomes censored on June 30<sup>th</sup> 2006) was performed on 5,316 patients starting free ART from 53 sites between April – June 2005: 77% were alive (63% alive and on ART + 14% transferred out). An 18-month survival analysis (with outcomes censored on June 30<sup>th</sup> 2006) was performed on 2,934 patients starting free ART from 19 sites between October – December 2004: 71% were alive (55% alive and on ART + 16% transferred out).**

### Introduction and Methodology:

This is a report on the status of antiretroviral therapy (ART) in Malawi up to June 30<sup>th</sup> 2006. By June 2006, 94 government and mission health facilities in the country (60 Round 1 sites and 34 Round 2 sites) had started patients on free ART.

Between July and September 2006, the 101 health facilities in the public sector earmarked for ART were visited: these included 94 facilities providing free ART and 7 facilities that had not started ART by the end of June. The visits were conducted by the Ministry of Health Clinical HIV Unit, who were accompanied by their partners: Eustice Mhango and Andreas Jahn from Lighthouse; Mindy Hochgesang and John Aberle-Grasse from CDC; Joseph Yu from the Taiwan Medical Mission; Clement Mtika from Mzuzu Central Hospital; Olesi Pasulani from Thyolo-MSF. Two ART supervisors, Dr Damas Ngoma (Lighthouse) and Dr Tewdros Bizuwork (Zomba Central Hospital) also accompanied the Unit on some of these visits. Mindy Hochgesang assisted with the EXCEL data-base.

Each visit lasted half a day during which a structured supervision and a drug stock-level assessment were carried out, and this was followed by a monitoring and evaluation exercise. Data on ART parameters were collected from the patient master cards and the ARV Register. Much effort was made in ensuring that outcomes (particularly death and defaulter) were correct, and we believe that outcomes are accurately represented in this report. During the visits, certificates for excellent performance awarded at the last visit were presented to the clinic staff (see below).

Three data sets were collected:-

The first data set is the status of new patients who were started on free ART in Malawi between April 1<sup>st</sup> and June 30<sup>th</sup> 2006, the **“quarterly analysis”**. Data on ART clinics and staff complements, HIV-related diseases, and HIV counselling and testing were also collected for this 3-month period.

The second data set is the status of all patients who ever started on free ART in Malawi up to June 30<sup>th</sup> 2006, the **“cumulative analysis”**.

The third data set is the **6-month, 12-month and 18- month cohort survival analysis**, with data collected on patients starting ART in Malawi in Q4 2005, Q2 2005, and Q4 2004 respectively.

For all three data sets, the outcome status was censored on 30<sup>th</sup> June 2006.

**Results:**

**General:**

The 94 ART facilities in general were doing an excellent job. Systems of referral to ART were working well. All the facilities, except the 2 Dream Project sites, were using the Malawi national monitoring tools.

*ARV regimens:* All facilities were using the recommended first line regimen (Stavudine + Lamivudine + Nevirapine) for the majority of their patients. There were 40,064 patients alive and on first line treatment. Central hospitals and some district, hospitals had been provided with alternative first line regimens (Zidovudine-based or Efavirenz-based) for patients with adverse drug reactions, and other facilities were also utilising these drugs: there were 1361 patients alive and on these alternative first line regimens. Further, there were 124 patients alive and being treated with a second line regimen for failure of the first line therapy.

*Qualitative assessment of sites:* All 94 ARV clinics were tidy and orderly, and, with one exception (Likoma Island), the filing systems and record keeping were excellent. Likoma Island received a verbal warning for its poor performance. A qualitative assessment of the patient master cards and registers was carried out. The table, with pertinent results, compares the 94 facilities in Q2 2006 with the previous qualitative assessment of 66 facilities in Q1 2006. There was a general improvement in standards between the 2 quarters, even including the new sites that had only just started ART in June. However, 1/3 of sites still did not do the cohort analysis outcomes correctly.

Parameter	ART sites (%) Q1 2006 N=66	ART sites (%) Q2 2006 N=94
<b>ARV Register:</b>		
ARV Register numbers correct and match master cards	64 (97%)	90 (96%)
All columns in the ARV register always completed	62 (94%)	90 (96%)
Dates of all adverse outcomes recorded	54 (82%)	84 (89%)
All ARV outcomes updated every three months	44 (67%)	77 (82%)
<b>Patient Master Card:</b>		
Case finding data properly completed on each card	60 (91%)	86 (91%)
Regular record of weight done at each patient visit	65 (98%)	91 (97%)
In each monthly visit all outcome columns completed	62 (94%)	89 (95%)
Pill counts for adherence done according to directives	65 (98%)	91 (97%)
HIV-diseases always indicated on back of master card	53 (80%)	84 (89%)
<b>Cohort Analysis:</b>		
Quarterly cohort analysis done by the site before visit	57 (86%)	81 (86%)
Cumulative analysis done by the site before visit	50 (76%)	66/78 (85%)
Cohort outcomes correctly done	38 (58%)	62 (66%)

*Certificates of excellence:* Between April and June 2006, sites which showed an excellent performance in completing ARV registers and master cards and correctly doing cohort analyses were awarded a certificate of excellence, approved and signed by the Secretary for Health. Altogether, there were 36 sites (55%) presented with certificates during this round of supervision. Between July and September 2006, sites were again assessed for their performance with registers, master cards and cohort analysis, and 46 sites (49%) were awarded a certificate of excellence which will be presented in the next quarterly round of supervisions. The award of certificates appears to be a good motivator for upholding standards, and is greatly appreciated by the clinic staff and the officers in charge of facilities.

*ARV Clinics and Staff:* In all facilities, a record was made of the number of days in a week that the ARV clinic is open to see either new or follow-up patients and the number of staff who operate the clinic when it is functioning. The total number of days in a week given for ART at all facilities in Q2 2006 was 224, translating into an average of 2.4 working days in a week when facilities operate an ART clinic. The table shows the number of staff days per week for clinicians (mainly clinical officers), nurses and clerks for each of the regions and for the country as a whole. The FTE parameters indicate the number of clinicians, nurses and clerks working full-time per week on ART. Thus, for the country as a whole, the equivalent of 60 clinicians was working full-time in ART delivery each week.

	Clinician days/week	Nurse days/week	Clerk days/week
North: 18 sites	43	41	41.5
Central: 38 sites	129	139.5	105
South: 38 sites	128.5	174.25	114.5
<b>Total: 94 sites</b>	<b>300.5</b>	<b>354.75</b>	<b>261</b>
<b>FTEs</b>	<b>60</b>	<b>71</b>	<b>52</b>

**Quarterly Analysis for the period April 1<sup>st</sup> to June 30<sup>th</sup> 2006:**

***1. New patients started on ART between April and June 2006:***

The national data for new patients started on ART in these three months are shown in **Table 1** on quarterly analysis. The details of patients and their outcomes from each facility according to region are shown in the **Annexes**.

There were 10,465 new patients started on ART, with males representing 38% and females representing 62% of the total. Adults comprised 93% of patients and children (aged 14 years or less) comprised 7%. There were data on occupation in 9,885 patients, and the most common recorded occupations were subsistence farmer, housewife and small-scale business people (eg vendors). The majority of patients (65%) were started on ART because of being in WHO Stage III.

The number of patients started on ART because of TB was 1,613 (1,384 with PTB, and 229 with EPTB). This constitutes 15% of new patients started on ART and 23% of patients registered for TB (N=6,968) during the quarter.

The number of women referred from PMTCT to start on ART was 146; 24 facilities had recorded PMTCT referrals in the ARV Register.

The three-month outcomes were good with 94% of patients being alive and on ART at the end of June. Other outcomes such as ambulatory status, work status, side effects and pill counts (where done) were very satisfactory.

The table below shows the recruitment of new patients to ART in Q1 2006 and Q2 2006, compared with what is expected in terms of ceilings and targets given to facilities. In Q1, 2006, there were 66 facilities (30 low burden, 31 medium burden, 4 high burden and 1 very high burden sites): these sites were expected to place 9,450 patients on ART and in the event reached 94% of their target. In quarter 2, 2006, there were 94 facilities (56 low burden, 32 medium burden, 2 medium/high burden, 3 high burden and 1 very high burden sites): these sites were expected to place 11,700 patients on ART and in the event reached 89% of their target. A main reason that the target was not reached was because many Round 2 sites only started therapy in June 2006 (one month before the end of the quarter).

<b>In each quarter:</b>	<b>Q1 2006</b>	<b>Q2 2006</b>
Number of facilities	66	94
Expected number of patients to start ART	9,450	11,700
Observed number (%) of patients started on ART	8,880 (94%)	10,465 (89%)

## 2. HIV testing, CD4 testing capability and HIV-related diseases – April to June 2006

### *HIV test data:*

The data on HIV test results for patients tested in the 94 facilities between April 1<sup>st</sup> and June 30<sup>th</sup> 2006 are shown below.

Parameter	North	Central	South	Total
Number HIV tested	15,283	29,116	47,319	91,718
Number (%) HIV positive	2,423 (16%)	6,811 (23%)	13,935 (29%)	23,169 (25%)
Number (%) referred to ART	1,898 (78%)	4,725 (69%)	7,304 (52%)	13,927 (60%)

Altogether, there were over 91,000 clients and patients tested in the 3-month period, and 60% of those who were HIV-positive were referred to ARV clinics for staging. There was some regional variation in the proportion of clients tested HIV-positive and the proportion of those HIV-positive referred to ARV services.

### *CD4 machines:*

There were 17 facilities (18% of total) where there was CD4 count capability, unchanged from the previous report: 2 sites in the North (Mzuzu Central Hospital and Mzimba DH); 9 sites in the Central region (Kamuzu Central Hospital, Lilongwe SOS, Likuni Mission Hospital, Partners in Hope, St Gabriels MH, Kapiri MH, Dowa DH, Mtengwanthenga MH, Salima DH); 6 sites in the South (QECH, Blantyre Dream Site, Thyolo DH, Chiradzulu DH, Zomba Central Hospital, Machinga DH). No data were collected on this occasion on number of tests done or on functioning status of the machines, although anecdotal reports suggest the same problems remain with reagents for tests and for machines.

### *HIV-related indicator diseases:*

The number of patients with 4 key HIV-related indicator diseases, diagnosed and treated in the 94 facilities during the quarter, was recorded. TB numbers were obtained from the TB registers; Kaposi' Sarcoma (KS) numbers from the ART registers; numbers of those with cryptococcal meningitis and oesophageal candidiasis from the DIFLUCAN registers kept in the pharmacy or from master cards in those sites not participating in the DIFLUCAN programme. The data are shown in the table below: the data are very similar to data reported in previous quarters:-

HIV Disease	North	Central	South	Total
Tuberculosis (TB)	418	2,565	3,985	6,968
Kaposi's Sarcoma (KS)	31	207	322	560
Cryptococcal meningitis (CM)	68	91	309	468
Oesophageal candidiasis (OC)	192	472	599	1,263

### Cumulative analysis for patients ever started on ART up to June 30<sup>th</sup> 2006

The national data for all patients who ever started on ART up to the end of June 2006 are shown in **Table 2** on cumulative analysis. The details of patients and their outcomes from each facility according to region are shown in the **Annexes**.

There were 57,366 patients who had ever started on ART, with males representing 39% and females representing 61% of the total. The majority of patients were adults, and 6% were children aged 14 years or below.

There were data on occupation for 47,735 patients, and the most common occupations were housewife, farmer and small-scale business (e.g. vendor). The majority of patients (65%) were started on ART because of being in WHO Stage III.

The number of patients started on ART because of TB was 9633 (8159 with PTB, 1340 with EPTB and 134 with type unknown). This constitutes 17% of all patients started on ART. The number of women ever started on ART as a result of referral from PMTCT was 588 (1%), referred from within 39 ARV sites.

The cumulative primary treatment outcomes were as follows. There were 72.5% of patients being alive and on ART in the facility where they were first registered, and 7% transferred out to another facility and thought to be alive (operational research is being conducted in the Northern Region to test this hypothesis). Thus, almost 80% of patients were probably alive. Date of death was known in 6,519 of 6,576 patients who died. Of those where date of death was known: 2,248 (34%) died in month 1: 1,491 (23%) died in month 2: 801 (12%) died in month 3 and 1,979 (30%) died at a later date. Default rates (i.e., patients lost to follow-up) were 8%. The number of patients stopping treatment was small at less than 1%. The cumulative secondary outcomes (ambulatory and work status, side effects and pill counts) were good.

### Survival outcomes at 6- and 12- months

Survival analyses were performed at 6-months, 12-months and 18-months. The six months survival was from patients registered for free ART between October and December 2005 and censored on 30<sup>th</sup> June 2006 (60 facilities). The twelve months survival was from patients registered for free ART between April and June 2005 and censored on 30<sup>th</sup> June 2006 (53 facilities). The eighteen months survival was from patients registered for free ART between October and December 2004 and censored on 30<sup>th</sup> June 2006 (19 facilities). Results are shown in the table.

	<b>6-months Survival</b>	<b>12-months survival</b>	<b>18-months survival</b>
Number started on ART:	7,647	5,316	2,934
<b>“Presumed Alive”</b>	<b>5,881 (77%)</b>	<b>4,060 (77%)</b>	<b>2,087 (71%)</b>
<i>Alive and on ART</i>	<i>5,366 (70%)</i>	<i>3,323 (63%)</i>	<i>1,614 (55%)</i>
<i>Transferred out</i>	<i>515 (7%)</i>	<i>737 (14%)</i>	<i>473 (16%)</i>
Dead	904 (12%)	753 (14%)	468 (16%)
Lost to follow up	809 (11%)	474 (9%)	353 (12%)
Stopped treatment	53 (<1%)	29 (<1%)	26 (1%)

The 6-month survival analysis indicated that 77% of patients were alive (70% alive and on ART + 7% transferred out and presumed alive). The 12-month survival analysis also indicated that 77% of patients were alive (63% alive and on ART + 14% transferred out and presumed alive). The 18-month survival analysis indicated that 71% of patients were alive (55% alive and on ART + 16% transferred out and presumed alive). The decrease in the proportion alive at 18 months reflects an increased death rate at that cut-off time.

### **Stocks of ARV drugs and drug for HIV-diseases as of July-September 2006**

In each facility a stock count was performed of ARV drugs and certain specific drugs for HIV-related diseases. The supply of ARV drugs for the first half of the year arrived in May-June 2006.

#### ***ARV Drugs:***

Stocks of ARV drugs (first line and alternative first line and second line) are shown below in tabular form. According to these stocks at the time of the assessment, there are enough First line ARV drugs to start about 25,000 new patients on therapy (this lasts for 7 months at current rates of recruitment) and enough “Triomune” to keep the current 41,000 patients plus the new patients starting on treatment for about 6 months. Thus, the country has a 6-7 month stock of drugs for first line regimen.

The national supplies do not necessarily reflect stocks in facilities, where some of the under-performing sites are over-stocked and over-performing sites are becoming short of starter drugs. During supervision the HIV Unit redistributes drugs to account for these discrepancies.

<b>First line ARV drugs + Duovir</b>	<b>North</b>	<b>Central</b>	<b>South</b>	<b>Total</b>
	Number of tins of tablets (either 15 or 60 in each tin)			
Lamivir-30 – SP (15 tab tins)	4,203	7,626	5,849	17,678
Lamivir-40 – SP (15 tab tins)	1,460	2,336	3,528	7,324
Triomune-30- SP (15 tab tins)	4,387	7,624	5,899	17,910
Triomune-40 – SP (15 tab tins)	1,408	2,341	3,446	7,195
Triomune-30- CP (60 tab tins)	73,076	127,713	160,512	361,301
Triomune-40 – CP (60 tab tins)	9,204	30,514	32,364	72,082
Duovir for PEP (60 tab tins)	22	111	130	263
<b>First line alternative ARV drugs at central hospitals</b>	<b>North</b>	<b>Central</b>	<b>South</b>	<b>Total</b>
	Number of tins of tablets (60 or 30 in each tin)			
Zidovudine-Lamivudine (60 tab)	1,117	4,062	6,475	11,654
Nevirapine (60 tab)	1,112	3,864	7,821	12,797
Stavudine-Lamivudine (60 tab)	248	623	2,247	3,118
Efavirenz (30 tab)	179	383	1,908	2,470
<b>Second line drugs at central hospitals</b>	<b>North</b>	<b>Central</b>	<b>South</b>	<b>Total</b>
	Number of tins of tablets (180 or 30 in each tin)			
Tenofovir (30 tab)	0	498	1,341	1,839
Lopinavir/ritonavir (180 caps)	0	936	1,304	2,240

### *Drugs for HIV-related diseases*

Stocks of key drugs for treating HIV-related diseases were counted. Although the number of tablets of certain drugs appears reasonable, there were many facilities (particularly Round 2 facilities) with no drugs for HIV-related diseases. There were complete stock-outs of fluconazole in 50% of sites, cotrimoxazole in 39% of sites, amitriptyline in 45% of sites, despite a large order of these 3 drugs arriving in country in March 2006. Pill counts and stock outs in facilities are shown in tabular form.

Drugs for HIV-diseases	North 18 sites	Central 38 sites	South 38 sites	Total 94 sites
	Number of tablets or vials in facilities in each region			
Fluconazole tablets	11,644	26,989	12,341	50,974
Cotrimoxazole tablets	1,068,000	976,323	1,378,000	3,422,323
Acyclovir tablets	71,425	196,907	198,200	466,532
Ceftriaxone vials	0	4,411	2,666	7,077
Ciprofloxacin tablets	53,150	302,700	155,990	511,840
Vincristine vials	2,920	6,525	2,937	12,382
Morphine tablets	11,329	22,463	21,947	55,739
Amitriptyline	451,790	132,600	1,474,390	2,058,780

Drugs for HIV-diseases	North 18 sites	Central 38 sites	South 38 sites	Total 94 sites
	Number of ART facilities with NO DRUGS in stock			
Fluconazole tablets	12	12	23	47 (50%)
Cotrimoxazole tablets	10	11	16	37 (39%)
Acyclovir tablets	11	12	21	44 (47%)
Ceftriaxone vials	22	26	32	80 (85%)
Ciprofloxacin tablets	9	12	19	40 (43%)
Vincristine vials	15	14	27	56 (60%)
Morphine tablets	16	20	27	63 (67%)
Amitriptyline	10	13	19	42 (45%)

### *Operational audit:*

During this round of site visits, operational audits were conducted into:- a) health care workers and ART; b) human resources and ART; and c) accuracy of site ART data. Results will be presented at a later date.

### *District ART Training:*

District ART Training manuals were distributed to the 94 sites between April and June 2006, and ARV clinic staff were asked to run trainings for hospital and health centre staff. Only 30 sites (32%) managed to do any training in the 3 months, for a total number of 1392 staff trained. The main reason given for not conducting training was lack of funds being available.



## **Comment**

By June 30<sup>th</sup> 2006, there should have been 101 facilities in the public sector offering treatment, but for various reasons (mainly due to BLM facilities and a few other Round 2 sites making a slow start) only 94 were actually providing treatment by June 2006. These included the 60 Round 1 sites, which all started delivering ART by June 2005, and 34 Round 2 sites, all provided with ARV drugs by May-June 2006.

Although ARV facilities are generally good at completing ARV patient master cards, updating ARV registers, and doing cohort analysis, mistakes are still being made with case finding and outcomes. However, the advent of the regional ARV supervisors has made a marked difference, and in the sites visited by these personnel before the HIV Unit visits, cohort analysis had been done well.

Results presented in this report are similar to previous 3-month reports, although in this last quarter more children and more TB patients had been placed on ART than previously. This may be associated with the ART refresher training which took place in May for Round 1 sites, where much emphasis was placed on paediatric ART and TB-ART. The number of women referred from PMTCT was also more than previously, although still low.

The treatment outcomes for ART were reasonable. Death rates have slightly increased while default rates have slightly decreased, a reflection that sites are trying to ascertain the outcomes of patients who are registered as “default”, many of whom have in fact died. The 6-month and 12-month outcomes are very similar, although in this report the 18-month outcomes showed an increase in the rates of death and default.

It was encouraging to see large numbers of clients and patients being HIV tested, and this reflects better attention to diagnostic HIV testing in facilities. However, the problem with uninterrupted HIV test kit supply still remains.

ARV drug stocks were again assessed, and nationally drugs stocks are adequate for the next 6 months. However, some “over-performing” sites will be running out of starter packs by October, and unless the next ARV drug supply comes into Malawi in time, there will be need for an emergency order of starter pack kits. Stocks of drugs for key HIV-related diseases were assessed. Complete stock-outs were very common, and this is something that requires attention.

It had been suggested that all ART training be decentralised to districts. As a pilot to this suggestion, about 10,000 district training manuals were distributed to all 101 public health sites in the second quarter of the year, and they were asked to conduct training in the following three months. Most sites believed this would be done. In the event, only one third of sites conducted any training. The HIV Unit therefore considers it has a duty to continue to coordinate the ART training in the country to maintain standards and ensure that training does in fact take place, until such time as it is reassured that the decentralised system works.

### Challenges and potential solutions:

In previous reports, some important challenges emerging from ART scale up were highlighted for discussion and action. Progress or otherwise in these areas by June 30<sup>th</sup> 2006 is discussed below in bullet point style, and action points are in bold:-

- Human resources. There is still a dire shortage of staff at all facilities and at the central unit. **More personnel need to be brought into the HIV Unit of the MOH to allow the escalating ART work load of training, supervision, drug forecasting and service provision to be managed**
- Infrastructure. ART clinic rooms and pharmacies are becoming too small to handle patient numbers or drugs in 1-2 years time. There is still no progress or plans made to address this issue. **PAM should conduct an assessment of sites and make suggestions for action**
- Pharmacy management. In general there is good pharmacy management of ARV drugs. **However, pharmacies would benefit from CMS supervision**
- Drugs for HIV-related diseases. In many facilities, especially in the CHAM and other non-governmental organization sites, that there are complete stock-outs of OI drugs. **A better policy and system than is currently in place needs to be developed to ensure that all sites providing ART at least have cotrimoxazole, fluconazole and amitryptiline in their pharmacies**
- Cohort analysis. The supervision teams have learnt to be time –effective with the manual system of doing cohort analysis, and are coping with ART sites having 1000+ patients. These techniques have been passed on to the peripheral sites. However, a computer records system should make this easier, and MOH and its partners are making progress in working out the piloting of such a system. In the event of a computer system not working out, the cohort analysis may have to be simplified down to primary outcomes only
- Access to services and follow-up of patients. To remain on the agenda. Some districts are working on decentralisation to health centres, and later in the year new ART sites need to be earmarked for Round 3. Transport for patients is a major issue in some rural areas. The losses to follow-up are 8% - operational audit has been completed in the Northern region on the real reasons for lost to follow-up, and this is currently being analysed. The transfer-out rate is stable at 7%: operational audit is also being conducted in the Northern region to look at whether these patients do transfer-in and to look at their outcomes
- Only 23% of TB patients started on ART, while many more would be eligible since an estimated 70% of TB patients are HIV-positive, and all of these patients could start ART. **Heightened attention should be given to counselling and referring TB patients for ART. Attention should be paid to counselling and referring HIV-positive antenatal women for ART as well.** Experience at Lilongwe Bottom Hospital indicates that over 25% of HIV-positive pregnant women are eligible for ART.

- Clinical supervision. There are now 2 ART supervisors, one at Zomba Central Hospital and one at Kamuzu Central Hospital. The third supervisor at QECH was in place, but has recently returned home. These supervisors conducted clinical supervisions in July and August, and undoubtedly assisted sites in performing much better with their cohort analysis. Congratulations are extended to them for raising the quality of care at the ART sites under their umbrella
- High early death rates. Still, two thirds of the ART deaths occur in the first three months of treatment. Cotrimoxazole preventive therapy (CPT) has been shown in an operational audit to reduce these deaths by about 40%: an operational plan has been put in place to bring CPT into country soon
- Support for training in districts. Under decentralisation, funds should be available at the district level through the training line item in the District Implementation Plans (DIPs) . **Facilities need to be made aware how to use these resources, and implementers at districts need more guidance on planning and requesting moneys from DIPs**
- Rewarding good performance in ARV clinics. The regular structured supervision of sites has meant that it is possible to assess performance on a quarterly basis. Every quarter sites will be assessed to determine whether or not they should receive a certificate of excellence, and these will be presented to the ARV clinic staff and the hospital management team at the subsequent supervisory visit

We finally thank all the facilities for their sincere welcome and co-operation with the Unit and its partners during these supportive visits, and we congratulate the staff in these facilities for their excellent work. We also thank the World Health Organization for providing financial and logistic support for these supervisory visits.

**Report compiled by:**

Simon Makombe	(HIV Unit, MOH)
Joseph Yu	(Taiwan Mission, Mzuzu Central Hospital)
Clement Mtika	(Mzuzu Central Hospital)
Andreas Jahn	(Lighthouse Clinic, Lilongwe)
Eustice Mhango	(Lighthouse Clinic)
Olesi Pasulani	(MSF-Brussels, Thyolo)
Mindy Hochgesang	(CDC, Lilongwe)
John Aberle-Grasse	(CDC, Lilongwe)
Tewdros Bizuwork	(ARV Supervisor, South)
Damas N'goma	(ARV Supervisor, Central)
Anthony Harries	(HIV Unit, MOH)

**9<sup>th</sup> September 2006**

**TABLE 1: New patients started on ART between April 1st and June 30th 2006**

Total Started	Number of patients started on ART in the 3 months	10465	
Sex	Number (%) males	4018	38%
	Number (%) females	6447	62%
Age	Number (%) adults aged 15 years and above	9753	93%
	Number (%) children aged 14 years and below	712	7%
Occupation:	Housewife	2208	22%
	Farmer	3042	31%
	Forces	156	2%
	Teacher	328	3%
	Business	1379	14%
	HCW	151	2%
	Student	443	4%
	Other	2178	22%
	Occupation Not Known	580	
Reasons for starting ART:	Number (%) with Stage III	6992	67%
	Number (%) with Stage IV	2268	22%
	Number (%) with low CD4 count	1205	12%
	Number (%) with TB	1613	15%
	Number of patients registered with TB in the quarter	6968	
Patient Outcomes	Number of patients started on ART in the 3 months	10465	
	Number (%) alive and on ART	9823	94%
	Number (%) dead	415	4%
	Number (%) defaulted	0	0%
	Number (%) stopped treatment	17	0%
	Number (%) transferred out permanently to another site	210	2%
ART Regimen	Of those alive and on ART:-	9823	
	Number (%) on first line regimen	9718	99%
	Number (%) on alternative first line regimen	103	1%
	Number (%) on second line regimen	2	0%
Ambulatory Status	Number with ambulatory status known	9487	
	Number (%) ambulatory	9121	96%
Work Status	Number with work status known	9487	
	Number (%) at work	8448	89%
Side Effects	Number with side effects counted	9025	
	Number (%) with significant side effects	305	3%
Adherence	Number where pill count has been done	6957	
	Number (%) with pill count showing 95% adherence	6667	96%

**TABLE 2: Cumulative patients ever started on ART up to June 30th, 2006**

Total Started	Total number of patients started on ART		57366	
Sex	Number (%) males		22406	39%
	Number (%) females		34960	61%
Age	Number (%) adults aged 15 years and above		53853	94%
	Number (%) children aged 14 years and below		3513	6%
Occupation	Housewife		10573	22%
	Farmer		11544	24%
	Forces		885	2%
	Teacher		2283	5%
	Business		6778	14%
	HCW		966	2%
	Student		2149	5%
	Other		12557	26%
	Occupation Unknown		9631	
Reasons for starting ART:	Number (%) with Stage III		38122	66%
	Number (%) with Stage IV		13692	24%
	Number (%) with low CD4 count		5552	10%
	Number (%) of patients started on ART due to TB		9633	17%
Patient Outcomes	Total number of patients started on ART		57366	
	Number (%) alive and on ART		41549	72%
	Number (%) dead		6576	11%
	Number (%) defaulted		4644	8%
	Number (%) stopped treatment		312	1%
	Number (%) transferred out permanently to another site		4285	7%
ART Regimen	Of those alive and on ART:-		41549	
	Number (%) on first line regimen		40064	96%
	Number (%) on alternative first line regimen		1361	3%
	Number (%) on second line regimen		124	0%
Ambulatory Status	Number with ambulatory status known		38038	
	Number (%) ambulatory		36276	95%
Work Status	Number with work status known		38038	
	Number (%) at work		35041	92%
Side Effects	Number with side effects counted		30279	
	Number (%) with significant side effects		1450	5%
Adherence	Number where pill count has been done		27422	
	Number (%) with pill count showing 95% adherence		25078	91%
Death	Of those who died with Date of death recorded		6519	
	Number (%) dying in the first month		2248	34%
	Number (%) dying in the second month		1491	23%
	Number (%) dying in the third month		801	12%
	Number (%) dying after the third month		1979	30%