

## **ART IN THE PUBLIC AND PRIVATE SECTORS IN MALAWI RESULTS UP TO 30<sup>th</sup> JUNE, 2008**

### **Executive Summary:**

By the end of June 2008, there were **207** health facilities in Malawi in the public and private health sector delivering ART to HIV-positive eligible patients. In the second quarter of 2008 (April to June), there were **19,849** new patients registered on ART (37% male, 63% female; 91% adults and 9% children). By the end of June 2008, there were **184,405** patients who had ever started on ART (39% male, 61% female; 91% adult, 9% children). Cumulative treatment outcomes by end of June were: 66% alive and on ART at the site of registration, 11% dead, 11% lost to follow-up, 12% transferred out to another facility (and were presumably alive) and <1% stopped treatment. Of the **121,707** patients alive and on ART:- 96% were on the first line regimen, 4% were on an alternative first line regimen and a small proportion (less than 1%) were on a second line regimen.

By the end of June 2008 there were 32 sites with over 1,000 patients alive and on treatment and 10 sites with over 2,000 patients alive and on treatment. Of the 10 sites with more than 2,000 patients 4 did not have an electronic data system in place.

### **Resume from January 2003 to June 2008 in the public and private sector:**

	By Dec 2003	By Dec 2004	By Dec 2005	By Dec 2006	By Dec 2007	By Jun 2008
<b><i>Public and Private ART sites</i></b>	9	24	83	141	163	<b>207</b>
New patients started ART in the year (Jan – Dec)	No data	10,183	25,634	46,351	61,688	<b>19,849</b>
Cumulative patients started ART	3,000	13,183	38,817	85,168	146,856	<b>184,405</b>
Patients alive on ART	No data	10,761	29,087	59,980	100,649	<b>121,707</b>

## **Introduction and Methodology:**

This is a report on the status of antiretroviral therapy (ART) in Malawi up to June 30<sup>th</sup>, 2008.

ART site visits: between July and September 2008, all 162 health facilities in the public sector and 45 sites in the private sector earmarked for ART were visited. The visits were conducted by the Ministry of Health HIV Unit, MBCA, partners from DHOs, ART supervisors and MSF.

Each visit lasted up to 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.

### Data collection in public / private sector, outcome status censored on 30<sup>th</sup> June, 2008:

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>, 2008, **the “quarterly analysis”**. In the public sector only, 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>, 2008, **the “cumulative analysis”**.

The third data set collected only in the public sector is the **12-month, 24-month and 36-month cohort outcome analysis**, with data collected on patients starting ART in Malawi in Q2 2007, Q2 2006, and Q2 2005 respectively

### Data collation and presentation for the years 2003 – 2008:

Data on ART for the 4 years 6 months (2003 – 2008) are collated and presented to show the progress made in both the public and private sector for ART.

## **PUBLIC SECTOR RESULTS:**

### **General:**

By the end of June 2008, there were **162** free-standing government and mission health facilities in Malawi in the public health sector delivering ART free of charge to HIV-positive eligible patients. All the facilities were using the national monitoring tools. In the second quarter of 2008 (April to June), there were **19,207** new patients started on ART (37% male, 63% female; 91% adults and 9% children. By the end of June 2008, there were **177,685** patients who had ever started on ART (39% male, 61% female; 92% adults and 8 % children). Cumulative treatment outcomes by end of June were:- 66% alive and on ART at the site of registration, 11% dead, 11% lost to follow-up, 12% transferred out to another facility (and were presumably alive) and <1% stopped treatment. Of the 117,125 patients alive and on ART:- 96% were on the first line regimen, 4% were on an alternative first line regimen and a small number (407) were on a second line regimen.

	By Dec 2003	By Dec 2004	By Dec 2005	By Dec 2006	By Dec 2007	By Jun 2008
<b>Public sector ART sites</b>	9	24	60	103	118	<b>162</b>
New patients started ART in year	No data	10,183	24,657	43,981	59,628	<b>36,848</b>
Cumulative patients started ART	3,000	13,183	37,840	81,821	141,449	<b>177,685</b>
Patients alive on ART	No data	10,761	28,110	57,356	96,712	<b>117,125</b>

*ARV regimens:* All facilities were using the recommended first line regimen (Stavudine + Lamivudine + Nevirapine) for the majority of their patients. There were 112,870 patients alive and on first line treatment; 4,858 patients alive and on alternative first line regimens (Zidovudine-based or Efavirenz-based) for patients with adverse drug reactions; and 407 patients alive and being treated with a second line regimen for failure of the first line therapy.

*Qualitative assessment of sites:* All but one of the 162 ART clinics were tidy and orderly, and in 160 sites the filing systems and record keeping were excellent: 2 were below par. A qualitative assessment of the patient master cards and registers was carried out. The table, with pertinent results, compares the 162 facilities in Q2 2008 with the previous qualitative assessment of 118 facilities in Q1 2008. The standards were generally good, and Q2-08 was similar in many respects to Q1-08. However, a smaller proportion of sites this time round had done a correct quarterly and cumulative cohort analysis.

Parameter	ART sites (%) Q1 2008 N=118	ART sites (%) Q1 2008 N=157	ART sites (%) in Q2 2008 N=162
<b>ARV Register:</b>			
ARV Register numbers correct and match master cards	<b>115 (97%)</b>	<b>149 (95%)</b>	<b>156 (96%)</b>
All columns in the ARV register always completed	<b>114 (97%)</b>	<b>149 (95%)</b>	<b>155 (96%)</b>
Dates of all adverse outcomes recorded	<b>110 (93%)</b>	<b>129 (82%)</b>	<b>138 (85%)</b>
All ARV outcomes updated every three	<b>104 (88%)</b>	<b>130 (83%)</b>	<b>134 (83%)</b>

months			
<b>Patient Master Card:</b>			
Case finding data properly completed on each card	<b>112 (95%)</b>	<b>142 (90%)</b>	<b>148 (91%)</b>
Regular record of weight done at each patient visit	<b>117 (99%)</b>	<b>155 (99%)</b>	<b>160 (99%)</b>
In each monthly visit all outcome columns completed	<b>116 (98%)</b>	<b>154 (98%)</b>	<b>155 (96%)</b>
Pill counts for adherence done according to directives	<b>115 (97%)</b>	<b>156 (99%)</b>	<b>158 (98%)</b>
HIV-diseases always indicated on back of master card	<b>113 (96%)</b>	<b>135 (86%)</b>	<b>146 (90%)</b>
<b>Cohort Analysis:</b>			
Quarterly cohort analysis done by the site before visit	<b>111 (94%)</b>	<b>138 (88%)</b>	<b>140 (86%)</b>
Cumulative analysis done by the site before visit	<b>111 (94%)</b>	<b>113 (72%)</b>	<b>136 (84%)</b>
Cohort outcomes correctly done	<b>84 (71%)</b>	<b>90 (57%)</b>	<b>106 (65%)</b>

*Certificates of excellence:* Sites which show an excellent performance in completing ART registers and master cards and correctly doing cohort analyses are awarded a certificate of excellence, approved and signed by the Secretary for Health.

Results for the last three quarters, including the current quarter are shown below:

April to June 2007: sites = 106 – Certificates awarded to 64 (60%)

July to September 2007: sites = 109 – Certificates awarded to 69 (63%)

September to December 2007: sites = 109 – Certificates awarded to 76 (70%)

January to March 2008: sites = 157– Certificates awarded to 75 (48%)

April to June 2008: sites is 162 – Certificates awarded to 100 (62%)

*ART Clinics and Staff:* a record is made in all facilities of the number of days in a week that the ART clinic is open to see either new or follow-up patients plus 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 2008 was 442, translating into an average of 2.7 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 133 clinicians was working full-time in ART delivery each week. The workload to man ART clinics is obviously increasing quarter by quarter (compare previous reports).

	Clinician days/week	Nurse days/week	Clerk days/week
North (31 sites)	74	86	82
Centre (60 sites)	265	300	223
South (71 sites)	326	374	339
Total	665	760	644
FTEs	133	152	129

## **Quarterly Analysis for the period April 1<sup>st</sup> to June 30<sup>th</sup>, 2008:**

### ***1. New patients started on ART in public sector between April and June 2008:***

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 19,207 new patients started on ART, with males representing 37% and females representing 63% of the total. Adults comprised 91% of patients and children (aged 14 years or less) comprised 9%. There were data on occupation in 19,121 patients, and the most common recorded occupations were subsistence farmer, housewife and small-scale business people (eg vendors). The majority of patients (62%) were started on ART because of being in WHO Stage 3 and the percentage of people starting because of low CD4 count (33%) is increasing and due to WHO stage 4 (13%) is decreasing.

The number of patients started on ART because of TB was 1,971. This constitutes 10% of new patients started on ART and 45% of eligible (estimated at 70% of all new TB registrations) patients registered for TB (N=6,231) during the quarter.

The number of women referred from PMTCT to start on ART was 515; 84 facilities had recorded PMTCT referrals in the ARV Register.

The three-month outcomes were good with 95% 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 Q2 2008, Q1 2008, Q3 2007, Q4 2007, compared with what is expected in terms of ceilings and targets given to facilities. In quarter 1, 2008, there were 157 facilities these sites should have placed 19,275 new patients on ART and in the event placed 91% : this is same with the previous quarter and reflects new 3 ART sites starting and placing few patients initially on therapy.

<b>In each quarter:</b>	<b>Q3 2007</b>	<b>Q4 2007</b>	<b>Q1 2008</b>	<b>Q2 2008</b>
Number of facilities	109	118	157	162
Expected number of patients to start ART	15,675	16,350	19,275	19,725
Observed number (%) of patients started on ART	15,363 (98%)	14,908 (91%)	17,642 (91%)	19,206 (97%)

### ***2. HIV testing, CD4 testing capability and HIV-related diseases: April - June 2008***

#### ***HIV test data:***

The data on HIV test results for patients tested in the 162 facilities between April 1<sup>st</sup> and June 30<sup>th</sup>, 2008 are shown below.

Parameter	North	Central	South	Total
Number HIV tested	19,610	59,150	92,888	171,648
Number (%) HIV positive	2,213 (11%)	8,912 (15%)	19,032 (20%)	30,157 (18%)
Number (%) referred to ART	2,0,63 (93%)	7,334 (82%)	14,874 (78%)	24,874 (80%)

Altogether, there were over 171,648 clients and patients tested in the 3-month period. Of those HIV-positive, 80% were referred for clinical assessment for ART – for unknown reasons this percentage was less in the South compared with the other 2 regions. Nevertheless, the high proportion of referrals is a good development, and one that is being encouraged by the HIV Unit of the Ministry of Health.

#### ***CD4 machines:***

There were 42 facilities (26% of total) where there was CD4 count capability. In a significant number of sites (9) machines were not working or no test was performed in the period April – June 2008.

#### ***HIV-related indicator diseases:***

The number of patients with 4 key HIV-related indicator diseases, diagnosed and treated in the 162 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	Total
Tuberculosis (TB)	6,231
Kaposi's Sarcoma (KS)	582
Cryptococcal meningitis (CM)	551
Oesophageal candidiasis (OC)	1,182

#### ***Cumulative analysis for patients ever started on ART up to June 30<sup>th</sup>, 2008***

The national data for all patients who ever started on ART up to the end of June 2008 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 177,685 patients who had ever started on ART – this includes patients who transfer-in from other sites, and it is understood that these patients are counted twice. If we assume that all patients who transfer-out then transfer-in, then the number of new patients ever started on ART is 157,075. There were males representing 39% and females representing 61% of the total. The majority of patients were adults (92%), and 8% were children aged 14 years or below.

There were data on occupation for 176,609 patients, and the most common occupations were housewife, farmer and small-scale business (e.g. vendor). The majority of patients (63%) were started on ART because of being in WHO Stage 3 and an increasing proportion because of a low CD4 count (18%).

The number of patients started on ART because of TB was 23,662. This constitutes 13% of all patients started on ART.

The cumulative primary treatment outcomes were as follows. There were 66% of patients being alive and on ART in the facility where they were first registered, and 12% transferred out to another facility and thought to be alive. Thus, 78% of patients (a proportion of whom is double counted) were probably alive. Date of death was recorded for all patients who died: 6,357 (32%) died in month 1; 4,429 (21%) died in month 2; 2,377 (12%) died in month 3 and 7,032 (35%) died at a later date. Default rates (i.e., patients lost to follow-up) were at 11%. 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.

#### **Treatment outcomes of cohorts at 12-, 24- and 36- months**

Treatment outcomes of cohorts were performed at 12-months, 24-months and 36-months. The 12-months survival was from patients registered for free ART between April and June 2007 and censored on 30<sup>th</sup> June (107 facilities). The 24- months survival was from patients registered for free ART between April and June 2006 and censored on 30<sup>th</sup> June 2008 (91 facilities). The 36-months survival was from patients registered for free ART between April and June 2005 and censored on 30<sup>th</sup> June 2008 (49 facilities). Results are shown in the table.

	<b>12-months Survival</b>	<b>24-months Survival</b>	<b>36-months Survival</b>
Number started on ART:	14,700	9,808	5,451
<b>“Presumed Alive”</b>	<b>11,342 (78%)</b>	<b>7,082 (73%)</b>	<b>3,792 (69%)</b>
<i>Alive and on ART</i>	<i>9,648 (66%)</i>	<i>5,554 (57%)</i>	<i>2,841 (52%)</i>
<i>Transferred out</i>	<i>1,694 (12%)</i>	<i>1,528 (16%)</i>	<i>951 (17%)</i>
Dead	1,527 (10%)	1,457 (15%)	858 (16%)
Lost to follow up	1,776 (12%)	1,238 (13%)	758 (14%)
Stopped treatment	55 (<1%)	56 (<1%)	43 (1%)

The 12-month survival analysis indicated that 78% of patients were alive (66% alive and on ART + 12% transferred out and presumed alive). The 24-month survival indicated that 73% were alive while the 36-month survival analyses indicated that about 69% of patients were alive (alive and on ART + transferred out and presumed alive).

#### **Stocks of ARV drugs and drug for HIV-diseases as of June 2008**

In each public sector facility a stock count was performed of ARV drugs and certain specific drugs for HIV-related diseases.

### **ARV Drugs:**

Stocks of ARV drugs (first line and alternative first line and second line) are shown underneath in tabular form. According to the stocks at the time of the assessment, there were enough First line ARV drugs to start about 72,000 new patients on therapy (this lasts for 10 months at current rates of recruitment) and enough “Continuation packs” to keep the current 121,707 patients plus the new patients starting on treatment for about 5 months.

<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)	18,155	23,088	25,219	66,462
Lamivir-40 – SP (15 tab tins)	1,588	2,158	2,379	6,125
Triomune-30- SP (15 tab tins)	18,045	23,414	25,495	66,954
Triomune-40 – SP (15 tab tins)	2,698	3,841	4,355	10,894
Triomune-30- CP (60 tab tins)	86,108	217,726	334,666	638,500
Triomune-40 – CP (60 tab tins)	4,848	11,007	13,600	29,455
Duovir for PEP and substitution (60 tab tins)	172	1,424	174	1,770
<b>First line alternative and second line ARV drugs</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)	2,343	8,748	17,424	28,515
Nevirapine (60 tab)	2,829	11,145	12,976	26,950
Stavudine-Lamivudine-30 (60 tab)	727	6,140	12,870	19,737
Stavudine-Lamivudine-40 (60 tab)	238	76	412	726
Efavirenz (30 tab)	1,553	5,850	31,045	38,448
Tenofovir (30 tab)	249	2,591	4,235	7,075
Kaletra (180 tab)	50	2,490	4,629	7,169

### **Drugs for HIV-related diseases**

Pill counts and stock outs for drugs for key HIV-related diseases are shown in the table hereunder. Major problems were with vincristine and morphine where three quarters or more of sites had complete stock-outs.

<b>Drugs for HIV-diseases</b>	<b>North</b>	<b>Central</b>	<b>South</b>	<b>Total</b>
	Number of tablets or vials in facilities in each region			
Fluconazole tablets	9,107	22,984	54,042	86,133
CPT (tins)	89,166	142,830	222,427	454,423
Acyclovir tablets	7,094	19,371	47,614	74,079
Ceftriaxone vials	3,576	3,400	52,622	59,598
Ciprofloxacin tablets	18,644	162,056	112,380	293,080
Vincristine vials	8,261	4,265	4,875	17,401



Morphine tablets	9,462	55,365	15,087	79,914	
Amitryptiline	622,922	822,099	1,633,839	3,078,860	
<b>Drugs for HIV-diseases</b>	<b>North</b>	<b>Central</b>	<b>South</b>	<b>Total</b>	<b>(%)</b>
	Number of ART facilities with no drugs in stock				
Fluconazole tablets	20	32	40	92	59%
CPT (tins)	1	2	9	12	8%
Acyclovir tablets	24	44	41	109	70%
Ceftriaxone vials	24	46	45	115	74%
Ciprofloxacin tablets	24	36	35	95	61%
Vincristine vials	25	40	49	114	73%
Morphine tablets	25	45	53	123	79%
Amitryptiline tablets	9	17	28	54	35%

An audit was conducted on all sites to see if they had 3 of the key drugs (cotrimoxazole, vincristine and morphine) needed for good quality OI care. There were only 23 (14%) facilities that had all three drugs present in the pharmacy.

An audit was carried out on cotrimoxazole preventive therapy (CPT). In the ART clinic, patients on CPT are indicated in master cards, and at the moment, this is the only data available for CPT usage. Thus, the number of ART patients taking CPT was documented. There were 155 sites (96%) providing CPT to ART patients, and in the second quarter of 2008, there were 113,470 patients registered receiving ART and CPT together.

### **PRIVATE SECTOR RESULTS:**

By the end of June 2008, there were **45** facilities in Malawi in the private health sector delivering ART at a subsidised rate to HIV-positive eligible patients. In the second quarter of 2008 (April to June), there were **643** new patients started on ART (51% male, 49% female, 95% adult, 5% children). By the end of June 2008, there were **6,720** patients who had ever started on ART (51% male, 49% female, 95% adults, 5% children).

	By Dec 2003	By Dec 2004	By Dec 2005	By Dec 2006	By Dec 2007	By Jun 2008
<i>Private sector ART sites</i>	0	0	23	38	45	<b>45</b>
New patients started ART in year	0	0	977	2,370	2,060	<b>1312</b>
Cumulative patients started ART	0	0	977	3,347	5,407	<b>6,720</b>
Patients alive on ART	0	0	977	2,624	3,937	<b>4,582</b>

The results of the private sector are shown in Tabular Form in **Table 3** and **Table 4**. There were 45 sites providing ART in the private sector by June 30<sup>th</sup>, 2008.

For the quarterly analysis (**Table 3**), there were 643 new patients started on ART. Of those starting, 51% started due to Stage 3, 12% due to Stage 4 and 37% based on a low CD4 count in Stage 1 or Stage 2. There were 20 patients started on ART due to TB. Of the 643 patients started on ART, 95% were alive and on ART, 2% were dead and 3% transferred out.

For the cumulative analysis (**Table 4**), there were 6,720 patients ever started on ART, 51% of whom were male, 49% were females and 5% were children. Of those starting, 44% started due to Stage 3, 19% due to Stage 4 and 37% based on a low CD4 count in Stage 1 or Stage 2. There were 413 patients started on ART due to TB. Of the 6,076 patients started on ART, 68% were alive and on ART, 7% were dead, 10% were lost to follow-up, 15% were transferred out and less than 1% had stopped treatment. Of the 4,582 patients alive and on ART:- 91% were on first line regimen, 8% were on an alternative first line regimen and 1% were on a second line regimen.

### **PUBLIC AND PRIVATE SECTOR RESULTS COMBINED:**

The results of the public and private sector together are shown in Tabular Form in **Table 5** and **Table 6**. By June 2008, there were 207 sites altogether providing ART in Malawi, using national systems

For the quarterly analysis (**Table 5**), there were 19,849 new patients started on ART, 38% of whom were male and 9% were children. Of those starting, 62% started due to Stage 3, 13% due to Stage 4 and 24% based on a low CD4 count in Stage 1 or Stage 2. There were 1,991 patients started on ART due to TB. Of the 19,849 patients started on ART, 95% were alive and on ART, 3% were dead and 2% transferred out.

For the cumulative analysis (**Table 6**), there were 184,405 patients ever started on ART, 39% of whom were male and 8% were children. Of those starting, 62% started due to Stage 3, 18% due to Stage 4 and 18% based on a low CD4 count in Stage 1 or Stage 2. There were 24,095 patients started on ART due to TB. Of the 184,405 patients started on ART, 66% were alive and on ART by end of June 2008, 11% were dead, 11% were lost to follow-up and 12% were transferred out.

### **COMMENT**

ART scale up in Malawi continues to progress well. Sites are doing well, despite the increasing burden of work. The majority of sites are taking the initiative of doing quarterly and cumulative cohort analysis, although nearly one third of sites are still not coming up with correct outcomes. This will require continued and regular vigilance and supervision. The treatment outcomes for ART are reasonable. Early death rates are still a problem, and defaults still constitute a significant proportion of the outcomes.

ARV drug stocks were again assessed, and nationally drugs stocks are adequate. However, some sites are over-performing to a large extent and causing problems with drug stocks (both for starter packs and continuation packs). The quarterly drug stock taking assists in the activity of re-distributing drugs from under- to over-performing sites.

Some drugs for HIV-related diseases, particularly morphine and vincristine, are out of stock in most facilities.

#### Challenges and potential solutions:

As in previous reports, some important challenges emerging from ART scale up are highlighted for discussion and action. Progress or otherwise in these areas by June 2008 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. Formal ART training (and funding) for peripheral staff was decentralised to districts and more people now are being trained in ART delivery in their respective districts. The **ONLY** problem is with the Central Hospitals who do not have funding from NAC to run these ART trainings on their own.
- Infrastructure. ART clinic rooms and pharmacies are too small to handle patient numbers and drugs. This has become a very serious issue now.
- Pharmacy management. In general there is good pharmacy management of ARV drugs and OI drugs. The national supply of drugs for January 2008 has come 3-4 months late that the HIV and AIDS Department had to press an emergency drug order through UNICEF as a stop gap measure. This late arrival of drugs, which seems likely to continue, is a source of continuous concern.
- 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 1500+ patients. These techniques have been passed on to the peripheral sites. However, a computer records system should make this easier. A pilot computer study has started in 4 sites: 2 in the North (Rumphu and Nkhata Bay) and two in the Central region (Salima and Dedza): these are and will be formally analysed.
- Data quality and supervision. Although many sites are maintaining good records and doing cohort analysis, some sites are still unable to generate accurate cohort analyses. Supervision visits continue to be a critical mechanism to ensure that complete and accurate facility (and national) level data are available for monitoring and drug forecasting needs.
- Clinical supervision. Two of the three remaining Supervisors have left and there is an urgent need to ensure that the number of Supervisors is increased to five; one per Zonal Health Office.
- 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%. Now that sites are well stocked with CPT, early death rates may start to decrease.

- Rewarding good performance in ARV clinics. The quarterly issuing of certificates for excellent performance continues to be a popular and cheap way to motivate staff.

We finally thank all the facilities for their sincere welcome and co-operation with the HIV Unit and its partners during these supportive visits, and we congratulate the staff in these facilities for their excellent work.

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**2<sup>nd</sup> October 2008**

<b>TABLE 1: PUBLIC SECTOR: New patients started on ART in Quarter 2,2008</b>				
<b>Total Started</b>	<b>Number of patients started on ART in the 3 months</b>	<b>19,206</b>		
Sex	Number (%) males		7,190	37%
	Number (%) females		12,016	63%
Age	Number (%) adults aged 15 years and above		17,492	91%
	Number (%) children aged 14 years and below		1,714	9%
Occupation:	Housewife		4,053	21%
	Farmer		7,036	37%
	Forces		159	1%
	Teacher		385	2%
	Business		2,311	12%
	HCW		197	1%
	Student		939	5%
	Other		4,041	21%
	Occupation Not Known		85	
Reasons for starting ART:	Number (%) with Stage III		11,952	62%
	Number (%) with Stage IV		2,482	13%
	Number (%) with low CD4 count		4,573	24%
	Number (%) with TB		1,971	10%
	Number of patients registered with TB in the quarter		6,231	
Patient Outcomes	Number of patients started on ART in the 3 months		19,206	
	Number (%) alive and on ART		18,285	95%
	Number (%) dead		571	3%
	Number (%) defaulted		6	0%
	Number (%) stopped treatment		19	0%
	Number (%) transferred out permanently to another site		325	2%
ART Regimen	Of those alive and on ART:-		18,285	
	Number (%) on first line regimen		17,991	98%
	Number (%) on alternative first line regimen		309	2%
	Number (%) on second line regimen		20	0%
Ambulatory Status	Number with ambulatory status known		18,214	
	Number (%) ambulatory		17,358	95%
Work Status	Number with work status known		18,214	
	Number (%) at work		17,290	95%
Side Effects	Number with side effects counted		16,572	
	Number (%) with significant side effects		790	5%
Adherence	Number where pill count has been done		15,288	
	Number (%) with pill count showing 95% adherence		13,391	88%

**TABLE 2: PUBLIC SECTOR: Cumulative patients started on ART up to June 30<sup>th</sup>, 2008**

<b>Total Started</b>	<b>Total number of patients started on ART</b>		<b>177,685</b>	
Sex	Number (%) males		68,686	39%
	Number (%) females		108,999	61%
Age	Number (%) adults aged 15 years and above		162,779	92%
	Number (%) children aged 14 years and below		14,906	8%
Occupation	Housewife		35,673	20%
	Farmer		52,605	30%
	Forces		1,943	1%
	Teacher		4,943	3%
	Business		21,821	12%
	HCW		2,235	1%
	Student		7,993	5%
	Other		49,396	28%
	Occupation Unknown		1,076	
Reasons for starting ART:	Number (%) with Stage III		111,114	63%
	Number (%) with Stage IV		32,537	18%
	Number (%) with low CD4 count		31,489	18%
	Number (%) of patients started on ART due to TB		23,662	13%
Patient Outcomes	Total number of patients started on ART		177,685	
	Number (%) alive and on ART		117,125	66%
	Number (%) dead		19,780	11%
	Number (%) defaulted		19,514	11%
	Number (%) stopped treatment		656	0%
	Number (%) transferred out permanently to another site		20,610	12%
ART Regimen	Of those alive and on ART:-		117,125	
	Number (%) on first line regimen		112,870	96%
	Number (%) on alternative first line regimen		4,858	4%
	Number (%) on second line regimen		407	0%
Ambulatory Status	Number with ambulatory status known		112,193	
	Number (%) ambulatory		110,393	98%
Work Status	Number with work status known		112,193	
	Number (%) at work		108,942	97%
Side Effects	Number with side effects counted		102,322	
	Number (%) with significant side effects		6,453	6%
Adherence	Number where pill count has been done		70,071	
	Number (%) with pill count showing 95% adherence		65,876	94%
Death	Of those who died with Date of death recorded		20,008	
	Number (%) dying in the first month		6,357	32%
	Number (%) dying in the second month		4,242	21%
	Number (%) dying in the third month		2,377	12%
	Number (%) dying after the third month		7,032	35%

<b>TABLE 3: PRIVATE SECTOR: New patients started on ART in Q2, 2008</b>			
<b>Total Started</b>	<b>Number of patients started on ART in the 3 months</b>	<b>643</b>	
Sex	Number (%) males	329	51%
	Number (%) females	314	49%
Age	Number (%) adults aged 15 years and above	611	95%
	Number (%) children aged 14 years and below	32	5%
Occupation:	Housewife	136	136%
	Farmer	14	2%
	Forces	6	1%
	Teacher	21	3%
	Business	112	18%
	HCW	20	3%
	Student	47	7%
	Other	267	45%
	Occupation Not Known	0	
Reasons for starting ART:	Number (%) with Stage III	328	51%
	Number (%) with Stage IV	79	12%
	Number (%) with low CD4 count	236	37%
	Number (%) of patients started on ART due to TB	20	3%
	Number (%) of patients started on ART due to PMTCT	15	2%
Patient Outcomes	Number of patients started on ART in the 3 months	643	
	Number (%) alive and on ART	612	95%
	Number (%) dead	12	2%
	Number (%) defaulted	0	0%
	Number (%) stopped treatment	0	0%
	Number (%) transferred out permanently to another site	20	3%
ART Regimen	Of those alive and on ART:-	612	
	Number (%) on first line regimen	583	95%
	Number (%) on alternative first line regimen	22	4%
	Number (%) on second line regimen	7	1%
Ambulatory Status	Number with ambulatory status known	612	
	Number (%) ambulatory	611	100%
Work Status	Number with work status known	612	
	Number (%) at work	611	100%
Side Effects	Number with side effects counted	4	0%
	Number (%) with significant side effects	4	100%
Adherence	Number where pill count has been done	200	33%
	Number (%) with pill count showing 95% adherence	198	99%
Death	Of those who died with Date of death recorded	12	
	Number (%) dying in the first month	9	75%
	Number (%) dying in the second month	2	17%
	Number (%) dying in the third month	0	0%
	Number (%) dying after the third month	1	8%

<b>TABLE 4: PRIVATE SECTOR: Cumulative patients started on ART up to 30<sup>th</sup> June 2008</b>			
<b>Total Started</b>	<b>Total number of patients started on ART</b>	<b>6720</b>	
Sex	Number (%) males	3438	51%
	Number (%) females	3282	49%
Age	Number (%) adults aged 15 years and above	6410	95%
	Number (%) children aged 14 years and below	310	5%
Occupation	Housewife	1055	16%
	Farmer	152	2%
	Forces	76	1%
	Teacher	306	5%
	Business	1049	16%
	HCW	163	2%
	Student	394	6%
	Other	3525	52%
	Occupation Unknown		
Reasons for starting ART:	Number (%) with Stage III	3019	45%
	Number (%) with Stage IV	1209	18%
	Number (%) with low CD4 count	2492	37%
	Number (%) of patients started on ART due to TB	433	6%
	Number (%) of patients started on ART due to PMTCT	87	1%
Patient Outcomes	Total number of patients started on ART	<b>6720</b>	
	Number (%) alive and on ART	4582	68%
	Number (%) dead	494	7%
	Number (%) defaulted	645	10%
	Number (%) stopped treatment	13	0%
	Number (%) transferred out permanently to another site	986	15%
ART Regimen	Of those alive and on ART:-	4582	
	Number (%) on first line regimen	4158	91%
	Number (%) on alternative first line regimen	371	8%
	Number (%) on second line regimen	53	1%
Ambulatory Status	Number with ambulatory status known	4582	
	Number (%) ambulatory	4581	100%
Work Status	Number with work status known	4582	
	Number (%) at work	4581	100%
Side Effects	Number with side effects counted	3	0.1%
	Number (%) with significant side effects	3	100%
Adherence	Number where pill count has been done	827	18%
	Number (%) with pill count showing 95% adherence	827	100%
Death	Of those who died with Date of death recorded	447	
	Number (%) dying in the first month	168	36%
	Number (%) dying in the second month	67	15%
	Number (%) dying in the third month	51	11%
	Number (%) dying after the third month	190	38%



**TABLE 5: PUBLIC AND PRIVATE SECTOR: New patients on ART in Quarter 2, 2008**

<b>Total Started</b>	<b>Number of patients started on ART in the 3 months</b>	<b>19,849</b>	
Sex	Number (%) males	7,519	38%
	Number (%) females	12,330	62%
Age	Number (%) adults aged 15 years and above	18,103	91%
	Number (%) children aged 14 years and below	1,746	9%
Occupation:	Housewife	4,189	21%
	Farmer	7,050	36%
	Forces	165	1%
	Teacher	406	2%
	Business	2,423	12%
	HCW	217	1%
	Student	986	5%
	Other	4,308	22%
	Occupation Not Known	85	0%
Reasons for starting ART:	Number (%) with Stage III	12,280	62%
	Number (%) with Stage IV	2,561	13%
	Number (%) with low CD4 count	4,809	24%
	Number (%) with TB	1,991	10%
	Number of patients registered with TB in the quarter	6,231	46%
Patient Outcomes	Number of patients started on ART in the 3 months	19,849	
	Number (%) alive and on ART	18,897	95%
	Number (%) dead	583	3%
	Number (%) defaulted	6	0%
	Number (%) stopped treatment	19	0%
	Number (%) transferred out permanently to another site	345	2%
ART Regimen	Of those alive and on ART:-	18,897	
	Number (%) on first line regimen	18,574	98%
	Number (%) on alternative first line regimen	331	2%
	Number (%) on second line regimen	27	0%
Ambulatory Status	Number with ambulatory status known	18,826	
	Number (%) ambulatory	17,969	95%
Work Status	Number with work status known	18,826	
	Number (%) at work	17,901	95%
Side Effects	Number with side effects counted	16,576	92%
	Number (%) with significant side effects	794	5%
Adherence	Number where pill count has been done	15,488	
	Number (%) with pill count showing 95% adherence	13,589	88%

**TABLE 6: PUBLIC AND PRIVATE SECTOR: Cumulative patients on ART by June 30<sup>th</sup>, 2008**

<b>Total Started</b>	<b>Total number of patients started on ART</b>		184,405	
<b>Sex</b>	Number (%) males		72,124	39%
	Number (%) females		112,281	61%
<b>Age</b>	Number (%) adults aged 15 years and above		169,189	92%
	Number (%) children aged 14 years and below		15,216	8%
<b>Occupation</b>	Housewife		36,728	20%
	Farmer		52,757	29%
	Forces		2,019	1%
	Teacher		5,249	3%
	Business		22,870	12%
	HCW		2,398	1%
	Student		8,387	5%
	Other		52,921	29%
	Occupation Unknown		1,076	1%
<b>Reasons for starting ART:</b>	Number (%) with Stage III		114,133	62%
	Number (%) with Stage IV		33,746	18%
	Number (%) with low CD4 count		33,981	18%
	Number (%) of patients started on ART due to TB		24,095	13%
<b>Patient Outcomes</b>	Total number of patients started on ART		184,405	
	Number (%) alive and on ART		121,707	66%
	Number (%) dead		20,274	11%
	Number (%) defaulted		20,159	11%
	Number (%) stopped treatment		669	<1%
	Number (%) transferred out permanently to another site		21,595	12%
<b>ART Regimen</b>	Of those alive and on ART:-		121,707	
	Number (%) on first line regimen		117,028	96%
	Number (%) on alternative first line regimen		5,229	4%
	Number (%) on second line regimen		460	<1%
<b>Ambulatory Status</b>	Number with ambulatory status known		116,775	
	Number (%) ambulatory		114,974	98%
<b>Work Status</b>	Number with work status known		108,735	
	Number (%) at work		116,775	97%
<b>Side Effects</b>	Number with side effects counted		102,325	
	Number (%) with significant side effects		6,456	6%
<b>Adherence</b>	Number where pill count has been done		70,889	
	Number (%) with pill count showing 95% adherence		66,703	94%
<b>Death</b>	Of those who died with Date of death recorded		20,455	
	Number (%) dying in the first month		6,525	32%
	Number (%) dying in the second month		4,309	21%
	Number (%) dying in the third month		2,428	12%
	Number (%) dying after the third month		7,222	35%