

ART IN THE PUBLIC AND PRIVATE SECTORS IN MALAWI RESULTS UP TO 31st MARCH, 2008

Executive Summary:

Public sector:

By the end of March 2008, there were **157** free-standing facilities in Malawi in the public health sector delivering ART free of charge to HIV-positive eligible patients.

In the first quarter of 2008 (January to March), there were **17,642** new patients started on ART (39% male, 61% female; 91% adults and 9% children). By the end of March 2008, there were **159,111** patients who had ever started on ART (39% male, 61% female; 92% adults and 8% children). Cumulative treatment outcomes by end of March were:- 67% alive and on ART at the site of registration, 11% dead, 11% lost to follow-up, 11% transferred out to another facility (and were presumably alive) and <1% stopped treatment. Of the 106,547 patients alive and on ART:- 96% were on the first line regimen, 4% were on an alternative first line regimen and a small number (468) were on a second line regimen.

Private sector:

By the end of March 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 first quarter of 2008 (January to March), there were **669** new patients started on ART (44% male, 56% female, 95% adult, 5% children). By the end of March 2008, there were **6,076** patients who had ever started on ART (51% male, 49% female, 95% adults, 5% children). Cumulative treatment outcomes by end of March were:- 70% alive and on ART at the site of registration, 7% dead, 9% lost to follow-up, 14% transferred out to another facility (and were presumably alive) and <1% had stopped treatment. Of the 4,243 patients alive and on ART:- 92% were on first line regimen, 7% were on an alternative first line regimen and 1% were on a second line regimen.

Resume from January 2003 to March 2008 in the public and private sector:

| | By Dec 2003 | By Dec 2004 | By Dec 2005 | By Dec 2006 | By Dec 2007 | By Mar 2008 |
|-------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Public sector ART sites | 9 | 24 | 60 | 103 | 118 | 157 |
| New patients started ART in year | No data | 10,183 | 24,657 | 43,981 | 59,628 | 17,642 |
| Cumulative patients started ART | 3,000 | 13,183 | 37,840 | 81,821 | 141,449 | 159,111 |
| Patients alive on ART | No data | 10,761 | 28,110 | 57,356 | 96,712 | 106,547 |
| Private sector ART sites | 0 | 0 | 23 | 38 | 45 | 45 |
| New patients started ART in year | 0 | 0 | 977 | 2,370 | 2,060 | 669 |
| Cumulative patients started ART | 0 | 0 | 977 | 3,347 | 5,407 | 6,076 |
| Patients alive on ART | 0 | 0 | 977 | 2,624 | 3,937 | 4,243 |
| Public and Private ART sites | 9 | 24 | 83 | 141 | 163 | 202 |
| New patients started ART in year | No data | 10,183 | 25,634 | 46,351 | 61,688 | 18,311 |
| Cumulative patients started ART | 3,000 | 13,183 | 38,817 | 85,168 | 146,856 | 165,187 |
| Patients alive on ART | No data | 10,761 | 29,087 | 59,980 | 100,649 | 110,790 |

Introduction and Methodology:

This is a report on the status of antiretroviral therapy (ART) in Malawi up to March 31st, 2008.

Public sector site visits: between January and March 2008, all 157 health facilities in the public sector earmarked for ART were visited. The visits were conducted by the Ministry of Health HIV Unit (Simon Makombe who was accompanied by his partners: Omba Lwanda from KCH; Joel Gumulira, Mulinde, and Fred Chipatula from the Lighthouse; Janet Chikonda from Area 18 health centre; Olesi Pasulani from MSF; four ART supervisors, Dr Tewedros Teffera (Zomba Central Hospital) and Dr K. Malisita (QECH), Dr Chaeng (KCH), Dr Mubiala (MCH), Clement Mtika (MCH), Mrs Kalitsiro (Mlambe Mission Hospital) and Mr Mazalo (SUCOMA, Clinic) also accompanied the Unit.

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).

Private sector site visits: between April and June 2008, all 45 ART sites in the private sector were visited by Stuart Chuka from MBCA, using the same core methodology as for the public sector.

Data collection in public / private sector, outcome status censored on 31st March, 2008:

The first data set is the status of new patients who were started on free ART in Malawi between January 1st and March 31st, 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 March 31st, 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 Q1 2007, Q1 2006, and Q1 2005 respectively

Data collation and presentation for the years 2003 – 2008:

Data on ART for the 4 years 3 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 March 2008, 157 free-standing government and mission health facilities in the country had started patients on free ART. All the facilities were using the 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 102,015 patients alive and on first line treatment; 4,064 patients alive and on alternative first line regimens (Zidovudine-based or Efavirenz-based) for patients with adverse drug reactions; and 468 patients alive and being treated with a second line regimen for failure of the first line therapy.

Qualitative assessment of sites: All 157 ART clinics were tidy and orderly, and in 149 sites the filing systems and record keeping were excellent: 8 were below par. A qualitative assessment of the patient master cards and registers was carried out. The table, with pertinent results, compares the 157 facilities in Q1 2008 with the previous qualitative assessment of 118 facilities in Q4 2007. The standards were generally good, and Q1-08 was similar in many respects to Q4-07. However, a smaller proportion of sites this time round had done a correct quarterly and cumulative cohort analysis.

| Parameter | ART sites (%) Q3 2007 N=109 | ART sites (%) Q4 2007 N=118 | ART sites (%) Q1 2008 N=157 |
|---|------------------------------------|------------------------------------|------------------------------------|
| ARV Register: | | | |
| ARV Register numbers correct and match master cards | 109 (100%) | 115 (97%) | 149 (95%) |
| All columns in the ARV register always completed | 108 (99%) | 114 (97%) | 149 (95%) |
| Dates of all adverse outcomes recorded | 107 (98%) | 110 (93%) | 129 (82%) |
| All ARV outcomes updated every three months | 95 (87%) | 104 (88%) | 130 (83%) |
| Patient Master Card: | | | |
| Case finding data properly completed on each card | 107 (98%) | 112 (95%) | 142 (90%) |
| Regular record of weight done at each patient visit | 109 (100%) | 117 (99%) | 155 (99%) |
| In each monthly visit all outcome columns completed | 108 (99%) | 116 (98%) | 154 (98%) |
| Pill counts for adherence done according to directives | 106 (97%) | 115 (97%) | 156 (99%) |
| HIV-diseases always indicated on back of master card | 106 (97%) | 113 (96%) | 135 (86%) |
| Cohort Analysis: | | | |
| Quarterly cohort analysis done by the site before visit | 100 (92%) | 111 (94%) | 138 (88%) |
| Cumulative analysis done by the site before visit | 99 (91%) | 111 (94%) | 113 (72%) |
| Cohort outcomes correctly done | 81 (74%) | 84 (71%) | 90 (57%) |

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%)

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 Q1 2008 was 381, translating into an average of 3.2 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 131 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 | 68 | 77 | 87 |
| Central: 57 sites | 294 | 297 | 244 |
| South: 69 sites | 292 | 343 | 289 |
| Total: 157 sites | 654 | 717 | 620 |
| | | | |
| FTEs | 131 | 143 | 124 |

Quarterly Analysis for the period January 1st to March 31st, 2008:

1. New patients started on ART in public sector between Jan and Marc 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 17,642 new patients started on ART, with males representing 39% and females representing 61% of the total. Adults comprised 91% of patients and children (aged 14 years or less) comprised 9%. There were data on occupation in 16,543 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 is increasing and due to WHO stage 4 is decreasing.

The number of patients started on ART because of TB was 1,646. This constitutes 9% of new patients started on ART and 37% of patients registered for TB (N=6,544) during the quarter.

The number of women referred from PMTCT to start on ART was 413; 75 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 March. 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 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.

| In each quarter: | Q3 2007 | Q4 2007 | Q1 2008 |
|--|-----------------|-----------------|-----------------|
| Number of facilities | 109 | 118 | 157 |
| Expected number of patients to start ART | 15,675 | 16,350 | 19,275 |
| Observed number (%) of patients started on ART | 15,363 (98%) | 14,908 (91%) | 17,642 (91%) |

2. HIV testing, CD4 testing capability and HIV-related diseases: Jan – Marc 2008

HIV test data:

The data on HIV test results for patients tested in the 157 facilities between January 1st and March 31st, 2008 are shown below.

| Parameter | North | Central | South | Total |
|----------------------------|----------------|----------------|-----------------|-----------------|
| Number HIV tested | 20,764 | 52,564 | 93,476 | 166,786 |
| Number (%) HIV positive | 2,787 (13%) | 8,353 (16%) | 19,753 (21%) | 30,893 (19%) |
| Number (%) referred to ART | 2,509 (90%) | 7,611 (91%) | 14,672 (74%) | 24,792 (80%) |

Altogether, there were over 166,786 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 35 facilities (18% of total) where there was CD4 count capability, with CD4 machines placed in district hospitals in the last 3 months: **8 sites in the North** (Mzuzu Central Hospital, Ekwendeni MH, Chitipa DH, Karonga DH, Nkata Bay DH, Rumphu DH, Mzimba DH, Euthini RH); **15 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-Dream, Salima DH, LifeLine Clinic, Kasungu DH, Nkotakota DH, Nchisi DH, Ntcheu DH, Dedza DH); **12 sites in the South** (QECH, Blantyre Dream Site, Thyolo DH, Chiradzulu DH, Zomba Central Hospital, Machinga DH, Mangochi DH, Mulanje DH, Chikwawa DH, Nsanje DH, Balaka DH). No data were collected on number of tests done or on functioning status of the machines.

HIV-related indicator diseases:

The number of patients with 4 key HIV-related indicator diseases, diagnosed and treated in the 118 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) | 397 | 2,632 | 3,515 | 6,544 |
| Kaposi's Sarcoma (KS) | 64 | 143 | 627 | 834 |
| Cryptococcal meningitis (CM) | 108 | 154 | 229 | 491 |
| Oesophageal candidiasis (OC) | 238 | 439 | 630 | 1,307 |

Cumulative analysis for patients ever started on ART up to March 31st, 2008

The national data for all patients who ever started on ART up to the end of March 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 159,111 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 142,191. 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 151,619 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 3.

The number of patients started on ART because of TB was 20,357 This constitutes 13% of all patients started on ART.

The cumulative primary treatment outcomes were as follows. There were 67% of patients being alive and on ART in the facility where they were first registered, and 11% 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 known in all patients who died: 5,659 (32%) died in month 1; 3,849 (21%) died in month 2; 2,060 (12%) died in month 3 and 5,334 (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 January and March 2007 and censored on 31st March 2008 (118 facilities). The 24-months survival was from patients registered for free ART between January and March 2006 and censored on 31st March 2008 (62 facilities). The 36-months survival was from patients registered for free ART between January and March 2005 and censored on 31st March 2008 (16 facilities). Results are shown in the table.

| | 12-months Survival | 24-months Survival | 36-months Survival |
|-------------------------|---------------------------|---------------------------|---------------------------|
| Number started on ART: | 13,462 | 9,238 | 4,485 |
| “Presumed Alive” | 10,484 (78%) | 6,686 (72%) | 3,235 (72%) |
| <i>Alive and on ART</i> | <i>9,210 (68%)</i> | <i>5,373 (58%)</i> | <i>2,490 (55%)</i> |
| <i>Transferred out</i> | <i>1,274 (9%)</i> | <i>1,313 (14%)</i> | <i>745 (17%)</i> |
| Dead | 1,501 (11%) | 1,494 (16%) | 679 (15%) |
| Lost to follow up | 1,433 (11%) | 1,022 (11%) | 531 (12%) |
| Stopped treatment | 44 (<1%) | 36 (<1%) | 40 (1%) |

The 12-month survival analysis indicated that 78% of patients were alive (68% alive and on ART + 9% transferred out and presumed alive). The 24-month survival indicated that 72% were alive while the 36-month survival analyses indicated that about 72% of patients were alive (alive and on ART + transferred out and presumed alive).

Stocks of ARV drugs and drug for HIV-diseases as of January and March 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 on the next page in tabular form. According to the stocks at the time of the assessment, there were enough First line ARV drugs to start about 63,000 new patients on therapy (this lasts for 10 months at current rates of recruitment) and enough “Continuation packs” to keep the current 110,790 patients plus the new patients starting on treatment for about 4 months.

Drugs for HIV-related diseases

Pill counts and stock outs for drugs for key HIV-related diseases are also shown on the next page. The assessments coincided with distributions of cotrimoxazole (120 and 1000 tabs per tin) and some of the stock levels for this drug may not be accurate. Major problems were with vincristine and morphine where three quarters or more of sites had complete stock-outs.

| First line ARV drugs + Duovir | North | Central | South | Total |
|---|---|----------------|--------------|--------------|
| | Number of tins of tablets (either 15 or 60 in each tin) | | | |
| Lamivir-30 – SP (15 tab tins) | 9,143 | 28,207 | 13,801 | 51,151 |
| Lamivir-40 – SP (15 tab tins) | 2,244 | 5,240 | 3,833 | 11,317 |
| Triomune-30- SP (15 tab tins) | 8,631 | 28,835 | 14,607 | 52,073 |
| Triomune-40 – SP (15 tab tins) | 1,738 | 5,168 | 4,167 | 11,073 |
| Triomune-30- CP (60 tab tins) | 101,663 | 184,643 | 226,077 | 512,383 |
| Triomune-40 – CP (60 tab tins) | 8,538 | 22,181 | 19,064 | 49,783 |
| Duovir for PEP and subst. (60 tab tins) | 115 | 178 | 184 | 477 |
| | | | | |
| First line alternative and second line ARV drugs | North | Central | South | Total |
| | Number of tins of tablets (60 or 30 in each tin) | | | |
| Zidovudine-Lamivudine (60 tab) | 1,699 | 6,546 | 15,110 | 23,355 |
| Nevirapine (60 tab) | 2,019 | 5,608 | 14,150 | 21,777 |
| Stavudine-Lamivudine-30 (60 tab) | 309 | 1,724 | 4,587 | 6,620 |
| Stavudine-Lamivudine-40 (60 tab) | 268 | 274 | 518 | 1,060 |
| Efavirenz (30 tab) | 227 | 2,921 | 5,566 | 8,714 |
| Tenofovir (30 tab) | 197 | 1,897 | 5,839 | 7,933 |
| Kaletra (180 tab) | 23 | 726 | 8,291 | 9,040 |

| Drugs for HIV-diseases | North | Central | South | Total |
|-------------------------------|---|----------------|--------------|------------------|
| | Number of tablets or vials in facilities in each region | | | |
| Fluconazole tablets | 10,102 | 27,309 | 44,720 | 82,131 |
| CPT (tins) | 84,184 | 164,768 | 233,316 | 482,268 |
| Acyclovir tablets | 40,900 | 31,824 | 188,241 | 260,965 |
| Ceftriaxone vials | 180 | 3,579 | 33,273 | 37,032 |
| Ciprofloxacin tablets | 174,600 | 105,285 | 163,186 | 443,071 |
| Vincristine vials | 1,587 | 2,454 | 1,942 | 5,983 |
| Morphine tablets | 6,593 | 15,438 | 30,072 | 52,103 |
| Amitriptyline | 851,938 | 1,137,283 | 2,306,020 | 4,295,241 |
| | | | | |
| Drugs for HIV-diseases | North | Central | South | Total (%) |
| | Number of ART facilities with no drugs in stock | | | |
| Fluconazole tablets | 20 | 28 | 40 | 88 59% |
| CPT (tins) | 6 | 9 | 4 | 19 13% |

| | | | | | |
|-----------------------|----|----|----|-----|-----|
| Acyclovir tablets | 22 | 37 | 42 | 101 | 66% |
| Ceftriaxone vials | 25 | 42 | 49 | 116 | 77% |
| Ciprofloxacin tablets | 19 | 28 | 38 | 85 | 56% |
| Vincristine vials | 24 | 37 | 51 | 112 | 74% |
| Morphine tablets | 24 | 43 | 58 | 125 | 83% |
| Amitriptyline tablets | 13 | 18 | 26 | 57 | 38% |

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 15 (10%) 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 148 sites (94%) providing CPT to ART patients, and in the first quarter of 2008, there were 75,308 patients receiving ART and CPT together.

PRIVATE SECTOR RESULTS:

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 March 31st, 2008.

For the quarterly analysis (**Table 3**), there were 669 new patients started on ART, 44% of whom were male, 56% were females and 5% were children. Of those starting, 45% started due to Stage 3, 12% due to Stage 4 and 43% based on a low CD4 count in Stage 1 or Stage 2. There were 22 patients started on ART due to TB. Of the 669 patients started on ART, 94% were alive and on ART, 2% were dead and 3% transferred out.

For the cumulative analysis (**Table 4**), there were 6,076 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, 70% were alive and on ART, 7% were dead, 9% were lost to follow-up and 14% were transferred out.

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 March 2008, there were 202 sites altogether providing ART in Malawi, using national systems

For the quarterly analysis (**Table 5**), there were 18,311 new patients started on ART, 39% of whom were male and 8% were children. Of those starting, 61% started due to Stage 3, 14% due to Stage 4 and 25% based on a low CD4 count in Stage 1 or Stage 2. There were 1,668 patients started on ART due to TB. Of the 18,311 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 165,187 patients ever started on ART, 39% of whom were male and 8% were children. Of those starting, 64% started due to Stage 3, 20% due to Stage 4 and 16% based on a low CD4 count in Stage 1 or Stage 2. There were 20,770 patients started on ART due to TB. Of the 165,187 patients started on ART, 67% were alive and on ART by end of March, 11% were dead, 10% were lost to follow-up and 11% 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 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 March 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 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 concern
- Drugs for HIV-related diseases. The CPT and CTX was distributed during the time of supervision, and stock counts done may not accurately reflect the

stocks in facilities. Better stock counting will need to be done during the Q2, 2008 supervision. Round 3 ART sites have now received CPT supplies. The problem which was noted in some sites especially round 3 sites is that they are opening the 120 bottle tins which were met for CPT for treating other opportunistic infection since they did not receive the CTX tins of 1000 tablet tins. The anomaly was corrected.

- 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.
- Access to services and follow-up of patients. Some of the Round 3 ART sites started delivering therapy during the quarter, and this meant that the number of ART sites increased to 157 in the public sector. However, during the actual supervision (April-June 2008), most Round 3 sites had just started delivering therapy in Q1, 2008. Supervision was used to check on guidelines being followed.
- Clinical supervision. Three Supervisors are now in place for South-eastern Zone, Central West and East and the Northern Zone.
- 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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5th July 2008

| TABLE 1: PUBLIC SECTOR: New patients started on ART in Quarter 1,2008 | | | | |
|--|--|--|---------------|-----|
| | | | | |
| Total Started | Number of patients started on ART in the 3 months | | 17,642 | |
| | | | | |
| Sex | Number (%) males | | 6,809 | 39% |
| | Number (%) females | | 10,833 | 61% |
| Age | Number (%) adults aged 15 years and above | | 16,026 | 91% |
| | Number (%) children aged 14 years and below | | 1,616 | 9% |
| | | | | |
| Occupation: | Housewife | | 3,374 | 20% |
| | Farmer | | 6,382 | 38% |
| | Forces | | 138 | 1% |
| | Teacher | | 301 | 2% |
| | Business | | 1,755 | 11% |
| | HCW | | 207 | 1% |
| | Student | | 792 | 5% |
| | Other | | 3,732 | 22% |
| | Occupation Not Known | | 961 | |
| | | | | |
| Reasons for starting ART: | Number (%) with Stage III | | 10,861 | 62% |
| | Number (%) with Stage IV | | 2,519 | 14% |
| | Number (%) with low CD4 count | | 4,262 | 24% |
| | Number (%) with TB | | 1,646 | 9% |
| | Number of patients registered with TB in the quarter | | 6,544 | |
| | | | | |
| Patient Outcomes | Number of patients started on ART in the 3 months | | 17,642 | |
| | Number (%) alive and on ART | | 16,681 | 95% |
| | Number (%) dead | | 517 | 3% |
| | Number (%) defaulted | | 3 | 0% |
| | Number (%) stopped treatment | | 36 | 0% |
| | Number (%) transferred out permanently to another site | | 405 | 2% |
| | | | | |
| ART Regimen | Of those alive and on ART:- | | 16,681 | |
| | Number (%) on first line regimen | | 16,445 | 99% |
| | Number (%) on alternative first line regimen | | 213 | 1% |
| | Number (%) on second line regimen | | 13 | 0% |
| | | | | |
| Ambulatory Status | Number with ambulatory status known | | 16,675 | |
| | Number (%) ambulatory | | 15,136 | 91% |
| Work Status | Number with work status known | | 16,675 | |
| | Number (%) at work | | 14,813 | 89% |
| Side Effects | Number with side effects counted | | 15,882 | |
| | Number (%) with significant side effects | | 518 | 3% |
| Adherence | Number where pill count has been done | | 11,101 | |
| | Number (%) with pill count showing 95% adherence | | 10,223 | 92% |

| TABLE 2: PUBLIC SECTOR: Cumulative patients started on ART up to March 31st, 2008 | | | | |
|---|--|--|----------------|-----|
| Total Started | Total number of patients started on ART | | 159,111 | |
| | | | | |
| Sex | Number (%) males | | 61,578 | 39% |
| | Number (%) females | | 79,533 | 61% |
| Age | Number (%) adults aged 15 years and above | | 145,862 | 92% |
| | Number (%) children aged 14 years and below | | 13,249 | 8% |
| | | | | |
| Occupation | Housewife | | 31,492 | 21% |
| | Farmer | | 45,481 | 30% |
| | Forces | | 1,773 | 1% |
| | Teacher | | 4,539 | 3% |
| | Business | | 19,351 | 13% |
| | HCW | | 2,035 | 1% |
| | Student | | 7,084 | 5% |
| | Other | | 41,637 | 27% |
| | Occupation Unknown | | 5,719 | |
| | | | | |
| Reasons for starting ART: | Number (%) with Stage III | | 102,761 | 65% |
| | Number (%) with Stage IV | | 31,641 | 20% |
| | Number (%) with low CD4 count | | 24,709 | 16% |
| | Number (%) of patients started on ART due to TB | | 20,357 | 13% |
| | | | | |
| Patient Outcomes | Total number of patients started on ART | | 159,111 | |
| | Number (%) alive and on ART | | 106,547 | 67% |
| | Number (%) dead | | 17,978 | 11% |
| | Number (%) defaulted | | 16,815 | 11% |
| | Number (%) stopped treatment | | 851 | 1% |
| | Number (%) transferred out permanently to another site | | 16,920 | 11% |
| | | | | |
| ART Regimen | Of those alive and on ART:- | | 106,547 | |
| | Number (%) on first line regimen | | 102,015 | 96% |
| | Number (%) on alternative first line regimen | | 4,064 | 4% |
| | Number (%) on second line regimen | | 468 | 0% |
| | | | | |
| Ambulatory Status | Number with ambulatory status known | | 104,492 | |
| | Number (%) ambulatory | | 93,559 | 90% |
| Work Status | Number with work status known | | 104,492 | |
| | Number (%) at work | | 92,268 | 88% |
| Side Effects | Number with side effects counted | | 99,679 | |
| | Number (%) with significant side effects | | 4,952 | 4% |
| Adherence | Number where pill count has been done | | 68,232 | |
| | Number (%) with pill count showing 95% adherence | | 63,987 | 95% |
| | | | | |
| Death | Of those who died with Date of death recorded | | 17,900 | |
| | Number (%) dying in the first month | | 5,659 | 32% |
| | Number (%) dying in the second month | | 3,847 | 21% |
| | Number (%) dying in the third month | | 2,060 | 12% |
| | Number (%) dying after the third month | | 6,334 | 35% |

| TABLE 3: PRIVATE SECTOR: New patients started on ART in Quarter 1, 2008 | | | | |
|--|--|--|------------|------|
| | | | | |
| Total Started | Number of patients started on ART in the 3 months | | 669 | |
| | | | | |
| Sex | Number (%) males | | 296 | 44% |
| | Number (%) females | | 373 | 56% |
| Age | Number (%) adults aged 15 years and above | | 637 | 95% |
| | Number (%) children aged 14 years and below | | 32 | 5% |
| | | | | |
| Occupation: | Housewife | | 81 | 12% |
| | Farmer | | 17 | 3% |
| | Forces | | 6 | 1% |
| | Teacher | | 30 | 4% |
| | Business | | 92 | 14% |
| | HCW | | 14 | 2% |
| | Student | | 23 | 3% |
| | Other | | 406 | 61% |
| | Occupation Not Known | | 0 | |
| | | | | |
| Reasons for starting ART: | Number (%) with Stage III | | 300 | 47% |
| | Number (%) with Stage IV | | 80 | 14% |
| | Number (%) with low CD4 count | | 289 | 39% |
| | Number (%) with TB | | 22 | 3% |
| | Number of patients diagnosed with TB in the quarter | | 19 | |
| Patient Outcomes | Number of patients started on ART in the 3 months | | 669 | |
| | Number (%) alive and on ART | | 630 | 94% |
| | Number (%) dead | | 16 | 2% |
| | Number (%) defaulted | | 0 | 0% |
| | Number (%) stopped treatment | | 1 | 0% |
| | Number (%) transferred out permanently to another site | | 23 | 3% |
| | | | | |
| ART Regimen | Of those alive and on ART:- | | 630 | |
| | Number (%) on first line regimen | | 591 | 94% |
| | Number (%) on alternative first line regimen | | 29 | 4% |
| | Number (%) on second line regimen | | 10 | 2% |
| | | | | |
| Ambulatory Status | Number with ambulatory status known | | 630 | |
| | Number (%) ambulatory | | 629 | 100% |
| Work Status | Number with work status known | | 630 | |
| | Number (%) at work | | 629 | 100% |
| Side Effects | Number with side effects counted | | 1 | |
| | Number (%) with significant side effects | | 1 | 100% |
| Adherence | Number where pill count has been done | | 233 | |
| | Number (%) with pill count showing 95% adherence | | 233 | 100% |

| TABLE 4: PRIVATE SECTOR: Cumulative patients started on ART up to March 31st, 2008 | | | | |
|--|--|--|--------------|------|
| Total Started | Total number of patients started on ART | | 6,076 | |
| Sex | Number (%) males | | 3,109 | 51% |
| | Number (%) females | | 2,967 | 49% |
| Age | Number (%) adults aged 15 years and above | | 5,800 | 95% |
| | Number (%) children aged 14 years and below | | 276 | 5% |
| Occupation | Housewife | | 905 | 12% |
| | Farmer | | 122 | 3% |
| | Forces | | 70 | 1% |
| | Teacher | | 287 | 4% |
| | Business | | 955 | 14% |
| | HCW | | 139 | 2% |
| | Student | | 348 | 3% |
| | Other | | 3,250 | 61% |
| | Occupation Unknown | | 0 | |
| Reasons for starting ART: | Number (%) with Stage III | | 2,691 | 44% |
| | Number (%) with Stage IV | | 1,150 | 19% |
| | Number (%) with low CD4 count | | 2,235 | 37% |
| | Number (%) of patients started on ART due to TB | | 413 | 7% |
| Patient Outcomes | Total number of patients started on ART | | 6,076 | |
| | Number (%) alive and on ART | | 4,243 | 70% |
| | Number (%) dead | | 447 | 7% |
| | Number (%) defaulted | | 529 | 9% |
| | Number (%) stopped treatment | | 10 | 0% |
| | Number (%) transferred out permanently to another site | | 847 | 14% |
| ART Regimen | Of those alive and on ART:- | | 4,243 | |
| | Number (%) on first line regimen | | 3,891 | 92% |
| | Number (%) on alternative first line regimen | | 313 | 7% |
| | Number (%) on second line regimen | | 39 | 1% |
| Ambulatory Status | Number with ambulatory status known | | 4,243 | |
| | Number (%) ambulatory | | 4,243 | 100% |
| Work Status | Number with work status known | | 4,243 | |
| | Number (%) at work | | 4,243 | 100% |
| Side Effects | Number with side effects counted | | 6 | |
| | Number (%) with significant side effects | | 6 | 100% |
| Adherence | Number where pill count has been done | | 741 | |
| | Number (%) with pill count showing 95% adherence | | 724 | 100% |
| Death | Of those who died with Date of death recorded | | 447 | |
| | Number (%) dying in the first month | | 10168 | 38% |
| | Number (%) dying in the second month | | 467 | 15% |
| | Number (%) dying in the third month | | 151 | 11% |
| | Number (%) dying after the third month | | 161 | 36% |

| TABLE 5: PUBLIC AND PRIVATE SECTOR: New patients on ART in Quarter 1, 2008 | | | | |
|---|--|--|---------------|-----|
| | | | | |
| Total Started | Number of patients started on ART in the 3 months | | 18,311 | |
| | | | | |
| Sex | Number (%) males | | 7,105 | 39% |
| | Number (%) females | | 11,206 | 61% |
| Age | Number (%) adults aged 15 years and above | | 16,663 | 92% |
| | Number (%) children aged 14 years and below | | 1,648 | 8% |
| | | | | |
| Occupation: | Housewife | | 3,455 | 20% |
| | Farmer | | 6,399 | 37% |
| | Forces | | 144 | 1% |
| | Teacher | | 331 | 2% |
| | Business | | 1,847 | 11% |
| | HCW | | 221 | 1% |
| | Student | | 815 | 5% |
| | Other | | 4,138 | 24% |
| | Occupation Not Known | | 961 | |
| | | | | |
| Reasons for starting ART: | Number (%) with Stage III | | 11,161 | 61% |
| | Number (%) with Stage IV | | 2,599 | 14% |
| | Number (%) with low CD4 count | | 4,551 | 25% |
| | Number (%) with TB | | 1,668 | 9% |
| | Number of patients registered with TB in the quarter | | 6,563 | |
| | | | | |
| Patient Outcomes | Number of patients started on ART in the 3 months | | 18,311 | |
| | Number (%) alive and on ART | | 17,311 | 95% |
| | Number (%) dead | | 533 | 3% |
| | Number (%) defaulted | | 3 | 0% |
| | Number (%) stopped treatment | | 37 | 0% |
| | Number (%) transferred out permanently to another site | | 428 | 2% |
| | | | | |
| ART Regimen | Of those alive and on ART:- | | 17,311 | |
| | Number (%) on first line regimen | | 17,046 | 98% |
| | Number (%) on alternative first line regimen | | 242 | 1% |
| | Number (%) on second line regimen | | 23 | 0% |
| | | | | |
| Ambulatory Status | Number with ambulatory status known | | 17,305 | |
| | Number (%) ambulatory | | 15,765 | 91% |
| Work Status | Number with work status known | | 17,305 | |
| | Number (%) at work | | 15,442 | 89% |
| Side Effects | Number with side effects counted | | 15,883 | 92% |
| | Number (%) with significant side effects | | 519 | 3% |
| Adherence | Number where pill count has been done | | 11,334 | |
| | Number (%) with pill count showing 95% adherence | | 10,456 | 92% |

| TABLE 6: PUBLIC AND PRIVATE SECTOR: Cumulative patients on ART by March 31st, 2008 | | | | |
|--|--|--|---------|-----|
| Total Started | Total number of patients started on ART | | 165,187 | |
| | | | | |
| Sex | Number (%) males | | 64,687 | 39% |
| | Number (%) females | | 100,500 | 61% |
| Age | Number (%) adults aged 15 years and above | | 151,662 | 92% |
| | Number (%) children aged 14 years and below | | 13,525 | 8% |
| | | | | |
| Occupation | Housewife | | 32,397 | 20% |
| | Farmer | | 45,603 | 29% |
| | Forces | | 1,843 | 1% |
| | Teacher | | 4,826 | 3% |
| | Business | | 20,306 | 13% |
| | HCW | | 2,174 | 1% |
| | Student | | 7,432 | 5% |
| | Other | | 44,887 | 28% |
| | Occupation Unknown | | 5,719 | |
| | | | | |
| Reasons for starting ART: | Number (%) with Stage III | | 105,452 | 64% |
| | Number (%) with Stage IV | | 32,791 | 20% |
| | Number (%) with low CD4 count | | 26,944 | 16% |
| | Number (%) of patients started on ART due to TB | | 20,770 | 13% |
| | | | | |
| Patient Outcomes | Total number of patients started on ART | | 165,187 | |
| | Number (%) alive and on ART | | 110,790 | 67% |
| | Number (%) dead | | 18,425 | 11% |
| | Number (%) defaulted | | 17,344 | 10% |
| | Number (%) stopped treatment | | 861 | <1% |
| | Number (%) transferred out permanently to another site | | 17,567 | 11% |
| | | | | |
| ART Regimen | Of those alive and on ART:- | | 110,790 | |
| | Number (%) on first line regimen | | 105,906 | 96% |
| | Number (%) on alternative first line regimen | | 4,377 | 4% |
| | Number (%) on second line regimen | | 507 | <1% |
| | | | | |
| Ambulatory Status | Number with ambulatory status known | | 108,735 | |
| | Number (%) ambulatory | | 97,802 | 90% |
| Work Status | Number with work status known | | 108,735 | |
| | Number (%) at work | | 96,511 | 89% |
| Side Effects | Number with side effects counted | | 99,658 | |
| | Number (%) with significant side effects | | 4,958 | 4% |
| Adherence | Number where pill count has been done | | 68,973 | |
| | Number (%) with pill count showing 95% adherence | | 64,711 | 94% |
| | | | | |
| Death | Of those who died with Date of death recorded | | 18,347 | |
| | Number (%) dying in the first month | | 5,827 | 32% |
| | Number (%) dying in the second month | | 3,914 | 21% |
| | Number (%) dying in the third month | | 2,111 | 12% |
| | Number (%) dying after the third month | | 6,495 | 35% |