Decentralising free, nurse-based HIV/TB care & treatment at the primary health care level in rural Lesotho:

2007 mid-year progress report

August 2007

I. INTRODUCTION

In January 2006, Doctors Without Borders/Médecins Sans Frontières (MSF) and the Ministry of Health and Social Welfare (MOHSW) launched a joint pilot programme with Scott Hospital Health Service Area (HSA) to provide HIV/AIDS care and treatment, including antiretroviral therapy (ART), at the primary health care level.

Because of the saturation of existing hospital-based ART sites in the country at the time, the overwhelming need for dedicated HIV services in Scott Hospital HSA, severe human resource shortages, and geographic access constraints for patients, the goal from the outset was to decentralise all HIV care and treatment activities rapidly to the health centre level and bring nurse-based care and treatment as close as possible to those in need. The programme, known as SELIBENG SA TŠEPO ("Wellspring of Hope"), is the first in Lesotho to achieve full decentralisation of HIV care and treatment throughout an entire HSA.

In April 2007, SELIBENG SA TŠEPO marked its first-year anniversary by celebrating the more than 1,000 people alive and on ART as a result of the programme. The community event took place in Morija and was attended by more than 1,000 clients from all 14 clinics and Scott Hospital, as well as Scott Hospital administration and medical personnel, health centre nurses, the chiefs of Morija and Matsieng, senior representatives of the MOHSW, the Christian Health Association of Lesotho (CHAL), the World Health Organisation (WHO), and non-governmental organisations (NGOs). The keynote address was delivered by the Right Honourable Minister of Health and Social Welfare, Dr Mphu Ramatlapeng.

The key pillars of the programme continue to include:

- **Empowerment of nurses** through intensive pre-service and in-service clinical training, support, and supervision;
- **Mobile medical teams** who visit each clinic weekly to support and mentor nurses, assist with workload, and provide direct clinical care, particularly for complicated cases;
- **Task-shifting** of clinical work from doctors to professional nurses and from professional nurses to trained nursing assistants (TNAs) and of non-clinical support services to "lay counsellors" (primarily people living with HIV/AIDS or PLWHAs), who provide HIV testing and counselling (HTC), ART counselling, adherence support, and other essential clinic support tasks;
- **Treatment literacy and community support** activities to empower PLWHAs, increase awareness about the availability of HIV services in the community, and promote openness about HIV; and
- **Technical support,** particularly at the hospital level, to increase pharmacy and laboratory capacity (including through a specimen collection system), improve quality of inpatient care, ensure supply of basic clinic equipment, and enhance infrastructure to improve infection control to reduce TB transmission.

For additional background information about the programme, please refer to the 2006 mid-year progress report (July 2006) and the 2006 annual activity report (April 2007), available at http://www.msf.org.za.

II. SUMMARY OF ACHIEVEMENTS

From January 2006-June 2007, the programme achieved the following results:

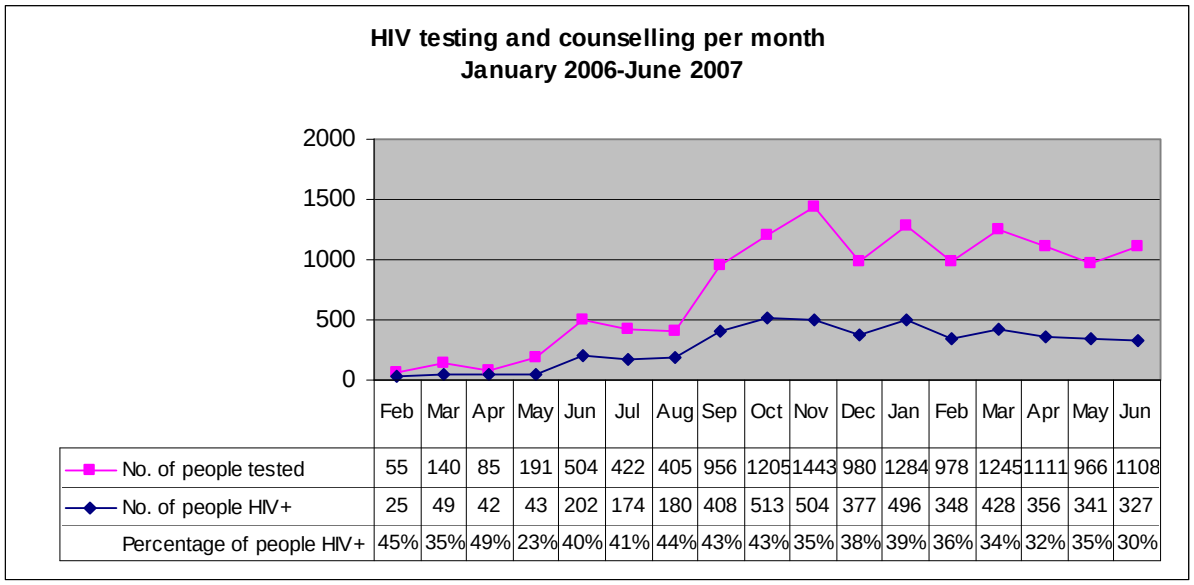
- **13,323 people counselled and tested for HIV**, 4,951 of whom (37%) were HIV-positive
- **5,216 people enrolled in HIV care** (65% non-pregnant females, 28% males, 3% pregnant women, and 4% children < 14 years)
- **1,486 people have initiated ART** (60% non-pregnant females, 31% males, 3% pregnant women, 6% children < 14 years) and 116 transferred in from other facilities, for a total of **1,602** who have ever received ART in the programme
- **Transmission of HIV from mother-to-child was reduced to < 5%** among those PMTCT clients for whom an HIV DNA PCR result for the infant is available
- **Integration of TB and HIV services** at both the hospital and health centre level was achieved, emphasising HTC for all TB patients, systematic screening for TB among all HIV-positive patients, and availability of a "one-stop service" for TB/HIV co-infected patients[1]

[1] This includes same-day appointments for TB/HIV co-infected patients; integration of TB cards and HIV folders; systematic CD4 counts for all co-infected patients; cotrimoxazole prophylaxis and Vitamin B6 for all TB patients (including those co-infected with HIV); initiation of ART for all eligible co-infected patients; etc.

III. PROGRAMME SERVICES & OUTCOMES

a. HIV testing and counselling

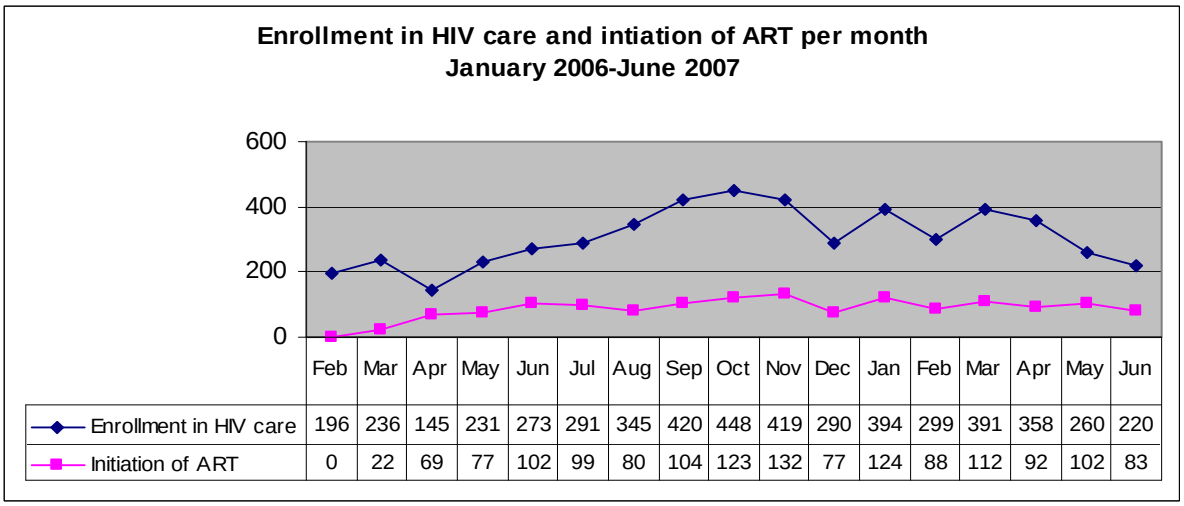
HIV testing and counselling (HTC) continued steadily in the first half of 2007, with a total of 6,692 people tested in 2007, 2,296 (34%) of whom are HV-positive. A cumulative total of 13,323 people have been tested from the beginning of the programme in January 2006 through June 2007, 4,951 (37%) of whom are HIV-positive (see chart below).



	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
No. of people tested	55	140	85	191	504	422	405	956	1205	1443	980	1284	978	1245	1111	966	1108
No. of people HIV+	25	49	42	43	202	174	180	408	513	504	377	496	348	428	356	341	327
Percentage of people HIV+	45%	35%	49%	23%	40%	41%	44%	43%	43%	35%	38%	39%	36%	34%	32%	35%	30%

b. HIV care and ART

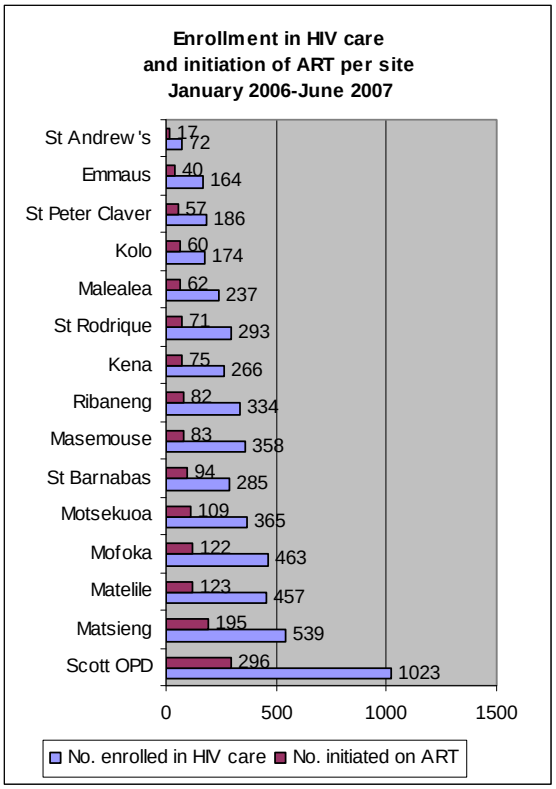
In 2007, 1,922 people have been enrolled in (pre-ART) HIV care (6% children < 14 years) and 601 have been initiated on ART (6% children). Since the beginning of the programme in January 2006, 5,216 have been enrolled in HIV care (4% children), 1,486 of whom have been initiated on ART (6% children). A chart of enrolment in HIV care and initiation of ART from the beginning of the programme through June 2007 is below.



	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Enrollment in HIV care	196	236	145	231	273	291	345	420	448	419	290	394	299	391	358	260	220
Initiation of ART	0	22	69	77	102	99	80	104	123	132	77	124	88	112	92	102	83

Comprehensive nurse-based HIV/AIDS care and treatment – including nurse initiation of ART – is now being provided at all 15 health facilities in Scott Hospital HSA.[2] Care and treatment activities are being scaled up steadily at each facility, and as a result HIV-associated workload is increasing sharply. Meanwhile, shortages of nurses continue to be a chronic problem at both the hospital and health centre level – 54% of professional nursing posts at health centres and 30% at the hospital were vacant as of June 2007.

To ensure that quality of patient care does not suffer, nurses continue to be supported by MSF mobile medical teams, who visit each clinic at least once per week to mentor nurses in diagnosis and management of HIV-related conditions, ARV side effects, and other clinical challenges, provide direct clinical care, especially for complicated cases, and improve overall clinic organisation and patient flow.



Patients and nurses are also supported by lay counsellors who have been trained to carry out essential tasks at the facility level. Lay counsellors are quickly becoming the backbone of SELIBENG SA TŠEPO. As of June, there were a total of 45 facility-based lay counsellors (29 full-time equivalents).

At the most overloaded facilities, a "triage tool" was introduced and is being piloted so that certain lay counsellors can provide refills for stable adult patients[3] and refer to the nurse at the first sign of any complication. This helps to reduce the workload of nurses so that they can continue to initiate new patients and focus on more complex clinical problems as well as general primary health care services.

Treatment literacy and community (TLC) support activities continued in early 2007, focusing on increasing uptake of services as well as educating and empowering PLWHAs enrolled in the programme. This was done through weekly support sessions, ongoing community mobilisation activities including 'pitsos' (community gatherings), and special educational workshops. In the first half of 2007, special efforts were made to integrate TB treatment education and adherence support into existing TLC activities.

Intensive pre- and in-service training continues to take place for nurses and other health staff as well as lay counsellors and other community members. From January-June 2007, 24 nurses were trained on management of HIV-related conditions and ART. Special trainings for nurses were also held on laboratory issues and diagnosis of smear-negative TB.

During this same period, 11 new HTC lay counsellors were trained and placed. There was also a refresher training on HTC for 26 existing lay counsellors and a refresher on ART adherence counselling for 23 lay counsellors.

Finally, steps were taken, in line with the forthcoming revised national ART guidelines, to introduce newer therapeutic tools in the programme, including tenofovir disoproxil fumarate (TDF) in first-line therapy, paediatric fixed-dose combinations (FDCs), and specific medications needed for complicated opportunistic infections, particularly for inpatients.

[2] St Andrew's health centre was not providing care and treatment services in 2006 due to nurse shortages.
[3] Defined as non-pregnant adults on ART for more than 12 months with no new opportunistic infections, ARV side effects, or adherence problems.

c. TB/HIV and drug-resistant (DR) TB

Due to the alarming rates of HIV-TB co-infection – over 90% of TB patients in Scott Hospital HSA are HIV-infected – a great deal of emphasis has been placed this year on strengthening and integrating TB and HIV services. In addition, significant investments are now being made to strengthen capacity to diagnose TB, particularly smear-negative and extra-pulmonary TB (EPTB), as well as improve diagnosis and management of drug-resistant (DR) TB, a problem that is increasingly recognised as a serious threat.

As in the rest of Lesotho, TB continues to be the leading cause of morbidity and mortality among HIV-positive people in Scott Hospital HSA, and far too frequently this is because smear-negative pulmonary TB and EPTB are going undiagnosed. Although the number of requests for sputum microscopy at the Scott Hospital Laboratory has nearly doubled since 2006, and although the vast majority of those suspected to have TB do have active TB, only 14 % on average are smear-positive.[4]

Since smear-negative TB is the leading cause of mortality, MSF developed and introduced a smear-negative algorithm for use by nurses in rural health centres to diagnose TB earlier in adult outpatients. It is hoped that this algorithm can be validated before the end of the year; results will be shared with the National TB Programme (NTP) and all relevant partners. Other novel methods to improve diagnosis of TB, including DR TB – and thereby reduce TB-related mortality – are under discussion with the NTP.

In addition to intensifying efforts to improve diagnosis of TB, several other steps have been taken in the HSA to strengthen and integrate TB/HIV services and improve management of TB. These include:

- Reinforcing at the health centre and hospital levels the basic principles of TB/HIV integration, including routine offering of HTC to all TB patients, systematic TB screening for all HIV-positive patients, and availability of a "one-stop service" for co-infected patients
- Training lay counsellors to provide both HIV and TB education (TB transmission, TB treatment, how to produce quality sputum, etc.) and adherence counselling (a TB treatment adherence counselling strategy to be introduced in the second half of 2007)
- Organising special "teach-in tents" focusing on TB/HIV co-infection at every clinic, attended by a total of 2,879 clients
- Launching an intensive effort to improve TB infection control, including establishment of an Infection Control Committee at Scott Hospital, and introduction of "low-tech" improvements in environmental, administrative, and personal protection control measures at the hospital and health centre level through[5] (note that significant investments will be made in the second half of 2007 and early 2008 to further facilitate infection control through infrastructure improvements)

Finally, efforts to improve diagnosis and management of MDR TB were launched in early 2007. An interim system for accessing reliable culture and drug susceptibility testing (DST) in South Africa was established at the end of 2006 with the National Health Laboratory Service in Bloemfontein. This temporary system will be subsidised by MSF until such time as a reliable system exists at the national level. As of the end of June, a total of 67 culture/DST results have been received:

- 26 (39%) samples were culture-positive, of which:
  - 4 (15%) cases were multi-drug resistant (MDR), of which:
    - One is receiving inpatient treatment at Queen Elizabeth II National Referral Hospital
    - One is receiving outpatient treatment at Matsieng Health Centre
    - Two have died (both HIV-positive)
  - 2 (8%) cases were polyresistant cases
  - 7 (27%) cases were *Mycobacterium other than TB* (MOTTS), of which two were MAC
  - 13 (50%) samples grew *Mycobacterium TB* (MTB), which was sensitive to all first-line TB drugs

MSF is in the process of developing a strategy that supports the NTP and other partners in offering decentralised MDR treatment to stable outpatients.

[4] According to an analysis of 1,106 sputum specimens processed in the Scott Hospital Laboratory utilising Ziehl-Neelson staining in July 2007.

[5] For example maximising natural ventilation and light; separating coughing (smear-positive) patients from non-coughing patients and isolating MDR suspects, particularly on the hospital wards; providing N95 respiratory masks to staff; and ensuring that HIV-positive and other immuno-compromised staff does not care for suspected or confirmed TB patients; etc.

c. PMTCT and early diagnosis of HIV in infants

Efforts to strengthen the existing PMTCT programme and to improve early infant diagnosis through HIV DNA Polymerase Chain Reaction (PCR) testing continued in the first half of 2007.

Between January and June 2007, 114 HIV-exposed infants were PCR tested, for a total of 231 babies tested since the introduction of PCR testing in April 2006 (see chart below). This includes all HIV-exposed infants PCR tested (not only PMTCT babies); the positivity rate is therefore not a reflection of the efficacy of PMTCT in Scott Hospital HSA.

Summary of DBS Collected for HIV DNA PCR Testing (2007)

	Results		Result not yet received	Total DBS sent
	Negative	Positive		
January	13	5	0	18
February	16	6	0	22
March	16	2	1	19
April	13	2	2	17
May	16	3	1	20
June	15	3	0	18
TOTALS	**89**	**21**	**4**	**114**

One of the main challenges related to PMTCT and early infant diagnosis in 2006 was the lack of reliable data collection and reporting to facilitate evaluation of the effectiveness of PMTCT interventions. As a result, in January 2007, an addendum to the reporting form for HIV DNA PCR testing was introduced (and will soon be available at the national level), enabling analysis of PMTCT in the HSA. Preliminary results follow.

Between January and June 2007, a total of 72 PCR results were received where the amended form was completed. Fifty-five percent (55%) of results were from 10 rural health centres and 45% were from Scott Hospital Baby Clinic. Most mothers were exclusively breastfeeding at the time of the PCR test.[6] All results were "first-time" PCRs (data is not yet available for the follow-up PCR six weeks after weaning).

In 15 of the 72 cases the pregnant women were receiving HAART for their own health. The median duration on HAART was 4.5 months and the median maternal CD4 count was 189.5 cells. All 15 PCR results (100%) were HIV-negative.

In 24 of the 72 cases the pregnant women received short-course AZT (plus or minus single-dose NVP and AZT 600mg intra-partum, tail protection for the mother, and NVP and AZT syrups for the baby). The median gestational age when AZT was initiated was 32 weeks. Twenty-three (23) of the 24 results (95.8%) were HIV-negative, and 1 (4.2%) was HIV-positive.

Six (6) of the 72 cases were "late presenters" and received ARVs only at the onset of labour (single-dose NVP plus or minus AZT 600 mg intra-partum). Of these, 4 (66.7%) were HIV negative and 2 (33.3%) were HIV-positive.

In 18 of the 72 cases, the PCR was done for the HIV-exposed baby, but the mother did not present during pregnancy, so there was no PMTCT intervention. Eleven (61.1%) of the PCR results were HIV-negative and 7 (38.9%) were HIV-positive.

In six (6) of the 72 cases, the PMTCT intervention could not be determined, five of which were HIV-positive and one of which was HIV-negative. In 3 cases, no PCR results were received because the samples were unsatisfactory or for an unspecified reason.

[6] Infant formula is available for free in Scott HSA immediately if the mother chooses exclusive replacement feeding, or after six months if she chooses to exclusively breastfeed.

While these numbers are still very small, the results are encouraging and point to the urgent need to offer robust ARV regimens to all HIV-positive pregnant women in order to prevent transmission of HIV from mother to child.

Unfortunately, the vast majority of pregnant women in Scott HSA do not present for a sufficient number of antenatal care visits; thus, many HIV-infected pregnant women go undiagnosed, and do not receive any PMTCT intervention at all. MSF and Scott will take steps in the latter half of 2007 to attract more pregnant women to antenatal care in rural health centres, in order to routinely offer HTC, and improve uptake of PMTCT throughout the HSA.

d. Technical support

Efforts to strengthen systems to support a decentralised model of HIV/TB care and treatment continued in the first half of 2007. These include:

- Strengthening laboratory capacity at Scott Hospital and ensuring reliability of the specimen collection system throughout the HSA
- Strengthening pharmacy capacity, especially supervision and support for health centres to improve drug supply and stock management
- Improving inpatient care on the wards at Scott Hospital, related especially to diagnosis of smear-negative PTB; diagnosis of EPTB; and treatment of Cryptococcal Meningitis
- Developing an integrated HIV/TB supervision tool and carrying out clinic supervision visits comprised of the Scott Hospital Medical Superintendent, Health Centre Coordinator (Public Health Nurse), TB Coordinator, and members of the MSF team (to be carried out at bi-annually or quarterly)

IV. MAJOR CHALLENGES & PRIORITIES

Needless to say, despite the achievements of the past six months, major challenges abound. These fall into two distinct categories: programmatic challenges, which require innovative implementation strategies, and structural challenges, which require policy solutions at the national (and in some cases international) level.

Major programmatic challenges include:

- Scaling up and improving uptake of PMTCT, in line with new national guidelines, and improving early infant diagnosis and treatment of children with HIV/AIDS
- Strengthening diagnosis of smear-negative, EPTB, and DR TB and improving infection control in the hospital wards, OPD, and lab as well as all health centres
- Continuing with the pace of enrolment and new ART initiations, while shifting attention progressively to face the challenges of long-term ART adherence as well as TB treatment adherence
- Carrying out surveillance activities and responding to the increasingly serious nutritional situation[7]
- Strengthening local programme management capacity and developing appropriate monitoring, evaluation, and supervision tools
- Developing proposals with the Scott School of Nursing and other relevant actors to improve career paths for nurse clinicians, professional nurses, and trained nursing assistants as part of a broader nurse retention strategy

Major structural challenges include:

- Addressing the dire shortage of health care workers and the need for an emergency human resource retention strategy at national level[8]
- Ensuring "free" HIV/AIDS care through transfer of financial responsibility to government and addressing the numerous challenges of implementation of the memorandum of understanding between government and CHAL
- Addressing uncertainties about the impact of health sector reforms in Lesotho (decentralisation to district health management teams) on day-to-day management of HIV and TB services in Scott Hospital HSA
- Developing a phased "handover" strategy to ensure continuity of quality HIV services once MSF reduces its presence in Scott Hospital HSA

Cover photo: Clients enroled in SELIBENG SA TŠEPO, celebrating the one-year anniversary of the programme and more than 1,000 people alive and on ART (April 2007). Photo credit: Motlatsi Rammoneng

[7] In the second quarter of 2007, 24 children were admitted to Scott Hospital with severe malnutrition. This number represents almost triple the average number of admissions at Scott Hospital compared to the previous decade. As a result, MSF and Scott will work together to carry out nutritional surveys and, when appropriate, make ready-to-use therapeutic foods available for medically eligible malnourished children.

[8] MSF released an international report in May 2007 describing the effect of such shortages on the organisation's efforts to scale up access to HIV/AIDS treatment, improve quality of care, and ensure continuity of services over the long-term in four southern African countries, including Lesotho. The report, entitled *HELP WANTED – Confronting the health care worker crisis to expand access to HIV/AIDS treatment: MSF experience in southern Africa*, is available at http://www.msf.org.za.