



PROVIDING QUALITY HIV CARE THROUGH A DISTRICT HOSPITAL CLINIC

The experience of MSF and the
Government of Kenya in Mbagathi
Hospital's HIV Clinic, Nairobi



PROVIDING QUALITY HIV CARE THROUGH A DISTRICT HOSPITAL CLINIC

The experience of MSF and the
Government of Kenya in Mbagathi
Hospital's HIV Clinic, Nairobi

*Report prepared by Médecins Sans Frontières (Belgium),
Nairobi, April 2008*



TABLE OF CONTENTS

FOREWORD	6
SUMMARY	7
I. HISTORY OF MSF'S INVOLVEMENT IN THE MBAGATHI CCC	9
Early engagement with Mbagathi hospital	9
The introduction of ART	10
The CCC's approach to care	
II. THE CCC'S SERVICES AND ORGANIZATION	11
Initiating ART	11
Follow up on ART	12
Follow up for PLHIV not on ART	14
Tracing and follow up of patients who miss appointments	14
Case management	14
Children in the CCC	15
TB-HIV co-infection	17
PMTCT programme	17
Pharmacy services	18
Laboratory services	18
III. KEY STRENGTHS IN THE CCC'S APPROACH TO CARE	19
Free care	19
Management and quality control	19
Training programme for health-care staff and PLHIV	22
Simplified treatment protocols and patient flows	23
Integration of MSF and government systems	24
Monitoring & evaluation	24
Lay and peer counsellors	25
Decentralization	26
Linkages with Post-Test Clubs	26
IV. OUTCOMES AND RESULTS	29
Access and the client base	29
Treatment outcomes	29
Clinic throughput	32
V. SHORTCOMINGS AND DIFFICULTIES	33
VI. CHALLENGES FOR THE HANDOVER PERIOD AND BEYOND	35

ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral therapy
ARVs	Antiretroviral drugs
CCC	Comprehensive Care Centre
DTC	Diagnostic Testing & Counselling
FUCHIA	Follow Up and Care of HIV Infection and AIDS
GoK	Government of Kenya
HAART	Highly Active Antiretroviral Therapy
HIV	Human Immunodeficiency Virus
M&E	Monitoring & Evaluation
MOH	Ministry of Health
MSF	Médecins Sans Frontières (Belgium)
NASCOP	National AIDS and STD Control Programme
OPD	Outpatient Department
PLHIV	People Living with HIV
PMTCT	Prevention of Mother to Child Transmission
PTC	Post-test Club
TB	Tuberculosis

FOREWORD

The publication of the MSF experience in providing quality HIV care in Mbagathi Hospital's HIV Clinic in Nairobi has enabled the Ministry of Health to document valuable information and data on service provision in the comprehensive care center from the year 2003 to October 2007.

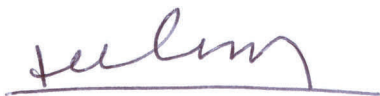
There has been tremendous growth of comprehensive care centers due to increased demand for treatment of HIV/AIDS. The Mbagathi Hospital's HIV Clinic has become a model HIV clinic, successfully combining capacity, quality and access to services. The collaboration between the Government of Kenya through the Ministry of Health and Médecins Sans Frontières must be applauded as an example of a good partnership that has benefited People Living With HIV through access to quality medical and psycho-social services.

The integration of the Government and MSF ART services into one Comprehensive Care Centre under a single management system has among other achievements cared for 7,000 PLHIV, put almost 5,000 clients on ART and simplified treatment protocol. Another unique factor and which has become a corner stone of the care process is the involvement of patients. Through treatment literacy trainings for patients, care givers and assistance towards the establishment of patient support groups and their networks, the CCC has witnessed a gradual increase of patient involvement in the care process. Patients have become active partners in the management of their disease rather than simple beneficiaries or clients.

Since MSF began its involvement with Mbagathi hospital, there has been an increased number of ART providers in Nairobi. The Government's policy has also shifted towards decentralization of ART delivery. MSF will handover its involvement in Mbagathi to the Government at the end of 2008, as part of a transition process agreed upon in 2006. There is a recognition among all the stakeholders that there will be challenges during the handover period and beyond. In this regard, there is need of strong leadership by the management team in order to maintain quality care, ensure access to care, create space for specialised services and ensure that the PLWHIV are involved in care.

The Ministry of Health acknowledges the collaboration between the MOH and MSF staff. Due to the well developed monitoring system, Mbagathi CCC has become an important source of information to guide partners in HIV care in the country.

The Ministry of Health hopes that the publishing and dissemination of this book will contribute towards much needed provision of quality health care in ART management of both adults and children in our comprehensive care centers.



Dr Ibrahim M. Mohamed
Head NASCOP
Ministry Of Health

SUMMARY

Mbagathi Hospital used to be the infectious disease wing of the Kenyatta National Hospital before it became the capital's (only) district hospital. Located on the outskirts of the Kibera informal settlement, it has been seen as a hospital for the poor.

When MSF started supporting the hospital back in 1997, the hospital was overwhelmed by moribund HIV-positive patients. MSF started providing support to the inpatient ward, aiming to reduce mortality rates (but with limited results). Besides, a patient support center providing psychosocial support and outpatient consultations for PLHIV were started.

During 2003, Médecins Sans Frontières (Belgium) (MSF) started providing anti-retroviral treatment (ART) at the level of the outpatient consultations. At that time, ART was available in few centres in Nairobi and came at high cost to individuals, even in government facilities.

MSF introduced ART as part of a comprehensive care package. The goal was to ensure access to good quality medical and psycho-social services for People Living With HIV (PLHIV) and to remove any financial barriers to care by providing services free--at-the-point-of-delivery. The Government of Kenya (GoK) started its own ART service in Mbagathi hospital soon afterwards, and integration of the two programmes into one Comprehensive Care Centre (CCC) under a single management system began in 2005.

By end 2007, the CCC has grown into a model HIV clinic in Nairobi, successfully scaling up capacity whilst maintaining quality and accessibility of services. MSF and the GoK have together cared for 7,000 PLHIV, put 4,800 clients on ART, and achieved good outcomes comparable with other MSF programmes. The Mbagathi CCC has also taken on an important position in the country's HIV-care system, making a particular contribution as:

- *An HIV training centre for government staff*, where a combination of theory and on-the-job training has helped create a cohort of knowledgeable government health-care staff, confident in HIV care and ART management, both within and outside of the CCC.
- *A centre for complicated ART clients*, by providing a multidisciplinary team equipped with up-to-date diagnostic and therapeutic tools.
- *A specialist centre in paediatric and adolescent HIV care*, with a model programme linking paediatric treatment with counselling, treatment education, adherence, psycho-social assistance and disclosure support for children and their care-givers.
- *An information source about CCC performance and ART outcomes*, as a well developed monitoring & evaluation (M&E) system contributes data used in refining the government's HIV strategy.
- *A spring-board for PLHIV groups*, here called post-test clubs with access to the information they need to support their members and implement advocacy activities.

Several factors have underpinned the CCC's performance and achievements. The policy of free consultations, tests, and treatment has helped reduce barriers to care and reach mainly disadvantaged clients. A proactive management system has ensured quality control of services whilst regularly reviewing and simplifying CCC organization and patient flows. A wide-ranging training programme has improved both staff and patient knowledge about what can and should be done in caring for HIV-positive people. The use of lay and peer counsellors has shown that non-medical personnel can provide quality psychosocial support and contribute to treatment outcomes, and links between the CCC and post-test clubs have been able to use these peer-support groups to help improve adherence and also engage PLHIV in HIV education activities.

Having worked with the government to develop the CCC as a model for comprehensive HIV care at the district-hospital level, MSF is now moving to focus on ART delivery at lower levels in the health system through its Kibera slum project. MSF will therefore complete handover of its involvement in the Mbagathi CCC by end 2008. The handover coincides with an MOH policy shift towards decentralizing ART delivery, making the Mbagathi CCC well placed to support the government's decentralized system as it develops. Potential roles for the CCC include acting as a referral clinic to back up ART delivery in healthcenters, an HIV-care training facility for health workers, a specialist centre for tailored counselling, social support, or paediatric care for clients in difficulty, or a high-volume clinic able to maintain patient throughput as decentralized services are established.

The government, MSF, and CCC clients alike recognize risks and challenges in the transition to full government operations. One such risk is to quality of care, where challenges extend to establishing the necessary staff numbers, strengthening the government's hand in management, and continuing staff trainings and performance monitoring. Another risk is to PLHIV's active involvement in clinic activities, with the need to maintain their contribution to HIV education, to ART client empowerment, and so to treatment outcomes. Finally, there is the major risk that access—and compliance—will fall if payment for services is reintroduced. Challenges here including expanding the government's commitment to free ART and CD4 tests to opportunistic infections drugs, laboratory services, and the core elements of the HIV-care package.

This brochure provides an overview of the development, organization, successes, and shortcomings of the Mbagathi CCC. It aims to support the hand over process by summarizing the CCC's services and functioning, describing the key organizational approaches contributing to its successes, and identifying the major difficulties and challenges for the hand over period.

I. HISTORY OF MSF'S INVOLVEMENT IN THE MBAGATHI CCC

Médecins Sans Frontières (Belgium) (MSF) started its Nairobi HIV project in 1997 to help address the urgent gap in care for PLHIV in Kenya. HIV prevalence, increasing every year since surveillance began, had reached 9% amongst Kenyan adults. Surveillance sites in Nairobi reported that about 15% of pregnant women were HIV positive¹. As the epidemic progressed, increasing numbers of PLHIV were developing symptoms but were unable to find the health services they needed.

The barriers to care were many. With almost 50% of Kenya's population living in poverty², care in the private sector was unaffordable; the government's policy of cost recovery meant that care in the public sector also came at significant cost. Further, technical options were limited. Antiretroviral drugs – emerging as *the* treatment in wealthy countries – were priced beyond Africa's means and so HIV services focused on voluntary counselling & testing and prevention. Opportunistic infection (OI) management and palliative care, the only treatment options at the time, were in short supply and generally of low quality.

MSF's project first aimed to improve HIV care at the health-centre level. The early strategy was simple: to introduce OI treatment and home-based care in two poor areas of Nairobi by training staff, providing OI drugs, and building a community network to link sick patients in their homes into a network of care and support. However, it soon became clear that the lack of options for good quality HIV care at the hospital level would be a major constraint on achieving meaningful outcomes for PLHIV.

Early engagement with Mbagathi hospital

Mbagathi District Hospital was the obvious site for the project's hospital-level support. The former infectious disease wing of Kenyatta National Hospital and the city's main tuberculosis (TB) centre, it received HIV-positive patients referred from across Nairobi's public health system. Lying on the edge of the city's largest slum, it was considered Nairobi's hospital for the poor; as the city's only district hospital, it was also the best level of care available for patients unable to pay higher fees elsewhere. However, the hospital could only provide basic services: with overwhelming patient numbers, weak management, and lack of staff knowledge about HIV, adult inpatient mortality rates were reaching 30%.³

Over the period 1999 to 2002, MSF's engagement with Mbagathi hospital included a focus on improving the quality of inpatient HIV care. Working with hospital management, MSF supported staff trainings in OI treatment, supplemented the OI drug supply, and attempted to revise nursing procedures. It also engaged professional counsellors to expand counselling services and supplemented social workers to accelerate fee exemption processing and so help protect the poorest patients from treatment costs. However, these efforts met with mixed results: drug supply improved but patient overload, staff shortages, management gaps, and the lack of a real treatment for HIV slowed progress.

MSF also established an HIV outpatient service in the Mbagathi hospital grounds over this period. Known as the Comprehensive Care Centre (CCC), this service aimed to provide continuing care for PLHIV referred from Mbagathi hospital, health centres, and home-based care. It provided OI diagnosis and treatment, and,

once its effectiveness was shown, cotrimoxazole prophylaxis. It also made counselling and social support services available to PLHIV clients to address the many non-medical needs of HIV-positive patients.

The introduction of ART

In 2002, the Ministry of Health (MOH) gave the go-ahead for MSF to start ART in the Mbagathi CCC. The first PLHIV started treatment through MSF in early 2003. This built on MSF's technical experience in delivering ART in developing countries, mainly in South Africa and Thailand at the time. It was made financially possible by access to cheaper generic drugs after lobbying by the global Access to Essential Medicines campaign, and politically possible by a belated international recognition of the possibility—and urgency—of ART in Africa. Thanks to this changing international climate, the Mbagathi hospital was able to start its own government-run ART programme also in 2003.

The initial goals of MSF's ART programme were modest, as it aimed to deliver treatment and achieve good adherence and treatment outcomes in a cohort of 400 patients. However, with increasing evidence of the feasibility of ART in sub-Saharan Africa, MSF decided to scale up care in 2004: the goal became 3,000 PLHIV under treatment by 2005. The space for this service was a new clinic, constructed in 2003 with MSF financing, which provided medical services alongside counselling and social assistance in the adjacent Patient Support Centre, built with AusAID financing in 1999. The government ART service operated in the TB clinic next door. As MSF focused on the possibilities of the CCC, its direct engagement in inpatient activities ended.

Recognizing the opportunities lost in parallel MSF and government clinics, integration of the two services began in early 2005. The goal was to improve the efficiency of ART delivery for patients, strengthen government capacity, and achieve MSF's and the government's scale-up goals through a collaborative approach. It also was the first step towards a future handover of MSF's involvement once the integrated services were functioning well with strong government involvement. The two services moved to the same CCC building, with MSF and government staff working on the same team under the same system of supervision and management. As donor financing for HIV care in Kenya improved, the government took the lead in antiretroviral (ARV) drug supply for all the CCC's clients.

The CCC's approach to care

The CCC has developed a reputation for providing a high quality, free, comprehensive care package which balances technically sound medical services and attention to the psychological, social, and financial barriers affecting patients. It has also struck a balance between maintaining consultation volumes and contributing to the local HIV health-care system as a training centre and a specialized service adapted to specific patient groups, such as HIV-positive children. Its future role in the HIV care system needs to build on these strengths as the integration of government and MSF services reaches its end and MSF completes the hand over of its involvement in the CCC's daily operations during 2008.

II. THE CCC'S SERVICES AND ORGANIZATION

Both the services provided by the CCC and the way they are organized have evolved over its five years of operation. Initially providing outpatient care for all PLHIV, the CCC now focuses on clients in WHO clinical stages III and IV or with a CD4 count less than 300. With other PLHIV followed up through Mbagathi hospital's outpatients department (OPD), this approach aims to concentrate the CCC's resources on adults and children needing ART. About one third of these clients are referred from Diagnostic Testing & Counselling (DTC) services in the hospital's wards and outpatients department (OPD), with another third motivated for HIV testing because of an HIV-positive friend or family member.⁴ They are referred to the CCC by the clinical officers in the hospital's outpatients department, who routinely see all people newly testing HIV positive for staging by clinical examination and, in most instances, a CD4 count.

Initiating ART

The system now in place for starting ART emphasizes speed whilst providing medical, counselling, and social support necessary to promote adherence. The first part of the process is taking place at the OPD of the hospital: patients are stratified up their ART eligibility and those not in immediate need of ARVs (mainly stages 1 and 2) are continued to be followed up at the OPD. Those that are or are nearing the point



of eligibility are referred to the CCC. Upon presentation at the CCC, reception staff open a file and explain the organization of the clinic and the care process to the patient and a nurse takes blood for a CD4 count and undertakes an initial clinical assessment. In case of major pathology, the patient is referred straight to a clinical officer or medical doctor. Within the next few days (after all results of baseline complementary exams have been received) the patient is reviewed by a clinical officer who further decides on the

treatment plan (need for ART). Most patients begin ART within two weeks after the need to start treatment is identified.

The ART initiation process is jointly managed by clinicians, counsellors, and social workers. On the medical side, clinical officers provide OI treatment and cotrimoxazole prophylaxis, screen for tuberculosis symptoms, and assess clients' understanding of ART and its implications. The counselling service focuses on readiness for ART and adherence: the counsellors explain why compliance is critical, assess knowledge about HIV, and develop, with the clients, approaches to remembering how and when to take ART. The social assessment, the third element of the ART initiation process, undertakes a structured evaluation of clients' personal circumstances which may affect adherence. Finally, a nutritional assessment looks at clients' needs in terms of healthy eating and eventual food supplements to complement medical care. Once on treatment, the adherence message is reinforced by pharmacists when handing over the ARV supply.

Follow up in the period immediately after starting ART is thorough. Clients come back two weekly for the first month, then monthly until six months after initiation. These visits allow clinicians and counsellors to identify any complications, side effects, or adherence issues. CD4 levels are also checked at six months. If clinical and immune response is good at this time and clients not having any adherence difficulties, they are then able to be followed up at two to three month intervals. Most clients follow this circuit without difficulty, but the system allows flexibility for more intensive medical, counselling, or social support for those in need of reinforced support. Other important sources of support for new ART clients are the treatment literacy trainings and opportunity to participate in post-test clubs, discussed below.

Follow up on ART

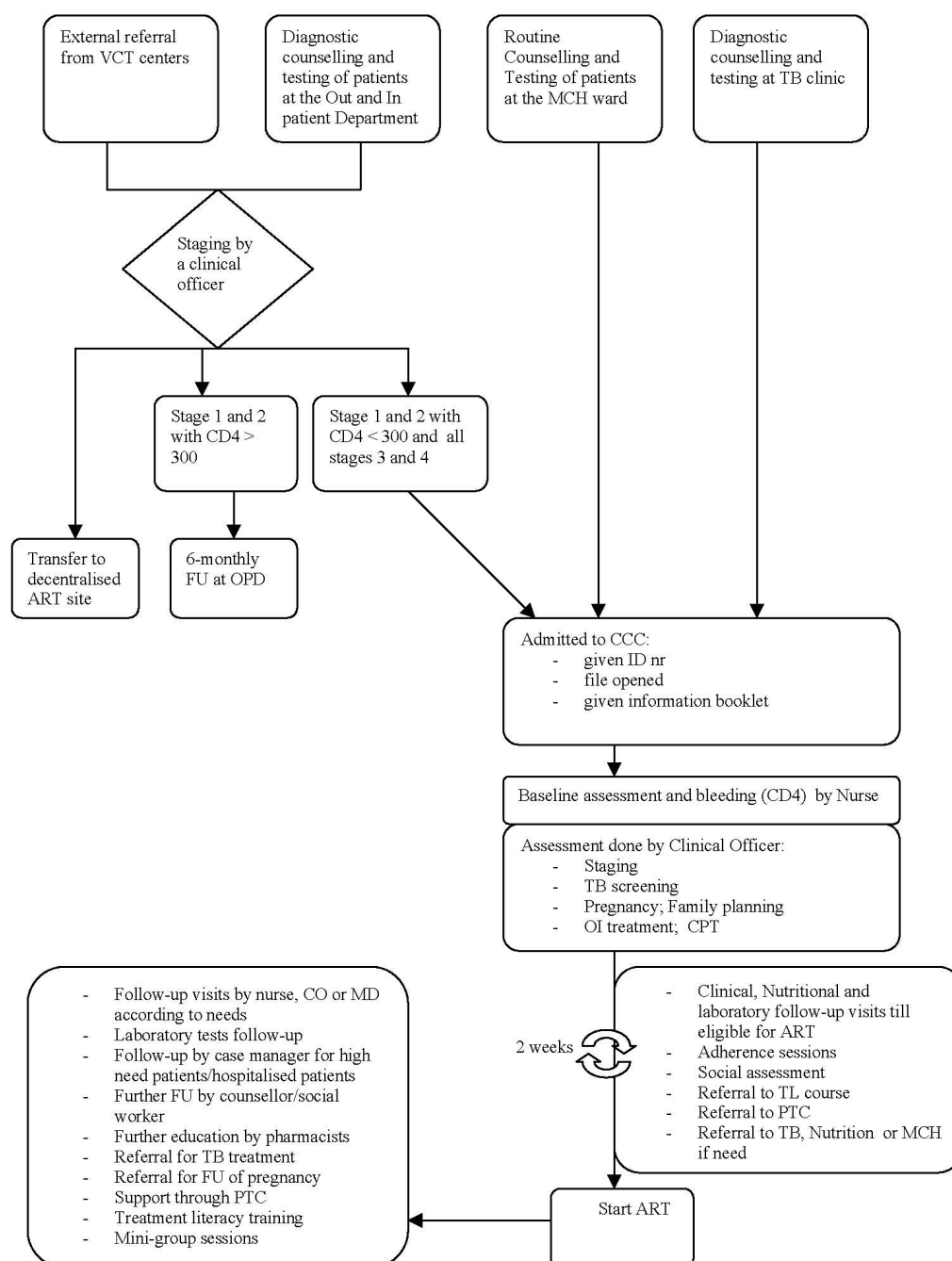
Once clients are stable on ART, follow up in the CCC is straightforward. Appointments are two to three monthly with clients receiving a full drug supply for the period plus a few days' emergency tablets. To speed up follow up visits, the CCC has installed a system which separates clients into fast, medium, and slow streams depending on individuals' needs assessed by a triage nurse. This system refers only those clients experiencing physical or psychological difficulties to a clinician or counsellor via the medium and slow tracks; stable clients are referred to the fast stream, where they are usually seen by nurses trained in using clinical checklists and simple examinations to identify OI symptoms or ART side effects early. This track system has helped use clinicians' and nurses' time efficiently and reduce waiting times.

Clients followed up for ART must see a counsellor every six months. This coincides with the routine CD4 count check and is therefore an opportunity to link biological progress with a review of clients' psychosocial needs. Clients can also choose at every follow up visit to participate in ARV "mini-groups" held daily next to the CCC. These are informal discussions animated by a peer counsellor which allow PLHIV to discuss challenges and issues in an informal setting. Many CCC clients report that the choice of discussing questions and concerns either in private with a lay counsellor, with other PLHIV under the peer counsellor's guidance, or both is a major strength of the Mbagathi CCC's approach to HIV care.

ART clients also have the option of participating in two other support mechanisms. The first of these is the treatment literacy training sessions supported by MSF for PLHIV who follow up in both the Mbagathi CCC and the Kibera programme. These training sessions, held separately for adults and children, provide PLHIV

with up-to-date knowledge about the natural history, transmission, and prevention of HIV; symptoms, prophylaxis, and treatment of OIs; and the different types, actions, and side-effects of the ARVs available. This is particularly helpful for clients new to ART, for whom treatment literacy training is a mechanism to promote understanding and adherence. Treatment literacy also helps clients stable on ART to maintain their adherence and explain HIV to their families and communities.

Box 1: Client flowchart



The second support mechanism used by many ART clients is membership of a “post-test club” (PTC). CCC staff inform clients about these informal peer-support groups comprised of PLHIV. At the individual level, these groups aim to provide psychosocial support to members through a spirit of volunteerism and solidarity. They are a community-based forum where members can share experiences and problems amongst themselves, provide support for members with social or medical difficulties, and promote treatment literacy which helps members adhere to ART. As discussed below, many PTCs have other activities, including advocacy work and providing HIV-related health promotion messages in health facilities and the community.

Follow up for PLHIV not on ART

As PLHIV in stages I and II with a CD4 >300 follow up in the Mbagathi hospital OPD, very few patients receiving care through the CCC are not preparing to start or are already on ART. These patients follow up with three-monthly regular appointments for OI diagnosis and treatment, cotrimoxazole prophylaxis, and CD4 counts, and also benefit from regular counselling sessions to assist with personal issues and prepare for ART in the future. Participation in mini-group sessions and PTCs is also open to them.

Tracing and follow up of patients who miss appointments

The tracing and follow up of patients who miss appointments is an important part of promoting treatment adherence in the CCC. This approach aims to provide support when clients are experiencing an unusually difficult period or have become too sick to come to the clinic. Clients who have missed an appointment by more than one week are identified using the CCC’s M&E data base. Once identified, the social work department arranges client tracing either by telephone or, if accepted in the initial social assessment, by a home or hospital visit. As most clients live in Nairobi, the social workers themselves do most home visits. This same system is used to contact clients with abnormal laboratory results or other reasons to return for an urgent consultation.

This system has shown its effectiveness. Over the period January till December 2007, 343 patients were traced. 36% of those traced appeared to have died. 15% went to another structure, while 3% refused to come back (some indicating to opt for herbal or spiritual treatments). Of the remaining patients, 19% were unable to trace while the remaining 27% either had come back or promised to come back.⁵

Case management

Because of the alarming mortality results found through the defaulter tracing activities, the CCC started using a “case-management” approach (described below) to supporting clients going through a difficult period (e.g. when developing a new major OI and eventually needing hospitalisation; when experiencing a decline in CD4 results or when confronted with major psycho-social problems). It was shown that especially hospitalization is a danger period for CCC patients because of both the acute illness requiring inpatient treatment and possible discontinuity of care between the CCC and the clinician in charge of hospital services. Consequently, the CCC has created a “case-management” team, comprised of a clinical officer and a social worker, with the aim of ensuring appropriateness and quality of care for high need CCC clients. To improve the care and follow-up for patients needing a hospitalisation, the team developed two different

approaches. The first approach is to follow CCC clients on the wards of Mbagathi hospital directly. This allows the team to discuss diagnosis and treatment with staff and supplement the OI drug supply for the clients if needed. The social worker on the team also ensures review of patients' personal situations to ensure they benefit from the hospital's fee-waiver system if appropriate. This engagement also allows the case-management team's experience to help Mbagathi hospital management and the CCC team identify and address constraints on the quality of care for HIV-positive inpatients.

The second approach, which began only in mid-2007, is to refer clients to a private, not-for-profit hospital in Nairobi. MSF has an agreement with this hospital to provide services, such as gynaecology, not available at Mbagathi hospital as well as to treat CCC clients needing specialized care. An example of this need is treatment for Kaposi's sarcoma which has not responded to the CCC's outpatient chemotherapy regimen. The Mbagathi CCC pays for the care for these patients under a direct-billing arrangement with MSF, and the case management team pays close attention to the appropriateness of referrals and the quality of the care received by CCC clients. Patients with problems of alcohol and/or drug abuse are also being referred to a desintoxication center.

Children in the CCC

A widely recognized strength of the CCC is its paediatrics programme, which provides a set of medical and psychosocial services especially developed for children and adolescents. This programme aims, firstly, to promote adherence to ART by improving children's understanding of HIV and the need for treatment and, secondly, to prepare children for disclosure of their HIV status. It also addresses care-givers by educating them about HIV, informing them about the need for treatment adherence, and providing them with their own psychosocial and peer support mechanism. The CCC's paediatrics programme, which is an explicit recognition that the psychological and medical needs of children and adolescents differ from those of adults, grew out of a multidisciplinary review in 2005 of the critical points in the care pathway where adherence could be promoted. A detailed description of the approach and outcomes in the Mbagathi CCC paediatrics programme is forthcoming in the medical literature.⁶

The medical elements of the programme follow now-standard protocols for paediatric HIV care and ART delivery. Diagnosis in babies under 18 months of age is done by PCR in a government laboratory supported by the US Centers for Disease Control and Prevention; diagnosis for older children uses two rapid tests according to Kenyan protocols. All children undergo diagnosis of OIs and screening for TB symptoms in consultations and are then placed on cotrimoxazole syrup for OI prophylaxis. ART initiation and treatment protocols follow WHO guidelines, with the government now supplying all paediatrics ARV formulations through Clinton Foundation support. CCC clinical staff are trained in paediatrics HIV care and are able to call upon a Kenyan specialist paediatrician who provides free consultations for clients with particularly challenging clinical problems.

Perhaps the most powerful element of the paediatrics programme is the psychological support on offer through the CCC's tailored counselling activities. Early on, the team recognized the need to separate children from adults in the CCC: condom use and other health-talk topics were not appropriate for children and the waiting room's medical setting was unadapted to children's needs. Consequently, the team

adapted the CCC's environment and services by arranging all paediatrics follow up appointments on the same day, organizing a child-friendly waiting area away from adults for these days, and developing a set of counselling tools adapted to children and adolescents.



Some of the key elements in the CCC's paediatrics programme are:

“Wednesday is paediatrics day”. The CCC staff book all routine follow up visits for children and adolescents on Wednesdays. Having all paediatric clients attend on the same day gives them the opportunity to spend time with others of the same age who are facing the same HIV-related challenges.

A waiting room for children. The CCC fitted out a special room with toys, murals, books, and videos for children. This room encourages interaction between children whilst waiting for their consultations and also minimizes the medical tone of their visit to the CCC.

Play therapy and sand therapy. These one-on-one sessions between children and counsellors aim to help children express their experience of HIV through play. The approach, widely used in Europe, provides children with a sand tray and a range of objects to create scenes or pictures which then guide discussion with the counsellor. Issues usually relate to understanding the need for treatment, helping children reach a point where they are ready for disclosure of their HIV status. This approach also eases the burden on parents as children have an alternative outlet for their questions and issues.

An ART fairytale, the youth booklet, the Hero Book. These are specialized counselling tools for children and adolescents. “Thanks ARVs”, a fairytale adapted from MSF’s Thai HIV project, is a story of how Uncle Lion and Aunt Elephant (ARVs) fight off HIV spread in a village by a wicked hyena. It helps children to ask questions and express their feelings about their treatment. The youth booklet “All you need to know about HIV and ARVs” is a similar approach designed for teenagers where Masai warriors (CD4) battle HIV as a

means of explaining and assessing teenagers' understanding of HIV infection. Another tool is the Hero Book, which helps children express their emotions about the challenges and losses in their lives. It is a type of autobiography-in-pictures, where children draw their memories and experiences leading to discussion with counsellors and carers about emotionally difficult issues and, often, HIV status.

Adolescent and children support groups. The CCC organizes monthly support group meetings for teenage clients, on Saturday mornings during school term, to help them interact with peers facing similar challenges in dealing with their HIV status and adhering to ART. It also organizes support groups for children aged 10 to 13 years with discussion facilitated by counsellors.

Fun Days. The CCC team invites all paediatric patients on a day-trip three times per year. Usually to an entertainment park or nature park, they are very well attended by clients and staff. MSF finances these days, with some support donated by other groups.

TB-HIV co-infection

Kenya has a high and growing incidence of TB, making timely diagnosis of TB-HIV co-infection critical.⁷ The CCC addresses this through clinical protocols which emphasize early detection through symptoms screening and, if necessary, sputum examination and chest X-ray. However, there are challenges in doing this. The first is the lack of reliability of chest X-rays at Mbagathi hospital, which has brought the CCC to refer patients to a private radiology service paid directly by MSF. The numbers—and cost—are significant, with 134 such referrals in 2007. The second is poor coordination of TB and ART services. As currently TB treatment is much further decentralised than HIV treatment, many patients followed up at the CCC are transferred out once they are diagnosed with the dual infection. This leads to a situation of disintegrated care with all possible consequences.

The referral of TB patients for HIV testing and treatment services also faces difficulties. A programme review in 2006 found low testing coverage of newly enrolled TB patients: an average of 11% for 2004 and around 17% for 2007⁸. Reasons identified included problems in organizing patient flow to DTC, lack of educational materials in the TB clinic, the immediate decentralization to the periphery for treatment follow upⁱ, and reluctance by both hospital and MSF management to become more involved in the TB clinic's daily operations. Although the TB unit provides access to DTC through trained nursing staff—and, for a time, a seconded MSF counsellor—staff report that DTC coverage is still low. Unfortunately, neither the TB unit nor the CCC monitors the proportion of TB patients offered DTC services and so performance of the linkage between the two services cannot be tracked.

PMTCT programme

Although the Mbagathi CCC provides ART for pregnant women, it is no longer involved in a formal PMTCT programme. MSF engaged in the hospital's antenatal clinic as part of a PMTCT intervention in the Mbagathi project's early years. However, the lack of a maternity service in Mbagathi hospital meant that women attending its antenatal clinic had to deliver elsewhere. As this limited the programme's impact, MSF

ⁱ The TB center at MDH was one of the first in its kind in Kenya and is still used by many as a referral site for patients with a difficult diagnosis. Once the diagnosis is made, most of these patients are referred back to the TB treatment facility closest to their homes.

decided to focus on delivering HAART through the CCC to pregnant women meeting the standard HAART criteria. These women are identified by antenatal clinic staff using DTC services and CD4 tests available in the hospital and subsequently enter care at the Mbagathi CCC; however staff recognize that follow up to ensure referred pregnant women reach the CCC has been generally weak.

Pharmacy services

MSF's support to the Mbagathi CCC pharmacy has been an important factor in maintaining the quality of services: clients emphasize the uninterrupted supply of (free) drugs for OIs in addition to the ART supply, unlike in many clinics where OI drugs are frequently in shortage (and expensive). Initially, MSF supplied all OI drugs for Mbagathi clients as well as the ARVs for PLHIV starting under the MSF cohort. As donor financing for the government's programme increased and integration of the GoK and MSF cohorts began, the government took on responsibility for supplying almost all ARVsⁱⁱ and part of the OI drugs. However, this supply, in particular of OI drugs and paediatric ARVs, has been fragile leading MSF to continue supplementing the drug supply for CCC clients.

Laboratory services

MSF's support to laboratory services has also been crucial in ensuring the quality of care provided by the CCC. MSF's support started in 2003 with the recognition that a range of laboratory services were necessary for technically reliable HIV care. MSF therefore worked with the Mbagathi hospital laboratory to strengthen or introduce the full range of tests necessary for HIV care: haematology for full blood counts, biochemistry for liver function and renal function testing, and HIV tests and CD4 counts. MSF backed up this technical support by training for government laboratory staff, employing additional laboratory technicians to assist with the work load and help with quality control, and financing the reagent supply and equipment maintenance budget.

MSF's support to the laboratory is significant: MSF was providing about 90% of reagents until 2006 and was still supplying over 30% in the first half of 2007. Further, MSF finances viral load tests in a private laboratory for ART clients suspected of treatment failure, as the Mbagathi hospital laboratory was not able to maintain the cost and technical demands of the viral load equipment. The support to laboratory services helped improve clinical care but was a difficult engagement with the hospital counterparts. HIV-related tests came to be seen as MSF's responsibility for some time, with MSF laboratory technicians managing all analyses for CCC clients. This situation improved with a change in laboratory management and the start of the handover, but remains a risk to the CCC's ability to provide free, good quality care.



ⁱⁱ Pefar is supplying second-line, alternative first-line drugs and paediatric syrups.

III. KEY STRENGTHS IN THE CCC'S APPROACH TO CARE

MSF adopted some explicit principles and approaches in its support to the Mbagathi CCC. These had the goal of reinforcing the quality and accessibility of the CCC's services and have helped develop the CCC's positive reputation amongst its PLHIV clients.

Free care

From the outset, MSF recognized the need to provide HIV care free-of-charge to clients. The aims of this policy were straightforward: to ensure that all PLHIV could access care and that the medical costs of HIV did not push more Kenyans into poverty. Unsurprisingly, as the government introduced cost recovery in 1989, many CCC clients have stories of severe financial impact from looking for treatment as their HIV symptoms worsened. Even government findings in the early 2000s noted the impact of cost on individuals' ability to access health services, with poor households using less health care than wealthier groups and up to a third not seeking care at all when sick.⁹

Consequently, the Mbagathi CCC provides all parts of the HIV package of care free to clients. This goes beyond the government's policy, announced in 2005, of removing fees for ARV and CD4 counts. Although an essential step in ensuring access to care, charges for other elements of the HIV-care package still pose a risk to PLHIV's ability to start and adhere to treatment. This is particularly true because of the life-long nature of ART, where fees for regular consultations, laboratory tests, OI drugs, and even patient books add up to pose a barrier to treatment. Initially charging for treatment, the GoK's ART cohort moved to free care after integration with the MSF service. A recent comparison of adherence in these two cohorts before integration highlighted a 2.27 higher risk of loss to follow up in the user-fees cohort.¹⁰

MSF also recognizes the impact of user fees for hospital care on the CCC's clients. Based on Mbagathi hospital's fees schedule, a seven-day hospital stay can approach 3,000 KSH (USD 45) direct cost to the patient.¹¹ For comparison, a study published in 2002 for care in the Kenyatta National Hospital found a mean cost to patients per admission of USD 61. Given that the median monthly income of the CCC's clients is under KSH 5,000 (USD 80), this can obviously be a significant financial burden¹². Recognizing this, Mbagathi hospital has a fee waiver system in place which exempts patients meeting defined criteria from treatment and lodging fees. MSF strengthened this system by providing two additional social workers for the hospital's social department and also now finances the costs of care for CCC clients in the not-for-profit referral hospital with which it has an agreement.

Management and quality control

The Mbagathi CCC's management and quality control system is recognized as one of the keys to the clinic's performance and reputation. This system helps to ensure that staff provide technically correct care according to the most recent protocols and builds staff knowledge and morale through a system of on-the-job support and performance reviews. It also ensures that the CCC's performance indicators are reviewed regularly and that new approaches to service delivery are developed and implemented.

The management system operates at several levels with well defined responsibilities for the different individuals involved (table 1). The key element of this system is perhaps the daily presence of senior clinical, counselling and managerial staff in the CCC who besides their technical and/or coordination function are also part of the operational core of the CCC. These staff are able to provide immediate technical guidance to colleagues and also address issues arising in daily operations. To assure that activities remain technically sound, other technical advisors are implicated in the management of the CCC, though most of these positions are part-time. Finally, the MSF coordination team and Mbagathi hospital management oversee the CCC's performance and results. MSF's involvement ensures that protocols are regularly updated, articles from the medical literature are circulated to staff, and that technical books are available through the CCC's library.

Table 1: Personnel with management responsibilities

Daily (Middle) Management

Assistant project coordinator (MSF)	<ul style="list-style-type: none"> - Clinical officer. - Manages daily operations and organization in cooperation with chief nurse. - Main contact between MSF senior management and the CCC daily management.
Nursing managers (MSF & MOH)	<ul style="list-style-type: none"> - Two nurses with shared responsibilities for clinic operations. - Manages organization and daily supervision of nursing activities. - Liaises with assistant project coordinator to deal with operational issues.
Counselling supervisor (MSF)	<ul style="list-style-type: none"> - Professional counsellor. - Manages and daily operations of counselling team.
Laboratory supervisor (MSF)	<ul style="list-style-type: none"> - Follow-up on management and external laboratory tests

Technical Coordination (Quality assurance)

CCC medical officer (1 FTE - MSF)	<ul style="list-style-type: none"> - Medical doctor present daily in the CCC. - On-the-job supervision of clinical officers and nurses in consultations. - Random prescription checks in the pharmacy for correctness and inappropriate prescribing patterns (e.g. antibiotic overuse). - On-site technical reference for difficult medical issues. - Also works in consultations in the slow client stream.
ART specialist doctor (1/2 FTE - MSF)	<ul style="list-style-type: none"> - Medical doctor with extensive experience in HIV treatment. - Bi-weekly visits to supervise activities and assist with difficult clinical cases. - Undertakes random reviews of patient files to verify completeness, consistency of treatment with diagnosis, and drug prescribing.
Mbagathi hospital specialist (Government)	<ul style="list-style-type: none"> - Senior specialist physician. - Full-time hospital employee and expert on ART. - When available, shares responsibilities for quality control, staff supervision, and difficult clinical case review with the ART specialist.
Epidemiologist (1/3 FTE-MSF)	<ul style="list-style-type: none"> - Operational research - M&E system
Laboratory supervisor (1/3 FTE-MSF)	<ul style="list-style-type: none"> - Follow-up on quality assurance procedures
Counselling supervisor (1 FTE - MSF)	<ul style="list-style-type: none"> - Senior professional counsellor. - Undertakes daily supervision of counselling quality.

Senior Management

MSF project coordination: project coordinator (1 FTE) field coordinator (1/2 FTE) head of mission (1/5 FTE) medical coordinator (1/5 FTE) + support MSF HQ	<ul style="list-style-type: none"> - Four expatriate positions within the MSF-Kenya team (only 1 full time). - Responsible for supervising operations of the CCC, including the design of new initiatives to improve performance. - Oversee M&E system, data analysis, and dissemination of findings. - Contact between the Mbagathi CCC and the MOH, other NGOs, and in-country donors.
Mbagathi hospital chief medical officer (Government)	<ul style="list-style-type: none"> - Ultimate responsibility for all Mbagathi hospital activities. - Responsibilities include deciding strategy for the CCC, allocating government staff accordingly, and monitoring performance. - High-level overview of CCC results.

A well structured system of team and one-on-one meetings brings management and service-delivery staff together on a regular basis (table 2). These sessions give team members the chance to raise concerns about clinic organization, suggest new approaches, and contribute to decisions about how to improve quality and performance. Regular individual sessions between management and other staff members build on this by providing individual feedback on the quality of care offered and allowing space for staff to air any concerns in private.

This system provides a balance between top-down management and team-based decision making. A good example of this in the clinical sphere is the bimonthly meetings to address second-line treatment issues. In these meetings, a clinical team member has responsibility for presenting the cases of clients in possible treatment failure; the group, led by the ART specialist and including non-clinical staff such as counsellors, social workers, and laboratory technicians, then discuss the issues before deciding on the next steps. Such an approach ensures that staff are routinely involved in the management of treatment failure, improves their ability to recognize failure in their own consultations, and builds a team approach to managing clients' needs.

Table 2: Mechanisms to ensure quality of services

Medical review meetings	<ul style="list-style-type: none"> - Held monthly with participation by all CCC members. - Discussion of protocol changes, OI management, and ART issues. - Opportunity for management to update staff and for staff to raise technical concerns.
Second-line meetings	<ul style="list-style-type: none"> - Twice monthly for all clinical and nursing staff. - Clinicians present potential failure cases for discussion and agreement on response. - Led by the ART specialist doctor, CCC medical officer, and Mbagathi hospital specialist if available.
Full team meetings	<ul style="list-style-type: none"> - Held weekly and attended by all CCC staff. - Provide information about daily management and operations, organizational changes. - Forum for CCC staff to air issues with management team and between themselves.
Staff performance reviews	<ul style="list-style-type: none"> - CCC medical officer reviews quality of consultations for all clinicians and nurses working every 3 months. - Annual performance review of each CCC staff member by ART specialist doctor.
Monthly indicator monitoring	<ul style="list-style-type: none"> - At a higher level, MSF project coordination staff report CCC performance indicators monthly. - Allow review of progress against pre-determined goals and benchmarks.

Training programme for health-care staff and PLHIV

MSF started a broad based programme of HIV trainings and workshops in 2005. The aim of these trainings was to create a critical mass of health-care workers and PLHIV correctly informed about the medical and social issues involved in HIV and the treatment options available. A striking feature of these programmes is their wide participant base, mixing cadres of health-care workers and also including non-clinical staff from the CCC (table 3). Over 2006 and 2007, these trainings, which cover both MSF's Kibera slum and Mbagathi projects, included over 2,000 PLHIV, 1,000 community members, and 600 health-care workers.

The trainings for health-care staff are based upon a theoretical component developed by MSF in collaboration with the National AIDS and STD Control Programme (NASCOP) and now used nation-wide in government training programmes. However, MSF-supported trainings include an additional six-week practicum period which allows clinical and nursing staff to work in the CCC alongside colleagues, under the supervision of the CCC's specialist staff. A check-list approach is used to ensure that participants are exposed to all of the major OIs and potential ARV drug complications. Over 2006 and 2007, 56 health staff completed this practicum training before returning to work in different health services in Nairobi, an approach which has helped to build HIV skills across the local health system.

Table 3 Selected trainings linked to MSF's HIV projects in Nairobi

Trainings for Health-Care Workers

HIV testing in clinical settings (Diagnostic Testing & Counselling)	Gives an introduction to basic HIV counselling with an emphasis on the importance of HIV testing and improved attitudes towards HIV/AIDS, communication skills and stress management strategies, followed by the HIV DTC protocol in Kenya and the legal and ethical considerations."	Medical Officers, Clinical Officers, Nurses, Counsellors.
ARV for medical health-care providers	Covers HIV pathophysiology and clinical care; epidemiology and transmission; the role of PEP; universal precautions; PMTCT; natural progression and immune system changes; laboratory diagnosis; and OI treatment and prevention. Introduces the families of ARV drugs and their modes of action; the first- and second-line treatment regimens; approach to initiating and monitoring ART; detecting drug toxicities and treatment failure in both adults and children. Covers the comprehensive care approach, nutrition in ART clients; the role of counselling in assessing readiness for ART and promoting adherence; emphasizes PLHIV's experience of treatment and legal and ethical issues involved.	Medical Doctors, Clinical Officers, Nurses, Laboratory Technicians, Pharmacy staff, Dental medical staff
ARV for non-medical health-care providers	Adapts the topics covered in the ARV for medical health-care providers course for a non-medical audience, ensuring they are conversant in the full range of ARV issues.	Counsellors, Social Workers, Nutritionists, Administrative Staff
Adherence counselling	Covers the importance of adherence and implications of incomplete adherence before focusing on preparing the patient to take ART correctly, identifying barriers to adherence, and providing ongoing adherence support.	Counsellors
Attitude training for health-care providers	Addresses the common misconceptions about HIV before presenting the concept of holistic care and the importance of addressing stigma and discrimination. Also focuses on care-givers' needs: psychosocial support and managing burnout.	Health-care Providers, Influential community groups

Trainings for Community Groups and PLHIV

Treatment literacy trainings for PLHIV	Covers current knowledge and common misconceptions about HIV. Separate programmes for adults and children. The adult programme also addresses rights of PLHIV and advocacy issues plus develops presentation skills for sharing knowledge in different settings.	All adult PLHIV, HIV+ children on ART aged 13 to 17 years.
Attitude training for the community	Addresses misconceptions about HIV and emphasizes that all individuals are at risk. Focuses on ways to support PLHIV, the need to fight discrimination, and the options for treatment and support available. Provides tools for discussing sex in a community setting.	Community groups (women, men, youth, religious leaders, elders, teachers)
Peer educator trainings	Develops communication, leadership, and community-mobilization skills for peer educators and facilitators in community-based treatment literacy trainings. Emphasis on the approach to positive living	Peer PLHIV Advocates
Advocacy training to influence policy	Explains the tools in use by government and donors (e.g. budget analysis, meaning of a medium-term expenditure framework) then builds advocacy skills with a focus on strategic planning, research to build messages, communication skills, and monitoring impact.	Peer PLHIV Advocates, Post-test Club Leaders

Simplified treatment protocols and patient flows

Another critical step in developing the CCC's capacity has been simplifying protocols and streamlining the clinic's organization. In the beginning, the ART initiation process was relatively slow, requiring all new clients to have at least three clinical and counselling visits, a home visit, and a counselling session with a support person. Further, a selection committee approved each new client proposed for ART. This system was simplified with scaling up in 2005: the selection committee was dropped, the home visit became optional, and follow up of PLHIV in stage I or II with CD4 counts greater than 300 shifted to the hospital outpatient department. This shift allowed the CCC to focus resources on clients needing treatment.

The introduction of client "tracks" in mid-2005 made a major contribution to the CCC's ability to handle a large volume of clinical and counselling consultations. Under this approach, a triage nurse allocates each client upon arrival in the CCC to a fast, medium, or slow track to minimize waiting time whilst ensuring attention to clients experiencing problems. Stable clients follow the fast track; clients with OI symptoms or possible ARV complications follow the medium track; and sick patients or those with suspected serious OIs, such as TB or meningitis, are referred to the slow track.

Staffing follows the needs of clients in each track: a doctor or clinical officer sees clients in the slow and medium tracks, while a specially trained nurse sees clients in the fast track. This approach has been effective in increasing the number of consultations per day per staff member, since 35% of all clients follow

the fast track and 60% the medium track. Senior clinicians are therefore able to focus on the 5% of clients following the slow track, helping to ensure quality of care for clients needing additional medical attention.

Integration of MSF and government systems

Mbagathi CCC is a good example of how NGO and government staff can work in the same team to provide quality HIV care. Initially working in parallel, the government and MSF teams recognized the inefficiencies and lost opportunities for building government capacity in this approach. Integration began in 2005 and, although daily management still largely falls to MSF, service-delivery staff have now integrated to the extent that clients cannot distinguish between them. Knowledge, attentiveness, and quality of diagnostic and treatment skills appear equivalent in the two groups. Further, a gradual transfer of clients to government responsibility was completed by end 2007 with the government now providing almost all ARV drugs to all of the CCC's clients.

MSF and the government agreed on some potentially difficult issues to move the integration process forward. They adopted a common clinical protocol, based on a streamlined approach developed by MSF after the decision to scale up ART in 2004. This reflected an agreement to work towards achieving high capacity in the clinic without compromising quality of care. MSF and the government also agreed to share a common management and quality control system, although, in practice, MSF management staff have had more time available for hands-on involvement.

A particularly important step in the integration process was dropping user fees for care in the government cohort. Before integration, government ART patients had to pay for consultations, drugs, and laboratory tests. This had created a *de facto* division of PLHIV on ART, with the government referring HIV-positive clients unable to pay for care to the MSF cohort. With integration, the inequities of the user-fees policy became increasingly clear as the GoK cohort no longer had an outlet for the large number of poor patients. Dropping consultation fees in 2005 did not have a major impact, as payment was still required for drugs and laboratory tests; consequently, the GoK cohort removed all fees in early 2006.

Monitoring & evaluation

M&E is a recognized strength of the Mbagathi CCC. It provides information used in daily management of operations and in regular reviews of the CCC's performance, but has also contributed to the government's own understanding of the possibilities of ART delivery in a district-level health facility. The mainstay of the system is the FUCHIA (Follow Up and Care of HIV Infection and AIDS) software package developed by MSF and Epicentre for monitoring MSF's HIV projects internationally. This data base contains demographic information on all clients as well as details of clinical progress and laboratory results at every follow up visit. CCC management staff are therefore able to produce summary reports of clinic activity for any desired period and can also generate summaries of selected patients or patient groups. This allows monitoring of programme performance on a monthly, quarterly, and yearly basis as well as export for specialized statistical analyses.

The Mbagathi CCC has paid particular attention to staffing needs to make the system operational and reliable. Two data technicians, one of whom is MSF-financed, are responsible for data entry. They enter

patients' initial and follow up forms filled in by the nurses and clinicians on a daily basis and produce the standard activity reports for management and administrative staff. Data technicians are supported by a data management team, comprising a data manager and assistant. CCC management and MSF project teams use this information to track CCC performance over time and initiate any changes in clinic organization. An MSF epidemiologist based in Nairobi helps supervise the system, provides guidance on technical issues and builds capacity of the data team, ensures continuous quality improvement of the monitoring system, and leads analysis of the database for routine reporting and research programmes.

Lay and peer counsellors

Emphasizing the need to understand the medical aspects of HIV care, government policy still only recognizes nurse-counsellors. However, the experience of the CCC shows that a mix of lay, peer, and nurse-counsellors can provide an effective service. In fact, the CCC's five lay counsellors are the backbone of its counselling services. All holding diplomas in adult and paediatric counselling, they handle a range of services (table 4) from ART preparation and adherence promotion to specialized paediatrics sessions. Not only providing high quality services, they also free up nurse-counsellors to concentrate on treatment and so help to reduce work demands on a limited nursing staff.

The introduction of a peer counsellor provided another dimension to counselling support in the CCC. The peer counsellor, an active PLHIV open about his status and engaged in advocacy activities, was selected to complete a counselling certificate course with MSF financial support. He now facilitates the peer mini-group sessions, where CCC clients choose to come to discuss issues and meet other PLHIV in an informal setting. The peer counsellor ensures that the conversation remains focused on HIV issues, that the discussion is factually correct, and that the conversation is open and flowing. He is also available to discuss issues with any CCC clients throughout the day, which clients report as a welcome alternative to the more structured counselling sessions.

Table 4: Main counselling services in the Mbagathi CCC

ART pre-selection & adherence	Lay counsellors
Crisis counselling for non-CCC clients - rape - victims of violence - post-exposure prophylaxis	Nurse counsellor
Diagnostic testing & counselling for relatives of CCC clients	Nurse counsellors
ARV mini-groups for PLHIV before CCC consultations	Peer counsellor
Paediatrics counselling	Lay counsellors

Decentralization

The Mbagathi CCC introduced a policy of decentralizing stable clients to health centres and dispensaries towards the end of 2005. The CCC looked to decentralization to reduce its client load, allowing staff to concentrate on patients initiating ART or experiencing difficulties with treatment. It also aimed to create space for training government health-care staff in the clinic, which placed demands on senior staff member's time, as well as to develop further its specialized programmes such as paediatric care. Standardization of treatment protocols, single-tablet generic drug formulations, and evidence of good ART compliance and outcomes made decentralized ART delivery possible. By end 2007, 74 sites, run by both the government and NGOs, were providing ART in Nairobi.

However, the CCC's efforts to decentralize clients have had limited success. Only 7% of all clients ever seen in the CCC have been referred to another ART service. PLHIV and staff alike report a genuine reluctance amongst clients to leave the Mbagathi CCC: they particularly emphasize the difference in quality between the CCC and other services. When discussing quality in government centres, patients raise the risk of shortages of ART and, especially, the drugs used for OI treatment as well as concerns about the availability, knowledge, and workload of staff. The Mbagathi CCC's free provision of all HIV care services, not limited to ART and CD4 counts, may also increase clients' reluctance change services.

Linkages with Post-Test Clubs

Post-test clubs have an important relationship with the Mbagathi CCC. A form of peer-support network in Kenya, they are increasingly vocal in HIV advocacy at a national and local level. Members describe them as true "peer support" groups: a model devised to build on PLHIV as health educators in disseminating basic information and promoting active involvement in their local communities. They grew out of MSF-supported treatment literacy trainings and an advocacy conference in 2004 when PLHIV pushed to change from the then "passive" recipient of care and support model to a more "proactive" approach which allowed them to take the lead both in supporting each other and in advocacy at the local and national level with the goal of realizing the "Greater Involvement of PLHIV" or GIPA principle set by UNAIDS. Many Mbagathi CCC clients are members of post-test clubs and an umbrella association has grown out of this network of PTCs, the Nairobi Network of Post-test Clubs (NNEPOTEC), that continues to share updates, promote learning, and support members.

The common purpose of post-test clubs is to provide psychosocial support to members: they provide a forum for members to discuss questions and concerns about HIV, allow peers to assist other in times of personal and medical difficulties, and help promote adherence by reducing the risk of social isolation on ART. However, many PTCs have developed other activities aiming to increase community-level awareness about HIV and to improve local and national policy regarding the rights of PLHIV. One important community-focused activity is health talks, where members speak openly in health-care facilities about their experience of learning they were HIV positive, of disclosing to family and friends, and of starting ART. The main policy-focused activities of PTCs is advocacy, where many members become engaged in decision-making bodies at the community and national levels to lobby for improved HIV policies and services.

Recognizing their potential in addressing HIV, MSF has supported the growth of post-test clubs through its Mbagathi CCC and the Kibera slum programmes. MSF's support has focused on developing group leaders' skills through treatment literacy, peer-educator, and leadership trainings and has also helped the PTCs to grow by ensuring PLHIV under medical follow up are informed about the peer-support network. MSF has also supported the PTCs in developing an advocacy role: in addition to including advocacy training in treatment literacy trainings for PTC members, MSF has tried to bring key PTC leaders onto policy- and decision-making groups at the local and national levels. However, PTCs are still far from being autonomous actors in HIV in Kenya. Their image is strongly associated with MSF, even though only 20 to 25% of clients in MSF's clinics are PTC members, and they will need to adapt to growing membership, set priorities amongst competing demands, and strengthen leadership and financing to ensuring they remain relevant and become sustainable.

A detailed review of the PTC experience in Kenya is forthcoming from MSF.¹³

IV. OUTCOMES AND RESULTS

Access and the client base

Most of the CCC's clients are from the low-income bracket, suggesting that the service has been relatively successful in reaching its target base. A review of the social assessments for new clients in 2007 showed that 33% had no regular household income at the time of CCC enrolment and a further 23% reported a monthly household income less than KSH 5,000 (approx. USD 80). 36% were not working at the time of the assessment and 80% were in rental apartments or were living with family or friends. 50% of all new CCC clients had only up to primary-level education, compared with only 3% who had tertiary qualifications. However, there was some evidence that richer members of the Nairobi population also access the Mbagathi CCC: 20% of new clients reported an income of over KSH 10,000 (USD 160) with 12% having professional or technical employment.

Access to the CCC's services appears balanced by sex and age. Women make up 60% of the CCC's clients, which is the proportion expected based on the relative HIV prevalence of women and men in the general population¹⁴. Further, women make up 60% of clients on ART, reflecting no gender bias in accessing treatment amongst the CCC's patient base. The CCC has also been successful in bringing children into HIV care, with 12% of all clients started on ART aged under 15 years. The social assessment review also suggested that the CCC was serving a predominantly local population, as intended, with most new clients having lived in Nairobi for a long period (median 9 years) before enrolling for treatment. Over 50% of new clients reported another known HIV-positive person, usually a partner, in their family.

Treatment outcomes

Mbagathi CCC has achieved solid treatment outcomes in a busy district-hospital clinic. From 2003 to October 2007, a total of 7,100 people were newly enrolled in the CCC through either the MSF or GoK cohorts. Of these, 4,700 had started ART, clearly reaching the CCC's scale-up target. The proportion of the activeⁱⁱⁱ CCC's clients receiving ART is high. A review of ART coverage in 2007 showed that 90% of them were under treatment. Most of the 380-odd clients not yet on treatment were in intensive-phase TB treatment, the ART-preparation phase, or had delayed a decision on starting ART. The difference between the number of clients on ART and patients ever seen in consultations is a left-over from the CCC's early days, when it also cared for PLHIV in the early stages of HIV infection. Most of these patients, today followed up through the OPD, were lost to follow up before they became eligible for ART.^{iv}

Table 5 and 6 summarize the CCC's cumulative treatment outcomes for children and adults beginning in 2003 until mid April 2008. Cumulative mortality for adults on ART over this period was 7.7% and somewhat lower for children, a good result comparable with MSF's experience in other countries¹⁵. Further, 71.4% of all adult clients ever enrolled at the CCC were either still under active care or had been transferred to another service at end October 2007.

ⁱⁱⁱ Patients are recorded as active when they had at least 1 visit in the 6 months preceding the day at which analysis was done, excluding those that died and were transferred out during the same 6 months period.

^{iv} Because of problems with the database for part of the enrolled patients, more in depth analysis hereunder is presented for only a part of the total cohort (sometimes referred to as the MSF cohort).

Although outcomes are comparable with MSF's international experience, the proportion of patients transferred out (and even more for children) and lost to follow up is higher than average¹⁶. These figures are partly explained by greater treatment options in Nairobi than in many other MSF locations; however, a high proportion of unrecorded deaths, as found in the defaulter tracing round in mid-2007, is possible.

Table 5: Outcomes on 14/04/2008 in children (<15 years) by year of HAART initiation - partly cohort MDH

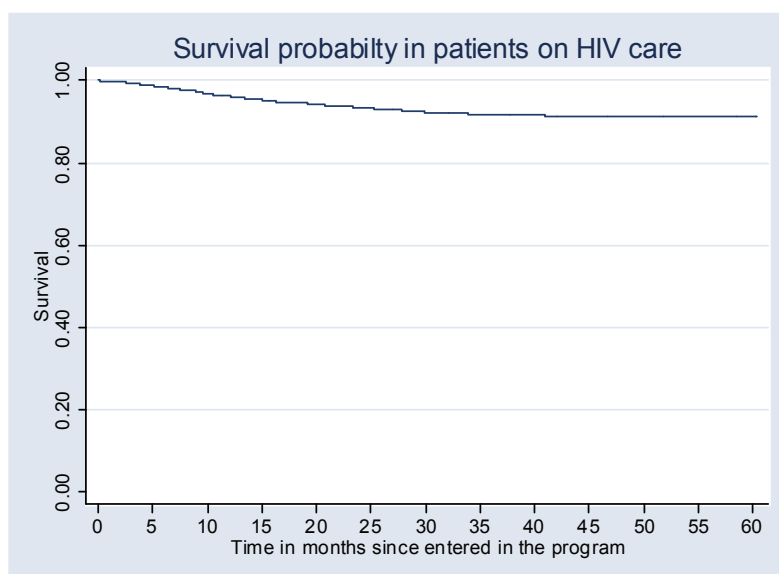
Outcomes on 14/04/2008	All years	Year					
		2003	2004	2005	2006	2007	2008
Dead (%)	17 (5.5)	2 (18.2)	6 (5.2)	7 (5.3)	2 (4.9)	0	0
Lost to follow-up (%) ^v	48 (15.6)	3 (27.3)	28 (24.3)	14 (10.6)	3 (7.3)	0	0
Transferred (%)	67 (21.8)	3 (27.3)	18 (15.7)	36 (27.3)	8 (19.5)	2 (22.2)	0
Followed with treatment (%)	176 (57.1)	3 (27.3)	63 (54.8)	75 (56.8)	28 (68.3)	7 (57.1)	0
No. of patients	308	11	115	132	41	9	0

Table 6: Outcomes on 14/04/2008 in adults (>= 15 years) by year of HAART initiation - partly cohort MDH

Outcomes on 14/04/2008	All years	Year					
		2003	2004	2005	2006	2007	2008
Dead (%)	128 (7.7)	20 (11.3)	89 (8.3)	18 (5.1)	1 (2.2)	0	0
Lost to follow-up (%) ^v	349 (20.9)	73 (41.2)	205 (19.2)	62 (17.6)	8 (17.8)	1 (5.6)	0
Transferred (%)	200 (12.0)	17 (9.6)	135 (12.6)	45 (12.7)	3 (6.7)	0	0
Followed with treatment (%)	990 (59.4)	67 (37.9)	640 (59.9)	228 (64.6)	33 (73.3)	17 (94.4)	5 (100)
No. of patients	1667	177	1069	353	45	18	5

^v Patients lost to follow-up because expected for more than 2 months

Figure 1 Probability of survival in PLHIV followed up at the CCC of Mbagathi Hospital, Nairobi, Kenya.



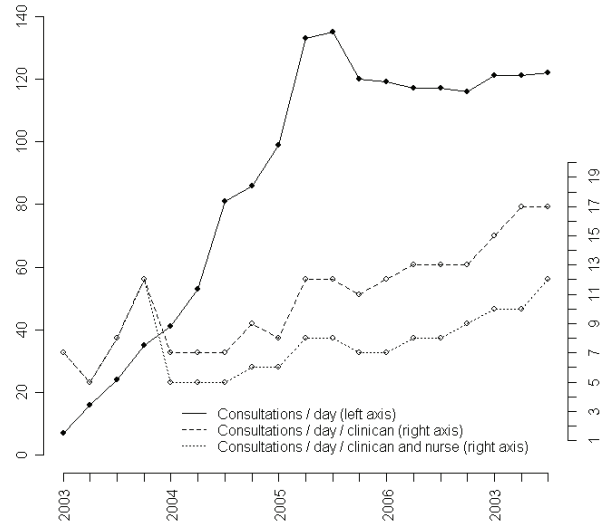
Time (months)	0	5	10	15	20	25	30	35	40	45	50	55	60
At risk	3523	2587	2310	1976	1801	1678	1521	1373	1138	586	317	149	2
Deaths	-	60	44	35	22	19	15	7	4	1	1	0	0

Adherence to ART appears to be solid. Fewer than 3% of clients have required second-line therapy because of treatment failure. The median time to move to second-line therapy amongst clients who did have treatment failure was 1.5 years, and almost half of them had taken ART prior to joining the Mbagathi CCC. The clinical response seen in the CCC is further evidence of good adherence, with a recorded average weight gain of approximately 5 kg and CD4 count increase of 400 amongst clients on ART for longer than 33 months (MSF cohort only). Tolerance of ART has also been fairly good, with 910 episodes of toxicity reported amongst 806 clients since the Mbagathi CCC ART programme began.

Clinic throughput

The dual focus on treating clients whilst developing specialized activities required the CCC to control consultation volumes as much as possible. As shown in figure 2, the CCC’s activity level has therefore been stable at around 120 consultations per day since the beginning of 2005 (figure 2). However, clinic capacity, measured as the number of consultations per clinical and nursing staff member, has continually increased over this time.¹⁷ This is because the number of staff in the CCC decreased from an average of 11 clinicians and 5 nurses in 2005 to 7 clinicians and 4 nurses in 2007. Managing the CCC’s volume of activity with reduced numbers of staff is noteworthy, particularly given the need to devote resources to the CCC’s training programme, paediatrics activities, and M&E system.

Figure 2: Growth in consultations activity



V. SHORTCOMINGS AND DIFFICULTIES

Despite its solid treatment outcomes and a reputation for quality care, there are many gaps in the Mbagathi CCC's functioning and the sustainability of the MSF-government collaboration. Understanding these may help the hand over process and help define the best role for the CCC after MSF's involvement is complete.

The CCC's linkages with the PMTCT and TB programmes are very weak. The Mbagathi CCC has failed to develop meaningful linkages with the Mbagathi hospital's antenatal clinic and TB unit, despite their close physical proximity and importance in holistic HIV care. Despite in-unit DTC capacity, motivation for antenatal clinic and TB clinic staff to refer patients for initiation and follow up for ART appears weak. This is compounded by the lack of any systematic monitoring of DTC coverage and of cross-referrals between the CCC and the antenatal clinic and TB unit, allowing gaps in the care continuum to continue unaddressed.

Management of the CCC depends on MSF. MSF is the dominant partner in CCC management activities. This is partly the result of senior government staff not having enough time to take on daily management responsibilities in the CCC owing to duties in the hospital, but the establishment of an intensive management system combined with MSF's willingness to continue financing for numerous management positions may have also contributed to this imbalance. The positive impact of the appointment of a government nurse manager to the CCC in 2007 shows the potential from greater government leadership on a daily basis.

CCC staffing is still dominated by MSF. Although the GoK and MSF teams have integrated well, MSF still provides the majority of CCC staff (table 7). Replacing the MSF-employed personnel will require significant hospital funds.

The OI drug supply depends on MSF support. Although the government has taken over most adult and paediatric ART supply, MSF continues to supplement some ARVs and to provide many OI drugs. Some of the core drugs, such as steroid ointment formulations, dapsone, and pyridoxine used in the CCC are not yet available through government systems.

Similarly, the laboratory service is dependent on MSF financing. MSF supports reagents and was still financing, in 2007, the maintenance contract for the equipment it had donated to the Mbagathi hospital laboratory. Financing for viral loads and lipid profiles, among others, in an external laboratory is an additional, significant financial contribution by MSF.

MSF has full responsibility for the case-management system. The case-management team are all MSF employees and the treatment and investigations costs for CCC clients in services outside of Mbagathi

Table 7: MSF and MOH staffing in the CCC

Function	MSF	MOH
Coordination staff	2	1
Doctors	2	1
Nurse	3	1
Nurse counsellor	0	7
Lay & peer counsellors	8	0
Data clerk	1	2
Receptionist	2	2
Laboratory staff	2	2
Social worker	2	6
Clinical officer	6	1

hospital are fully paid for by MSF. The government is unlikely to be able to continue financing such an approach.

Integration of the GoK and MSF M&E systems has been weak. The GoK and MSF operated parallel M&E systems for some time until the GoK data base was lost without a backup. This seriously affected the quality of GoK data. MSF continues to take most responsibility for the M&E system in the CCC, including data quality control, analysis, and reporting.

Core elements of the CCC's model have not yet been officially recognized by government. These include the role of lay and peer counsellors, the treatment literacy approach, and the PTC model in ensuring a comprehensive, multidisciplinary approach to HIV care. These are the main elements underlying many of the Mbagathi CCC's achievements.

Decentralization of CCC clients has not worked. Despite a policy of referring stable patients to peripheral services, very few clients have agreed to decentralization and many of these have returned to the CCC after trying other services. The significant quality differential between the CCC and many other clinics (as well as the CCC's free care) appears responsible. This creates a large gap between the CCC's practice and the home-based care/community strategy now being promoted by the MOH. It has to be noted though that part of the patients lost-to-follow-up might in fact be followed-up at another facility without our knowledge.

CCC organization could still be improved. There are still concerns about too long consultation waiting times, poor continuity of care as clients follow up with different clinicians or nurses at each visit, and an increasingly generic approach to routine counselling sessions not sufficiently flexible to individual clients' needs.

VI. CHALLENGES FOR THE HANDOVER PERIOD AND BEYOND

As part of a transition process agreed upon in 2006, MSF will complete the hand over of its involvement in Mbagathi CCC's operations to the government by the end of 2008. This is a recognition of the overall successful collaboration with the government in developing the CCC as a model for comprehensive HIV care at the district-hospital level, with MSF moving on to address ART delivery at lower levels in the health system. It is also a recognition of the increased number of ART providers in Nairobi since MSF began its involvement in Mbagathi hospital: today, 60% of Nairobi resident in need of ART are estimated to be on treatment¹⁸ thanks to a network of government, NGO, private sector, and Church providers.

The hand over coincides with a government policy shift towards decentralizing ART delivery, where health centres are to take on an increasing share of consultations and higher-level facilities are seen as fulfilling a referral, training, and supervisory role. Although the precise role of the Mbagathi CCC in this evolving HIV system is yet to be announced, it is well placed to take on such a function. In particular, its high quality services and recognized strengths in specialist areas are important elements of a secondary level HIV clinic.

MSF, the government, and PLHIV clients alike recognize the challenges in the hand over period, and beyond, in order to maintain the CCC's quality of care whilst helping it adapt to the role defined for it by the government. This will require strong leadership by the Mbagathi District Hospital management team, detailed planning for taking over new responsibilities, and careful monitoring of progress between partners.

Foremost amongst these challenges are:

Maintaining the quality of care

This will require *maintaining the number of CCC staff members* or, should the government choose to increase the Mbagathi CCC's training or specialized service role, expanding the number of staff with the necessary skills.

It will also demand a shift in *ownership of the CCC's management system* to move responsibility for quality control, staff supervision, and organization of the CCC's services entirely to government staff.

Increased government ownership of the M&E system is another challenge. A continued M&E function after hand over completion is necessary both for daily clinic operations, as the FUCHIA data base is used for follow up and to identify patients with missed appointments, and for the continued use of the CCC's experience in national HIV strategy forums.

The drug supply and laboratory services are key to quality of care but still depend on MSF's support. Developing reliable drug mechanisms through the hospital's own pharmacy and maintaining the full package of HIV laboratory tests are critical.

Ensuring access to care: Services free-of-charge

Ensuring free services has made a major contribution to the performance of the Mbagathi CCC. Introducing fees for any service, even administrative charges such as those for "patient books", risks reducing access

and, for those already on treatment, adherence. The critical decision for the Mbagathi CCC was to make all services in the HIV-care package free: exempting only ARV drugs or CD4 tests from user fees does not eliminate financial barriers to HIV care.

Creating space for specialized services

Making decentralization work, already a challenge for the Mbagathi CCC, will become more urgent if the government chooses to expand the CCC's role as a training centre or a referral centre for difficult clinical cases. More staff time will be needed to deal with trainees or complicated patients, reducing time available to handle stable clients on ART.

Recognizing lay and peer counsellors as an integral part of the CCC's operations would allow nurse counsellors to concentrate on nursing activities. The recognition of the role of non-medically trained professionals in HIV care has the potential to increase CCC capacity to deliver specialized services.

Maintaining PLHIV's involvement in services

Linkages with PTCs are recognized by PLHIV clients as an important element in promoting ART adherence. Peer support in the clinic and follow up in the community will be even more important should the CCC become a centre for ART patients experiencing adherence difficulties, treatment complications, or treatment failure as the government and partners move forward in decentralizing HIV care and ART delivery.

REFERENCES

- 1 *National HIV Prevalence in Kenya*. NASCOP, 2007.
- 2 <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/KENYAEXTN/0,,menuPK:356520-pagePK:141132-piPK:141107-theSitePK:356509,00.html> accessed March 2008.
- 3 Barthes O. *Assessment Mission of the Activities Conducted by MSF-B at Mbagathi Hospital in Nairobi, Kenya*. AEDES, 2001.
- 4 MSF project data, December 2007.
- 5 MSF project reports.
- 6 Van Winghem J, Telfer B, Reid T, Ouko J, Mutunga A, Jama Z, Vakil S. Implementation of a comprehensive program including psychosocial and treatment literacy activities to improve adherence to HIV/SIDS care for a pediatric population in Kenya. Submitted for publication.
- 7 *Global Tuberculosis Control : Surveillance, Planning, Financing*, WHO, 2007. Kenya country report accessed on 5 January, 2007 at http://www.who.int/tb/publications/global_report/2007/pdf/ken.pdf .
- 8 Van Acker Hébert I, *External evaluation - MSF-B HIV/AIDS Project, Mbagathi District Hospital*, MSF 2006.
- 9 National Health Accounts Country Policy Brief, March 2005, MOH.
- 10 Zachariah R, van Engelgem I, Massaquoi M, Kocholla L, Manzi M, Suleh A, Phillips M, Borgdorff M. Payment for antiretroviral drugs is associated with a higher rate of patients lost to follow-up than those offered free-of-charge therapy in Nairobi, Kenya. *Trans R Soc Trop Med Hyg* 2008, 102(3): 288-293.
- 11 Costs taken from *Mbagathi District Hospital fees schedule*, provided by hospital in November 2007. Exchange rate used is 1 USD = 66.18 KS (January 2007).
- 12 Self-reported income as recorded at the social assessment for new clients, from *Analysis of social assessment forms of 591 patients enrolled in the MDH cohort in 2007*, MSF.
- 13 Kongs E, *Post Test Clubs in Kenya - A Descriptive Study*, draft 2008, MSF-B Kenya.

- 14 The expected proportion of women amongst all HIV-positive people in the general population is 62.1%, based on a national urban seroprevalence of 12.3% amongst women and 7.5% amongst men (from the *Kenya Demographic and Health Survey 2003*, reported in *AIDS in Kenya. Trends, Interventions and Impact*. Nascop, 2005.
- 15 MSF's international treatment experience taken from Table 1 in *Nairobi MDH Kenya MSF-Belgium Programme database update*, Jan 2007, MSF.
- 16 81% combined cumulative loss to follow up and transfers out in an update from January 2007, *Nairobi MDH Kenya MSF-Belgium Programme database update*, Jan 2007, MSF.
- 17 CCC activity data are for the MSF cohort only to end 2004, then for the integrated MSF and GoK cohorts. Subsequently, the absolute rate of growth of activity over the 2004 to 2005 period is over-estimated in the graphs, but the trend is still valid.
- 18 *National HIV Prevalence in Kenya*. NASCOP, 2007.

