TUBERCULOSIS: THE BIG CHALLENGE

"WE ARE TALKING, PEOPLE ARE DYING"

MEDECINS SANS FRONTIERES
ÄRZTE OHNE GRENZEN

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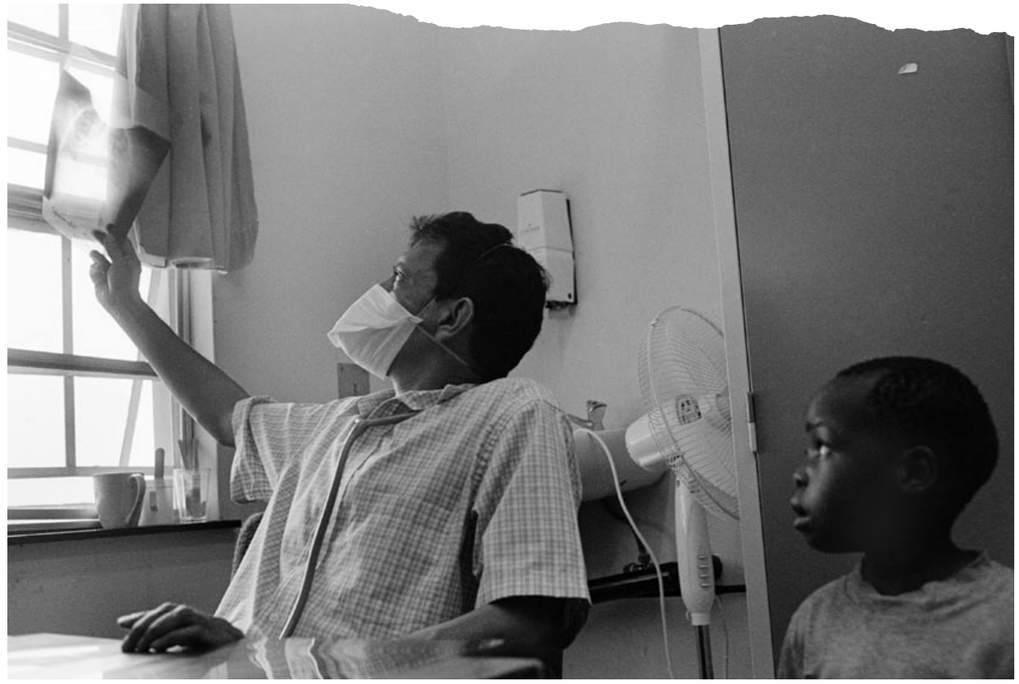
This booklet is dedicated to the people of Swaziland, whatever their origin or community, who struggle daily in their search for quality health care to meet their most basic health care needs. In particular, we dedicate this work to people infected with HIV and TB. We especially wish to thank all those patients and hospital staff who gave their time and energy and allowed this project to happen.

The Kingdom of Swaziland is in the midst of an HIV/TB epidemic. HIV/TB co-infection is having a dramatic impact on the population of this small Southern African country and management of the co-epidemic represents the country's most serious health-related challenge.

One in four adults aged 15 to 49 years is infected with HIV – by the end of 2007, an estimated 170,000 people were living with HIV[1]. Every year, approximately 13,000 people develop tuberculosis (TB)[2].

During the last two decades life expectancy has dropped almost two-fold as a result of the dual epidemic: to 37 years old in 2004[3]. Families have been decimated; parents have died, leaving behind orphaned children; and the country's workforce is slowly disappearing, leaving health facilities and many other public services with a large human resource deficit.

Médecins sans Frontières (MSF) has been working in Shiselweni region in Swaziland since November 2007 assisting the Ministry of Health to deliver care and treatment to the many HIV/TB co-infected patients and trying to reduce mortality of the increasingly vulnerable population.



1 Swaziland: Estimated number of people living with HIV: Adult (15–49) prevalence percent 2007: 26.1%; Adults 15+ 2007: 170,000. UNAIDS 2008 report on Global Aids Epidemic Available at: http://www.unaids.org/en/KnowledgeCentre/HIVData/GlobalReport/2008/2008_Global_report.asp
2 Estimated incidence in Swaziland is 1,155 per 100,000 (WHO, Core Health Indicators, 2006)
3 WHO, Country Health System Fact sheet, 2006

Introduction: a gloomy outlook

Reality is a hard pill to swallow

Worldwide, the number of TB patients co-infected with HIV is rapidly increasing. Coupled with the emergence of TB strains that are resistant to the most common and effective drugs used to treat the disease, this has led to a situation where TB is spiralling out of control.

TB is a deadly killer, responsible for 1.7 million deaths worldwide in 2006 – that is almost four lives claimed every minute. People living with HIV/AIDS, whose immune systems are suppressed, are particularly susceptible to TB. Not only are they much more likely to develop active TB, but the disease also progresses much more rapidly in HIV positive patients.

In Swaziland, a reported 54 percent of TB patients are co-infected with HIV[4]. However, this figure is probably well below the actual number of co-infected patients. Médecins Sans Frontières estimates that, in fact, around 80 percent of TB patients in Swaziland are co-infected with HIV. HIV prevalence among pregnant women reached a staggering 40 to 45 percent in 2004[5] (variation depending on urban or rural context respectively).

HIV/AIDS and TB are the primary causes of death here. Mortality rates are particularly high for HIV/TB co-infected patients and the co-epidemic leads to a high number of fatalities annually. TB is responsible for the majority of deaths among HIV/AIDS patients in Swaziland.

The emergence of multidrug-resistant strains of TB – which are far more complex to treat that standard TB – is another major concern and contributes significantly to the high mortality rates. In Swaziland, drug resistance to standard first line treatment for TB is reported in 200 TB cases detected every year.

Diagnosis, treatment and prevention of drug-susceptible TB is difficult enough – where correct and rapid diagnosis and treatment are not available, TB patients die quickly. But when it comes to tackling the disease in patients who are also infected with HIV or those with resistant strains of the disease, the medical challenges are multiplied. For HIV/TB co-infected patients, treatment is especially complicated due to possible interactions between the drugs used to treat each disease.

In Swaziland, the HIV/TB co-epidemic is a major emergency and management of HIV/ TB co-infection represents the country's most serious health-related challenge. Currently, the scale of the HIV/TB co-epidemic is undermining the Swaziland Ministry of Health's efforts to control TB. Although the fight against TB is considered a national priority, and receives extra support from international actors, national health services face huge difficulties in diagnosing and treating patients appropriately and preventing the spread of TB and the HIV/TB co-epidemic. Hospitals are overcrowded; the escalating prevalence of HIV and TB is forcing more and more people to quit their jobs either because they

4 WHO country profile report, 2008
5 WHO/UNAIDS/UNICEF, Epidemiological Fact Sheet on HIV and AIDS, 2008 update.

are sick or they have to care for sick relatives; and the co-epidemic is hampering the socio–economic development of the country.

> *"The rising co-infection with HIV has greatly increased the number of TB patients we see. Instead of going down, the numbers are going up. It's a very depressing situation for us as health workers in TB clinics and antiretroviral treatment (ART) clinics."*
>
> TB Nurse at Hlatikulu Hospital.

Médecins Sans Frontières fighting HIV/TB co-infection in Swaziland

Since November 2007, Médecins Sans Frontières (MSF) teams have been working in Shiselweni region in Swaziland, together with Ministry of Health staff, to take care of and provide treatment for TB/HIV co-infected patients.

This close collaboration with Ministry of Health healthcare personnel has improved access to efficient diagnosis and treatment for HIV and TB patients. The project also addresses the management of patients affected by drug-resistant TB (DR TB).

Step by step, MSF is organising integrated care for HIV/TB co-infected patients at one location. This approach, called **One Stop HIV/TB point of care**, is contributing to a more effective use of health service resources. Patients now attend only one consultation for both diseases, thereby reducing the workload of heath personnel. Critically, the primary positive outcome of this 'one stop' strategy is to improve the adherence of patients to TB and HIV treatment, enabling them to access medical consultation, treatment and laboratory tests in one place.

Current data: Antiretroviral therapy in Swaziland[6]

By 2008, a total of 41,382 HIV/AIDS patients were started an anti-retroviral therapy (ART) in Swaziland. As of December 2008, 79 percent (32,701 patients) were still on ART. During the same period, 3,637 children were started on ART, and at the end of December 2008, 2,897 children (or 79.7 percent) were still on ART.

MSF doctors are involved in ART treatment initiation and follow up of patients in Nhlangano and Matsanjeni health centres. In Shiselweni region, by 2008 a total of 7,672 patients have been started on ART, including 509 children. As of December 2008, 5,698 (or 74.3 percent) of patients were still on treatment, including 433 children (85.1 percent of child patients). During 2008, 2,402 new patients were started on ART in the Shiselweni region.

Current data: TB treatment in Swaziland[7]

In 2008, a total of 2,296 patients (including 1,096 men and 1,200 women) were diagnosed with drug susceptible (standard) TB in the three main health facilities of the region and started on treatment.

Of these patients, 804 patients (35 percent) were diagnosed with sputum smear-positive pulmonary TB, and 472 patients (20.5 percent) were diagnosed with pulmonary TB patients without completing a sputum smear test. This category of diagnosis without sputum smear test is unacceptably high. However, there is now a strong emphasis on ensuring that all patients complete sputum smear tests and the trend in diagnosing pulmonary TB without a sputum smear test progressively declined throughout 2008. Of the 2,296 patients diagnosed with drug susceptible TB in 2008, smear-negative pulmonary TB and extra-pulmonary TB accounted for 23.4 percent (538 patients) and 21.1 percent (484 patients) of cases respectively.

6 MOH data, 2008
7 MOH data, 2008

Drug Resistant Tuberculosis

Tuberculosis is a contagious disease

It is always worth to remind that tuberculosis is a contagious airborne disease.

Only one in ten people infected will actually develop the disease, since a healthy immune system will keep the infection dormant. But the infection can be reactivated years, even decades later, if the immune system is weak. This explains why people living with HIV whose immune system has been suppressed by the virus are so susceptible to TB.
The pulmonary form of TB is characterised by a persistent cough, shortness of breath and chest pain. Every time a patient with pulmonary TB coughs, talks, sneezes or spits, he/she produces droplets containing the TB bacilli. These droplets spread in the air can remain suspended for long periods of time. Other individuals who are nearby risk getting infected by TB as a result of exposure to the high concentration of TB bacilli in the air. The risk of transmission is particularly high indoors. Each person with the infectious form of TB, if untreated, will go on to infect between ten and 15 other people each year.
One of the ways to reduce TB transmission is to diagnose and treat patients early. Proper management of TB patients also limits the development of drug resistant TB.
The Mycobacterium tuberculosis can also infect almost any part of the body, such as the lymph nodes, the spine or bones. This is the extra-pulmonary form of TB, and is most common in HIV-infected patients and children. Although extra-pulmonary TB may not be contagious, it is equally vital to diagnose and treat it rapidly, as all forms of the disease can be deadly if adequate treatment is not provided.

Development of drug-resistant TB

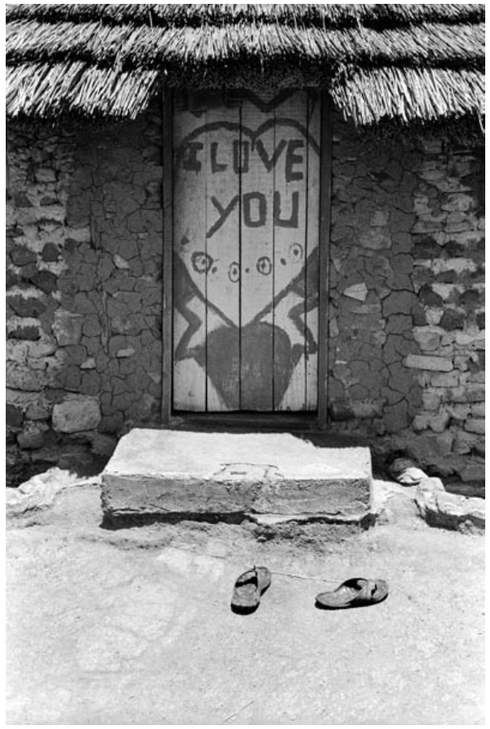
Treatment of TB is efficient only if the patient takes his or her medication every day at the correct time for the correct number of months. Only a combination of several drugs can be efficient against TB bacilli. However, resistance to anti-TB drugs can occur if the patient either interrupts the treatment, or does not take all the drugs prescribed. In such cases TB bacteria are exposed to suboptimal therapeutic concentration of anti-TB drugs. In all of these cases, treatment is likely to fail and the disease will re-emerge in a resistant form, meaning that fewer drugs will be effective against the bacteria.

Therefore, it is particularly important to provide comprehensive care for TB patients that considers all factors that could compromise their adherence to treatment. Difficulty accessing healthcare, cost of care, discrimination in the community and patient depression are among the most common obstacles of patient adherence to treatment. In addition, treatment of TB is complex and long-lasting, involving a combination of antibiotics that were developed more than 35 years ago. Lengthy treatment timelines (six to eight months of antibiotic therapy for drug-susceptible TB) and drug side effects make it difficult for patients to adhere to treatment through to its completion.

Direct transmission of drug-resistant TB

Critically, direct transmission of drug resistant strains of TB is also possible. Drug-resistant TB developed in one patient can be transmitted directly to healthy people or other TB patients, compromising their treatment.
This represents an enormous problem for the control of TB, especially in communities with high HIV prevalence where many people are more susceptible to TB.

Risk of transmission increases with time spent with an infected person - for example, living or sleeping in the same room as a person with TB, especially if that room is poorly ventilated. Closed settings like crowded houses, prisons, transport, waiting areas in health clinics and health centres are among the places where TB, including its resistant forms, can spread if nothing is done to protect the patient, the guardian, the visitors or the health workers.



Infection control measures must be implemented to reduce the risk of transmission in these settings. Proper ventilation, natural or mechanical, must be installed in places where people gather. Masks for patients and health workers alike must be made available whenever possible. Coughing patients waiting in queues at health facilities must be seen as a priority to reduce the potential exposure of others around them to the TB bacilli.

During 2008, 36 new patients were diagnosed with MDR TB in Shiselweni region. By the end of 2008 there were 51 patients receiving treatment for drug resistant TB in the region.

"After coughing non-stop for months, I eventually went to Matsanjeni Health Centre, where my sputum was screened. I was diagnosed with TB. I then was started on treatment."

A 26 year old patient, from Lavumisa, receiving treatment for multidrug-resistant TB.

Obsolete diagnostics and arduous treatment

TB diagnosis

The available technique for diagnosing TB in rural areas is no more sophisticated than examining a suspected patient's sputum sample under a microscope to assess whether it contains TB bacilli. A sample is fixed, and then colored on a slide. The bacilli are visible as red rods on a blue background.

This method, called **sputum-smear microscopy**, was developed well over a century ago. Although relatively fast and easy to implement in resource-limited settings, the method has significant limitations: it detects less than half of all TB cases and it is, by definition, not able to identify TB in people such as children or many people living with HIV who either have difficulties producing enough sputum from their lungs for a sample for analysis, or don't have sufficient or any TB bacilli in their sputum to be detected under the microscope.[8] It also completely misses the extra-pulmonary form of TB.

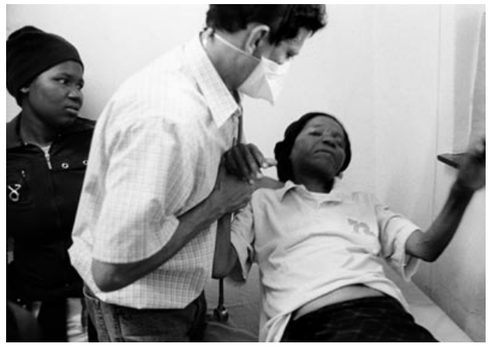
In Swaziland, MSF intends to introduce certain techniques, which could partially increase the diagnostic sensitivity of sputum-smear microscopy for pulmonary form of TB. These techniques include the liquefaction of sputum (using household bleach); and concentration of the TB bacilli via centrifugation or overnight sedimentation.

In Shiselweni region, microscopy is used to diagnose TB at the two health centres (Nhlangano and Matsanjeni) and at Hlatikulu hospital. Close cooperation between MSF and Ministry of Health teams has allowed for improved collection, processing and reading of patients' sputum samples. Since 70 percent of the population lives in rural areas far from these three health facilities, decentralization of TB diagnostic services to 18 rural clinics is essential. To provide sputum samples, patients attend one of these clinics, which are often located far from their place of residence. MSF provides transportation in order to transfer sputum samples for processing in one of the three diagnosis centres. This strategy is designed so that sputum samples – rather than patients themselves - are transferred to diagnosis centres.

Detecting drug resistance

Detecting drug-resistant forms of TB is even more complicated. In Swaziland, many patients are infected with TB that is resistant to one or more anti-TB drugs. To provide appropriate treatment, it is crucial to know whether or not the patient has drug-resistant TB, and more precisely, to establish to which drugs the patient has developed resistance to. For each individual patient, there might be a different pattern of resistance. That means that in order to ensure a patient is given the right treatment, doctors need to get an accurate profile of the specific drug resistance for each of their patients.

The diagnostic processes that allow medical workers to establish which drugs will work against the particular TB bacilli in a patient, and which won't, are known as **drug sensitivity testing** – or DST (sometimes known as antibiogram). Results cannot



8 Perkins MD, Cunningham J. Facing the crisis: improving the diagnosis of tuberculosis in the HIV era. J Infect Dis 2007;196 Suppl 1:S15-27; Shingadia D, Novelli V. Diagnosis and Treatment of Tuberculosis in Children. Lancet Infect Dis 2003;3(10):624-32.

be achieved with microscopy or by looking at chest X-rays but they can be obtained through certain culture methods conducted in laboratories, for example, a specific anti-biogram.

Unfortunately, this laboratory technique comes with all the problems associated with sputum-smear microscopy: it relies on sputum samples, so the technique is of limited use to those unable to produce sputum or with extra-pulmonary TB. It is also complex, expensive and requires a well-equipped laboratory and extremely competent human resources. It requires very complex bio-safety measures to avoid the contamination of health personnel by these drug-resistant bacilli. This technique is also lengthy. Generally, a primary culture (to identify the TB bacilli) takes an average of four to six weeks. To identify to which drugs the bacilli are resistant takes a further four to six weeks - time that patients needing to start treatment can ill afford.

"We need a really good system of detecting, treating and monitoring MDR TB patients if we are to make any significant impact on the catastrophe, otherwise we'll just end up creating more XDR (extensively drug resistant) TB cases."

MSF senior TB nurse.

In the last few years, newer and more rapid diagnostic tests have been developed. One of them, called MGIT (*Mycobacterium* growth indicator tube), allows the identification of drug resistant patterns in less than three weeks: it can detect resistance to all four drugs used as first line treatment: Streptomycin, lsoniazide, Rifampicin and Ethambutol. It is now also possible to detect resistance to Pyrazinamid.

An automated machine, called *Bactec 960*, is now available on the open market to perform multiple drug resistance tests at the same time. In Swaziland, one such machine is available at the national reference laboratory in Mbabane and is operated by very experienced laboratory technicians.

If a patient is found to be resistant to Rifampicin and lsoniazide, he or she will be considered as having multidrug- resistant TB (MDR TB). If an MDR TB patient has resistance to more anti-TB drugs including any of the fluoroquinolones he/she will be considered to have extensively resistant TB (XDR TB).

However, in Swaziland it is currently not possible to detect these types of resistance. Therefore, sputum samples have to be sent to a supra-national laboratory (SNL) based in Pretoria, in neighboring South Africa.

In order to identify the drug resistance patterns in the country, which would allow adaptation of appropriate standard drug regimens, MSF, together with the National Tuberculosis Control Programme (NTCP) and other partners, has initiated a national Drug Susceptibility Tests (DST) survey. All positive TB samples collected during the survey will be sent to a supranational laboratory in Borstel (Germany) for detection of resistance to first and second line drugs. The results of that survey will serve to inform the national guidelines for the treatment of TB in Swaziland.

Treatment: a terrible burden

Current TB treatment is complex and long-lasting, involving a combination of antibiotics that were developed more than 35 years ago. Treatment of drug-susceptible TB lasts for a period of six months. During the intensive phase of treatment, patients take a combination of four drugs (Rifampicin, lsoniazide, Pyrazinamid and Ethambutol) for a period of two months (the intensive phase), followed by combination of two drugs for four months (continuation phase). As indicated above, it is critical that each patient takes the entire course of treatment consistently and for the whole duration of treatment in order to avoid the development of drug resistance, but lengthy treatment timelines and drug side effects make it difficult for patients to adhere to treatment.

Today, fixed drugs combinations exist (four drugs in one pill) to encourage treatment adherence and prevent selective drug administration. MSF together with MoH are using these fixed drug combinations in the Shiselweni region.

"Some of the other side effects Nomcebo is experiencing from the treatment include very painful and swollen feet and knees, weak limbs and constant drowsiness, all of which make it difficult for her to walk unaided. Nomcebo's treatment requires daily visits to the clinic, to receive an injection. Her situation has made our family's financial situation even more difficult because we have to hire a taxi every day to take her to and from the hospital."

A mother describes her daughter's condition and the challenge the family faces on a daily basis.

Drug resistance makes it more difficult to cure patients

Treating drug-resistant TB is notoriously arduous for patients and presents huge difficulties for health programmes. It is more complex, more toxic and more expensive than treatment for standard TB, with treatment regimens for MDR TB costing between USD 2,000 and USD 5,000 per patient per year, depending on supply resources. Most of the second-line TB drugs used to treat drug-resistant TB are infamous for their relative ineffectiveness against the bacilli, meaning a lengthy treatment of up to two years.
In Swaziland, hospitalisation is necessary for a period of six months to treat MDR TB patients. During this time, patients must receive daily injection (kanamycin or capreomycin) – and have to take up to a total of six (and even more) drugs daily. The entire duration of treatment lasts for 24 months. Treatment for extensively drug-resistant TB (XDR TB) patients is even more complex.

Such intense treatment places very big demands on patients. Many have to give up work in order to see their treatment through. Some patients who are hospitalised for periods of their treatment are isolated from their families, which can again give rise to psychological problems and major loss of income.

It is critical for patients themselves, as well as for the protection of the community members around them, that patients take their treatment consistently to try to reduce the spread of MDR and XDR TB as much as possible.

Two diseases, one point of care: integrated treatment for patients with both TB and HIV

Treating patients who are infected with both TB and HIV is even more difficult. When the drugs for the two diseases are taken in combination, there can be drug interactions, which may lead to increased side effects or reduce the effectiveness of treatment. As a result, a more complicated treatment regimen is required.

Given the high risks of co-infection in places where large numbers of people with HIV live, it has become increasingly clear that treatment for the two diseases should be integrated. Treatment integration would allow patients to benefit from early diagnosis of either disease and ensure effective monitoring of the combined treatments. Also, it would rationalize the use of human resources that are already scarce in the country.

"I would be so happy if I could get treatment for both HIV and TB at the same place and on the same day. We just don't have enough money for everyone to take public transport."

Co-infected patient in Shiselweni region whose entire family is co-infected with HIV/TB. Due to severe financial constraints, the family has had to make the painful decision of sending only some family members to receive treatment while the others will have to wait until the family can afford the costs of transport associated with treatment.

Therefore, MSF in Swaziland is working on setting **one stop HIV/TB point of care**, clinics where people are treated for both diseases in one place. This brings benefits to the healthcare staff and to patients.

The Green Light Committee: Initiative for affordable second line treatment

Established in 2000, the Green Light Committee (GLC) Initiative is the mechanism that enables access to affordable, high-quality, second-line anti-TB drugs for the treatment of MDR-TB. Its objectives are:

- Ensuring effective treatment of patients with MDR-TB in accordance with guidelines published by the World Health Organization (WHO) on the programmatic management of MDR-TB;
- Increasing access to technical assistance to facilitate rapid scale-up of MDR-TB management;
- Increasing access to high-quality, low-cost, second-line anti-TB drugs for the treatment of MDR-TB among well-performing programmes;
- Preventing the development of resistance to second-line anti-TB drugs by ensuring rational drug use;
- Advising WHO on policy-related matters to effectively prevent and control MDR-TB based on the best available scientific evidence.

The GLC Initiative therefore contributes to reducing transmission of TB, preventing further drug resistance and ultimately reducing the global burden of TB. The GLC Secretariat coordinates the Initiative. Technical assistance to the MDR-TB programme is delivered by MSF in Shiselweni region, together with WHO Stop TB initiative and the NTCP's technical partners at national level.

The GLC Initiative was launched with the participation of MSF. MSF is currently an active member of the GLC.

Major price reductions in second-line anti-TB drugs are achieved for GLC-approved programmes through negotiations with pharmaceutical companies and pooled procurement of drugs. The International Dispensary Association (IDA), based in the Netherlands, is the drug procurement agent for GLC-approved programmes on behalf of the GDF (Global Drug Facility) and the GLC. The IDA, which was selected through a tender process, continuously negotiates the best possible prices for second-line anti-TB drugs.

The second-line anti-TB drugs that are available for GLC-approved programmes at negotiated prices are the following:
kanamycin, powder for injection – 1 gram vial
capreomycin, powder for injection – 1 gram vial
cycloserin, 250 mg capsule
ethionamide, 250 mg tablet
protionamide, 250 mg tablet
levofloxacin, 250 and 500 mg tablet
ofloxacin, 200 mg tablet
PASER, 4 gram granule sachet.

The IDA adds a seven percent procurement agent fee to the drug prices to cover its operational costs. This fee is included in the prices quoted on the GDF web site and in IDA quotations to GLC-approved programmes. IDA quotations are valid for 30 days only, because the availability of second-line anti-TB drugs at concessional or negotiated prices varies and prices are therefore subject to change.

For other second-line anti-TB drugs that are recommended in WHO MDR-TB treatment guidelines and are not listed above, GDF and IDA can supply quality-assured drugs at best available prices.

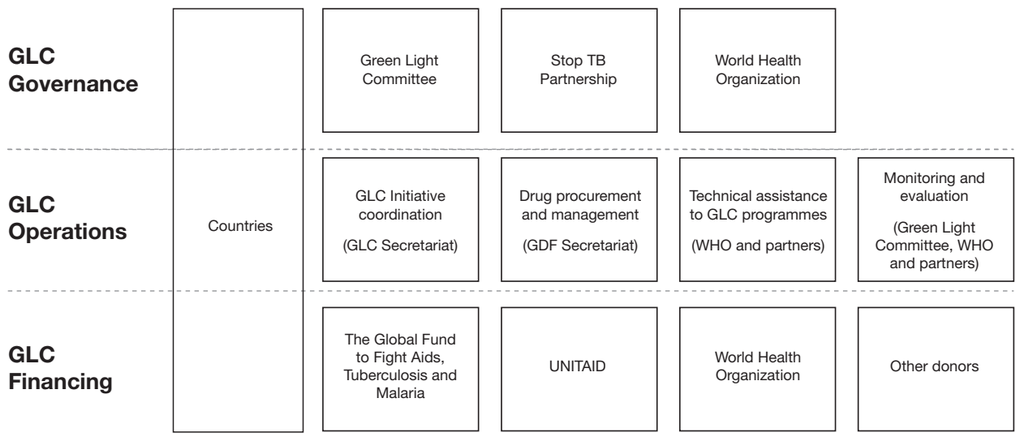


Diagram 1: The GLC Initiative Source www.who.int

MSF Response in Swaziland

First steps to addressing HIV/TB co-infection

When the then Prime Minister of the Kingdom of Swaziland approached Médecins Sans Frontières (MSF) in 2006, he met an organization that was willing to invest in the development of innovative operational strategies to combat HIV effectively at community level. With Swaziland facing the world's highest HIV adult prevalence at 26%, with a tuberculosis (TB) co-infection rate close to 80%, the government needed all the help it could get to combat the catastrophe.

Following the prime minister's invitation, MSF launched an assessment visit to the country. At first glance, Swaziland looks like any middle-income country, with an excellent road network and major infrastructure, a healthy tourism industry, relatively developed cities and towns, and well developed homes. Had MSF not taken a closer look, the organization could have missed the train of destruction being left behind by HIV and its leading opportunistic partner, TB. Many Swazis were dying from HIV/TB co-infection and government structures were not in a position to cope with the situation. In view of that gloomy picture MSF could not just stand by, and decided to lend a hand.

After a few months of interaction with the country's Ministry of Health and Social Welfare (MoH&SW), a memorandum of understanding (MoU) was signed in November 2007 between the two parties, allowing the start of MSF's TB/HIV Decentralization and Integration Project in Shiselweni region in the south of Swaziland. (Shiselweni region has a total of 208,454 residents according to the 2007 Census).

The MSF project was designed with the intention of making sure every measure put in place is focused on

the patient's needs. It focuses on managing HIV and TB infections in the easiest possible way for patients. MSF realized that the national TB and ART programmes were not sufficiently working together and that it was willing to play a role in bridging that gap between the two programmes at the regional level.

Since MSF's arrival in Swaziland, some form of piloted integration has begun at Shiselweni region's two health centres and hospital. However, this is still not enough because these facilities are often very far from most of the communities within the region. While there are 18 clinics scattered all over the region, these need to be upgraded to offer integrated TB and HIV services closer to the people.

MSF's aim is to ensure that patients are tested for HIV and screened for TB in one place. In this way, it can address both infections at the same time and also initiate treatment for both, if needed, at the same place. By decentralizing the offer of services (both diagnosis and treatment) to the level of patients' residence, the concentration of numerous infectious patients at health centre and hospital level is prevented and intra-hospital transmission is avoided.

Decentralization of the MSF HIV/TB treatment programme to rural clinics

It is part of MSF's strategy to reduce the problems of access to treatment experienced by patients. Towards this goal, MSF is working on enlarging the scope of services available at the rural clinics, which currently offer only basic primary health care work, and preventive services. The decentralization programme at the level of each of the 18 clinics will include, among other things, the provision of a larger and more complete pharmacy and a dispensary to run it; HIV testing and TB screening services by HIV testing and counseling officers (HTCs); offering of counseling services; training of nurses in diagnosis, treatment and management of HIV & TB; provision of diagnosis for patients conducted by a doctor visiting weekly.

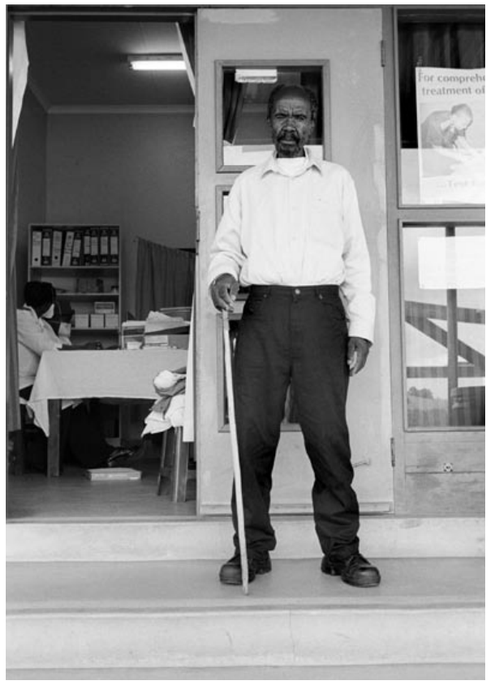
MSF is also providing and training expert clients (ECs), people who are living with HIV openly and positively, and who are on treatment, to conduct education and treatment adherence counseling services. These expert clients, who are based in the communities, are completely connected with patients and their families and help mobilize them, in order to follow up patients within the communities, detecting and tracing treatment defaulters. They are real-life examples showing that these infections can be treated and managed adequately. In the process, they lead the fight against stigma by being great ambassadors of people living positively with HIV.

There are currently not enough health workers to meet the basic demands of health facilities. Certain tasks will be handed over to expert clients, as the only feasible way to really reach out to communities and ensure that quality of care and follow up are not compromised.

Integrated treatment for HIV/TB co-infected patients

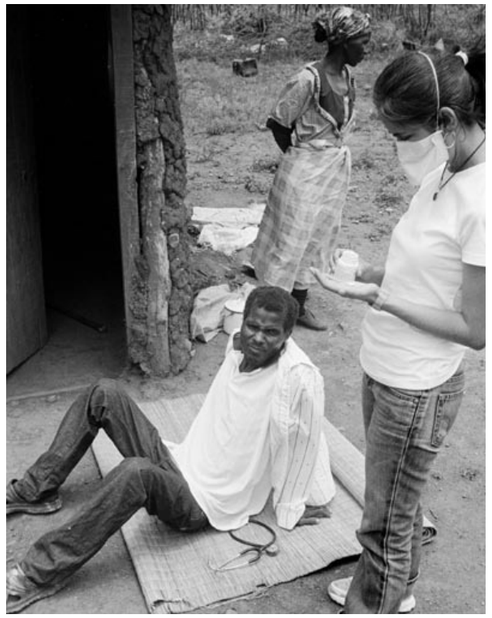
Three pilot sites, out of the nine where MSF started working last year (2008), have already been identified for full integration of services for HIV and TB. They are KaMfishane, JCI and Mashobeni clinics.

This is where MSF is going to start implementing comprehensive and fully integrated HIV/TB services (including treatment initiation) shortly, with patients only referred to the bigger health centres and hospital if they are severely ill, diagnosed with DR TB or developing serious complications or experiencing side effects that require urgent medical attention.



The integration programme will be implemented on a three-clinics-every-four-months basis, thus fully decentralizing and integrating services to nine clinics by December 2009. In the meantime, MSF will continue to expand its offering of basic ART services, including testing and counseling as well as CD4 samples collection and refill of ARVs to patients in all 18 clinics of the region.

MSF is working in close collaboration with the MoH, and is also assisting with the recruitment, mentoring and training of ECs. Driving the process of integration of services in the clinics are mobile teams that work in the three different zones of the region, namely Matsanjeni, Nhlangano and Hlathikhulu. Each mobile team consists of a mentoring nurse, a driver (logistics), an HTC counselor, a community care and support officer (CCSO) and an expert client (EC).



Addressing the problems of drug-resistant TB

Realizing how serious the situation related to TB/HIV co-infection is in the country, with a number of drug resistant TB cases discovered in the region, MSF has embarked on an **eight-point TB plan** approved by the MoH, which carries both regional and national components.

At the national level, MSF seeks to play a role in the formulation of various policies, including the formulation of guidelines & strategy for TB Management; assists in carry out National DST survey. There are plans to cooperate with National Reference Laboratory in Mbabane.

The organization also seeks inclusion in medical review committees at both national and regional levels, as well as in the improvement of monitoring tools.

MSF's regional plan also includes the creation of the capacity to hospitalize severely ill DR TB patients. The organization is currently plans to build a small hospitalization facility (35 beds) for DR TB patients in the region, a move it feels perfectly justified in undertaking following the identification of 42 MDR TB cases in the Shiselweni region by the end of 2008.

MSF's aims at demonstrating together with MOH that it is possible to refer stabilized TB patients back to their communities for continuation of treatment, with monitoring from community based health workers and treatment supporters. While treating diagnosed patients, health care personnel also ensure that the rest of the patients' family is not exposed to the infectious disease.

Several options are previewed for this decentralized "patient-friendly" way of assuring uninterrupted continuity of treatment: the construction of relevant temporary structures within the homesteads, accommodation secured within the communities so patients can stay close to the clinic, construction of isolation TB villages of between 5 and 10 units next to the clinics, or adaptation of the individual dwellings, where patients receive their treatment supported directly by their families and community. This is in line with the objective of decentralizing services, while at the same time reducing overcrowding of health facilities and patient exposure.

Piloting innovative strategies is fundamental to develop new models of care that will ultimately benefit the rest of the country.

The health ministry's support to the decentralization and integration concept is something that gives hope to the MSF team. Time will tell if this dream of bringing integrated HIV and TB services closer to the people will succeed and will translate into the saving of many more Swazi lives in Shiselweni region and elsewhere in the Kingdom.

Glossary of terms

Active tuberculosis. A form of TB characterised by active growth and multiplication of bacteria in the infected part(s) of the body, leading to the destruction of infected tissues and organs. As opposed to latent TB it needs immediate treatment.

Adherence. A patient is fully adherent to a treatment if the drugs are taken at the right dose, at the right time for the whole duration of the treatment course; if no doses are missed; if no appointments for follow up are missed; and if the patient feels co-responsible for his or her treatment. For TB, one patient out of two will have difficulties in following the treatment course. Poor adherence may lead to treatment failure, the development of drug resistance, and increases the threat of transmitting the disease to others.

Combination therapy. Therapy characterised by the simultaneous administration of two or more drugs.

Completion. A type of treatment outcome used to determine the success (or lack of success) of treatment for individual patients. Treatment completion applies to patients who have undergone a whole treatment course but for whom there is no confirmation of cure. This can either be because the absence of M. tuberculosis from the patient's sputum was not correctly verified or because the patient was not able to produce sputum. This definition will also be used for patients who initially enrolled as smear negative, as in their case a negative sputum sample is not a confirmation of a specific response to treatment.

Culture. Bacterial culture is a laboratory method to multiply bacteria in order to assess their presence or not in a patient's sample. This is done by letting the bacteria grow in predetermined culture media under controlled laboratory conditions, outside the natural environment where they usually grow (e.g. for TB, the human body).

Default. A patient who defaults has interrupted treatment for over two months. Defaulters who eventually return to access healthcare will usually be re-started on treatment, but the treatment regimen used will be stronger, with initially five (instead of four) drugs, as the patient might have developed resistance by virtue of defaulting.

Drug resistance. When a drug used to treat tuberculosis is in fact ineffective against a strain of M. tuberculosis, the bacteria is said to be resistant to the drug (as opposed to drug-susceptible or drug-sensitive).

Drug sensitivity testing. Sometimes also called antibiogram, Drug Sensitivy Testing, or DST, is a technique to determine which drugs work and which don't. It is done by exposing the TB bacilli to a culture-medium enriched by the antibiotic: if the bacteria are able to grow, the antibiotic is ineffective and the bacteria are resistant to the drug. If there is no growth, the antibiotic is proven to be effective, and the bacteria are sensitive or susceptible to the drug.

Drug-susceptible TB. Bacteria are said to be sensitive to a drug when the drugs are effective in killing or stopping the multiplication of bacteria in the body and can therefore clear the infection. The strains of TB which are sensitive to all first-line drugs are called drug-susceptible.

Extra-pulmonary TB. Form of TB where M. tuberculosis infect parts of the body other than the lungs. This is most commonly the lymph nodes, bones, central nervous system, cardiovascular and gastrointestinal systems.

First-line drugs. The drugs used as the first resort to treat a disease. In the case of TB, the following five drugs are usually chosen: isoniazid (H), rifampicin (R), ethambutol (E), pyrazinamide (Z) and streptomycin (S). These drugs are highly effective in drug-susceptible TB and patients usually tolerate them well.

Latent TB. A form of TB characterised by the presence in the body of M. tuberculosis in a "dormant" state. In other words, they are not actively growing or multiplying. This form of the disease is not contagious. As opposed to active TB, most of the time, no treatment is needed.

MGIT. MGIT stands for Mycobacterium Growth Indicator Tube. A diagnostic technique that contains a liquid medium releasing fluorescence when Mycobacteria are growing. The fluorescence is detected by a machine. The huge benefit of MGIT is the shorter time lag until a positive result can be obtained (8-10 days compared with 4-6 weeks for conventional culture media). But MGIT requires a well equipped laboratory, constant power supply and well trained staff.

Microscopy. Microscopy is currently the most commonly used technique to diagnose TB. Two to three sputum samples are taken from the patient and the sample will be stained and later read under the microscope. If TB bacilli are present, they occur in the form of small red rods, while the rest of the sample is blue.

Mycobacteria. Types of bacteria, of the genus Mycobacterium, that cause diseases such as TB and leprosy.

Mycobacterium tuberculosis or M. tuberculosis. A pathogenic bacterial species of the genus Mycobacterium and the causative agent of most cases of TB. First discovered in 1882 by Robert Koch.

Point-of-care testing. Testing at the point-of-care means that diagnosis is carried out as close as possible to the site of patient care. The driving notion behind point-of-care testing is having a test as convenient to the patient as possible and giving immediate results that can lead to prompt initiation of treatment.

Pulmonary TB. Form of TB where M. tuberculosis bacteria are infecting the lungs.

Second-line drugs. Second-line drugs are used when the first-line drugs are no longer effective to cure a patient. They are less effective against M. tuberculosis and have many more side-effects than first-line drugs.

Sputum smear-positive or smear-negative TB. We speak about sputum smear-positive TB when M. tuberculosis bacteria can be identified in the sputum of patients through examination with a microscope. Sputum smear-negative TB, on the contrary, is when bacteria can not be identified in the sputum of patients.

Biography of Photographer Aleksandr Glyadyelov

Aleksandr Glyadyelov was born in Legnitz, Poland, in 1956 into the family of a Soviet Army officer. He has been living in Kiev since 1974. Glyadyelov studied optics at Kiev Polytechnic Institute, graduating in 1980. He continued to study photography on his own through the mid-1980s and began working as a professionel freelance photojournalist in 1989. Glyadyelov has traveled extensively throughout the former Soviet Union and taken photographs in Ukraine, Russia, Moldova, Kyrgyzstan, Uzbekistan, Tajikistan, Turmenistan, Georgia, Azerbaijan, and Lithuania. His career has also taken him to Poland, the Czech Republic, France, Switzerland, and the United States. Glyadyelov covered the armed conflicts in Moldova, Nagorny-Karabakh, and Chechnya.

From 1996 to 1997, Glyadyelov concentrated on long-term photographic documentaries, including projects that focused on socially abused children in Ukraine and Russia, and the HIV/AIDS epidemic among intravenous drug users in Ukraine. His book Here and Now was published in Kiev in 2000. Glyadyelov was awarded in 1997 Grand Prix from Ukrpressphoto, the 1998 Hasselblad Prize at the European Photography Contest in Vevey, Switzerland, and the 2001 Mother Jones Medal of Excellence.

While working with MSF in 2001, Glyadyelov produced “Without the Mask” about tuberculosis epidemic in Russian prisons, and “Without a Motherland” about Chechen refugees in Ingushetia. In 2002, also in cooperation with MSF, Glyadyelov carried out an evaluation of the needs of homeless children in Moscow. Based on his illustrated report, MSF established a project focusing on street children in 2003. Glyadyelov also contributed to the international book project Pandemic : Facing AIDS, which was published by Umbrage Editions (USA) in 2003.

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