TB can be cured!

Four years fighting TB: Xoliswa Harmans shares her amazing story

TB demystified: An easy-to-understand guide to the science of TB

The quarantine question: A new policy might change everything
CONTENTS

Issue 40 – September 2011

Xoliswa’s story and a history of TB
For four years Xoliswa Harmans struggled with TB. We follow her remarkable story with a short history of how this disease has devastated communities for centuries and the slow progress we’ve made in fighting it.

The science of TB
The science of TB doesn’t have to be scary. In our easy-to-understand guide to TB science we demystify everything from drug-resistance to TB meningitis. Also, don’t miss our poster on TB medicines and their side effects, or Mandla and Sipho’s adventure in space on page 13.

Quarantine, breakthroughs and SACTWU’s programme
Forced isolation of DR-TB patients made headlines a few years ago. Equal Treatment investigates a new decentralised care policy that offers some solutions. After that we update you on an exciting new TB test and look ahead to the TB drugs of the future. We also learn what one trade union is doing to help workers stay healthy. Finally, on page 28 we bring you the latest TAC branch news. Find out how TAC members are teaching teens about HIV and STIs.
The TB world needs anger and activism
“The disease has been conquered.”

These words were said in 1962 by an official of the International Union Against TB. They were wrong. But the Union was so optimistic because effective anti-TB drugs had been discovered. From being a deadly disease that killed people throughout the world for tens of thousands of years, TB had become curable. In Europe and North America, TB deaths dropped dramatically.

Half a century later, nearly one-and-a-half million people die of TB each year. In South Africa, the number of recorded TB deaths tripled between 1997 and 2005. The disease is far from conquered. So why did things go wrong? It is hard to know for sure, but here are some possible answers:

Firstly, the effort that went into eliminating TB in rich countries was not copied in poor countries. Secondly, TB bounced back with the AIDS epidemic. Thirdly, large cities in the developing world have shanty towns where malnourished people live in awful, over-crowded conditions. This allows TB to flourish. Fourthly, health systems in poor countries are unable to cope with large numbers of TB cases.

On top of this, over the last decade the world has seen the growth of drug-resistant TB (DR-TB). Now many people diagnosed with the disease either can only be cured after an extremely long and difficult course of treatment, or they cannot be cured at all.

What needs to be done to beat TB back?

1. We need better drugs
There has been no approved new class of TB drugs in decades. But there is now progress. The most exciting new drug is TMC207, developed by the pharmaceutical company Tibotec. Small clinical trials show that it cures multi-drug resistant TB patients faster and it appears to have few serious side effects. But seven years after the discovery of TMC207 it is still not clear when it will be approved for use. TB is not a profitable disease, so the pharmaceutical industry moves very slowly on TB drugs.

Another big problem is that treatments for DR-TB are very expensive and have actually become more costly over the last decade.

2. We need better diagnostics
It can often take six weeks to diagnose TB and even longer to diagnose DR-TB. Now there is a new TB diagnostic, the GeneXpert machine, which diagnoses TB quite accurately within two hours. It also helps identify patients with drug-resistance. South Africa has bought a number of these machines, but we need to get one into every TB clinic that has electricity. However, each GeneXpert test costs over R100. We need to pressure the manufacturer, Cepheid, to drop the price.

3. We need our health system to work better
TB clinics need consistent drug supplies. An inconsistent supply leads to drug-resistance. Clinics should also have proper infection control. People should not contract TB when they go to a clinic! Also, health workers should trace the contacts of people with TB and ask them to get screened for TB.

4. TB prevention
Antiretroviral treatment reduces the risk of TB. There is growing evidence, not yet conclusive, that if you put people with HIV on treatment, the community benefits from a lower rate of new TB cases.

5. The TB world needs a shake-up
The next world TB conference will be held, once again, in France. Apart from Cape Town, where it took place several years ago, it is never held in high-TB burden areas. In other words, it happens far from the homes of TB patients and from the most experienced TB doctors and nurses. The dynamic activism of both patients and health workers that we have seen in response to HIV needs to be exported to the TB world. If we are to get better drugs, diagnostics and health systems for TB, we need more protests and more anger!

Nathan Geffen, TAC treasurer and editor of TBOntline.info
For four years Xoliswa Harmans struggled with tuberculosis (TB) and multi-drug-resistant TB. She tells her remarkable story to Mary-Jane Matsolo.
After many failed attempts, I finally meet up with Xoliswa Harmans in a small boardroom at the offices of Médecins Sans Frontières in Khayelitsha. At first glance you would never guess that this outspoken 37-year-old woman has had such a lengthy struggle with multiple-drug-resistant TB (MDR-TB).

Born in Queenstown and a Jehovah’s Witness church member, she now lives in Site C, Khayelitsha. Cooped up in that small office Xoliswa takes me through the four-year struggle she endured with MDR-TB and XDR-TB (extensively drug-resistant TB). It is not a rosy picture.

Xoliswa was first diagnosed with TB in 2006 when she began to develop symptoms such as weight loss, coughing, and night sweats. In her case TB was an opportunistic infection as she was also HIV-positive. For six months Xoliswa took her TB treatment, but three months after it ended she was still not well. Her left shoulder was swollen and there was a lump in her armpit. She was still losing weight.

When Xoliswa went for another TB test the results came back negative. Her family decided to take her back to Queenstown where they could look after her. While in Queenstown Xoliswa was admitted to Frere hospital so that doctors could operate on the lump in her armpit, which left a huge hole. Meanwhile, her shoulder continued to swell.

After the operation Xoliswa needed to find the cause of this swelling. She returned to Cape Town and went to Groote Schuur Hospital where she was once again diagnosed with TB. A further six months of treatment were needed, but this time around her regimen included two months of daily streptomycin injections. Xoliswa describes these injections as being the most painful things she has ever experienced. They left bumps in her buttocks that she had to rub away.

Xoliswa’s test results came back showing that she was resistant to Rifafour and streptomycin. This meant that she now had MDR-TB. The treatment was kanamycin, a daily injection for six months.

“The trouble started in 2008, October 15th. I will never forget that day!” says Xoliswa as she recalls the events that took place. “I was going for my routine kanamycin injection at Nolungile clinic. When I arrived, the sister in charge told me to wait outside the clinic gates for an ambulance, without any explanation of what was going on with me and where the ambulance was going to take me. It was later explained … when I arrived at Brooklyn Chest Hospital … that I now had XDR-TB. Dr Swendu, who was on duty that day, said to me, ’Mama, it is now up to you. If you want to live or not, it all depends on you.’”

“While I was [in hospital] my friends pulled away from me and the boyfriend I had at the time turned away from me. It was only my mother and [other] family members who came to see me. It was very hard for my family to come to terms with my condition now, because I had to leave them. My sister even relocated to Cape Town just so she could be closer to me and give me support.

“I stayed in Brooklyn Chest Hospital and told myself that I was going to take my medication and fight this disease even though it was hard,” Xoliswa continues. “…Some of the side effects of the medication were extreme diarrhoea that led to a loss of weight, and unbearable nausea, to mention but a few.”

“I got out of hospital and continued my medication at Nolungile clinic again, but this time I had to be extremely careful [to] wear a mask that covered my mouth and nose so that I could not transmit TB to others or catch it from other people. When I got inside a taxi and saw that none of the windows were open, I would ask the passengers to open at least one window and if they refused I would simply put my mask on. I would remember Dr Swendu’s words and that made me strong. When I came back to the clinic even members [of] my support group were afraid of me.

“On the 20th October 2010 I was finally diagnosed TB-free and discharged from Nolungile clinic. I had beaten TB finally, after a four-year struggle. Yhu! It was unbelievable. There was a time when I thought I was dying but through perseverance there was a reward.”

**Xoliswa was first diagnosed with TB in 2006 when she began to develop symptoms such as weight loss, coughing, and night sweats.**
A BRIEF HISTORY OF TB

TB in the murky past

The oldest evidence of TB is a half-million-year-old hominid discovered at a stone quarry in Western Turkey. It has lesions on its skull indicating TB infection.

The earliest occurrence of TB that has been confirmed by genetic analysis is from the 18,000-year-old remains of an extinct bison in North America.

The oldest confirmed cases of TB in humans were found in the skeletal remains of a mother and her infant in a submerged prehistoric site in Israel. A scientific team extracted bacterial DNA from the bones which matched DNA fragments of Mycobacterium tuberculosis.

TB was a common disease in ancient Egypt. TB DNA has been found in a 5,400-year-old skeleton and also in mummies dating as far back as 2050 BC.

“"I brought a chest specialist here. He says I have got to go into a sanatorium, probably for about 4 months. It’s an awful bore, however perhaps it’s all for the best if they can cure me." – George Orwell, novelist and political writer. Orwell died of TB in 1950. He was one of the first patients to try streptomycin and PAS.

1890s

Two German doctors, Franz Ziehl and Friedrich Neelsen, develop a way of diagnosing TB under the microscope. Their method, called the acid-fast stain, is still used to diagnose TB.

1943

Albert Schatz, an American PhD student, isolates streptomycin.

1944

The Swede Jörgen Lehmann discovers para-aminosalicylic acid (PAS), now used in the treatment of multiple-drug-resistant TB (MDR-TB).

1952

The anti-TB effect of isoniazid is discovered by researchers including the German scientist Gerhard Domagk.

1959

An Italian research group develops a new drug called rifampicin (RIF).

1960s

After the advances of the preceding 20 years, the 1960s is a high water mark in the fight against TB. People are optimistic that the disease can be beaten.

“"If the importance of a disease for mankind is measured by the number of fatalities it causes, then tuberculosis must be considered much more important than those most feared infectious diseases, plague, cholera and the like. One in seven of all human beings dies from tuberculosis." – Robert Koch

“"If I had tuberculosis ... this idea, formerly terrifying, no longer makes anyone tremble ... antibiotics have appeared, sanatoria have disappeared; as far as the public is concerned ... the disease has been conquered." – Official from International Union Against Tuberculosis, 1962. As quoted in 1964 by Salman Waksman, part of the team who discovered streptomycin.
“The symptoms of the disease are as follows: there is a latent fever, which generally begins toward the end of the day and is relieved by the coming of the new day; this is accompanied by much coughing at the beginning and the end of the night, with the discharge of … sputa ... The voice is either hoarse or high pitched, breathing is difficult, cheeks flushed and the rest of the body ashen coloured. The eyes have a worn appearance, and the patient is emaciated ... In some cases there is a hissing sound or wheezing in the chest ...” - Caelius Aurelianus, a Roman physician, describing TB in the 5th century AD.

Tuberculosis (TB) has been known by many names through the ages: consumption, phthisis, scrofula, Pott’s disease, King of Diseases and the white death (or white plague).

500 BC
Hippocrates, who is considered the founder of western medicine, describes TB as the most prevalent disease of his time.

Middle ages
The rise of cities coupled with poor living conditions leads to an increase in TB-related illness and death. In the following centuries, colonisation and industrialisation also contribute to the spread of TB.

1546
The Italian physician Girolamo Fracastoro points out that TB is contagious. His writing suggests an understanding that TB is caused by a small infectious agent that lives in the body.

1882
Robert Koch, a German doctor, announces that Mycobacterium tuberculosis is the cause of TB.

1868
The French doctor Jean-Antoine Villemin proves that TB is infectious.

1699
The Republic of Lucca (part of Italy) passes a law that imposes strong TB infection control measures: Autopsies are required, allowing fresh air to flow is considered a duty, and patients are encouraged not to eject sputum except into a glass or vessel. The republic also enforces the washing of utensils and linen used by people with TB.

1990s
As HIV spreads through the developing world, more and more people develop active TB. The optimism of the 1960s is a thing of the past as TB becomes the number one cause of death among HIV-positive people in South Africa.

1991 – 1992
MDR-TB breaks out in New York City. The outbreak sparks renewed interest in TB research.

2008
Researchers report positive findings for a new drug called TMC207 for the treatment of MDR-TB. Other new TB drugs and improved formulations of old drugs are also in the pipeline.

2009
A new TB test called the GeneXpert is rolled out in South Africa, dramatically reducing the time it takes to test for TB.

2011
A new TB test called the GeneXpert is rolled out in South Africa, dramatically reducing the time it takes to test for TB.
How Many People Have TB?

Prevalence

Total Population of South Africa: 49,004,031
- People with HIV: 5,600,000
- Currently diagnosed with TB: 490,000
- TB/HIV Co-infection: 58%

Incidence

South Africa has the highest incidence of TB in the world, after India and China.

Infection Rate

An untreated person with active TB can spread the disease to approximately 15 people per year.

Cost

TB Treatment: R1,680
MDR-TB Treatment: R181,600

Treatment

TB
- Days as inpatient: 64 to 70
- Visits as outpatient: 8 to 14

MDR-TB
- Days as inpatient: 43 to 49
- Visits as outpatient: 15 to 21

Sources:
THE SCIENCE OF TB

What is TB?

Unlike HIV, tuberculosis (TB) is not caused by a virus. It does not hijack cells and use those cells to reproduce in the way that a virus does.

TB is caused by a kind of bacteria. Bacteria are extremely small single-celled organisms. We find many different kinds of bacteria in the soil, in food, in our bodies, and just about anywhere else on earth. Many of the bacteria around us and in our bodies do no harm and some are even good for us.

The specific bacterium that is responsible for most TB in humans is called Mycobacterium tuberculosis. The word mycobacterium (which means ‘fungus-bacteria’) was given because when these cells are grown in a laboratory and viewed under a microscope they look like a fungus.

Mycobacterium tuberculosis is killed rapidly by exposure to direct sunlight. If protected from sunlight, it remains alive and infectious for up to ten weeks (for example in dried saliva). The bacterium can withstand most disinfectants and often remains in its dormant state. It needs oxygen to survive – it is therefore called an aerobic bacterium.

Mycobacterium tuberculosis grows slowly, reproducing itself every 24 to 48 hours. This is extremely slow for bacteria. Some bacteria can reproduce every 20 minutes.

It has a rod-shaped body approximately 0.2 millimetres in length, which cannot be seen with the naked eye – only under a microscope. The cell body is surrounded by an extraordinarily thick and complex cell wall. This cell wall makes it very hard to treat and diagnose TB.

TB is often transmitted when someone coughs. Cover your mouth and nose when you cough and turn your face away when someone coughs near you.
The four stages of infection

If you inhale TB bacteria, they rapidly pass through your mouth and nose and down into your lungs. They move into what are called the terminal bronchioli and alveoli of your lungs.

- The terminal bronchioli are the smallest parts of the bronchi, the structures that guide air from your upper airways (nose, mouth and trachea) into your lung tissue.
- Alveoli are part of the lung tissue and are the places where oxygen from the air you inhale is transferred into your blood to be carried to the organs that need it.

Stage 1: Macrophage defenders attack TB

The initial stage takes place in the first week after you inhale the TB bacterium. When a bacterium reaches the alveoli in your lung, it is swallowed by special cells of the immune system called macrophages. These macrophages are usually found in the tissue of the alveoli; their duty is to swallow and deactivate any germs in that area.

If there are too many TB bacteria, or if the macrophage is not strong enough to resist them, TB can reproduce inside the macrophage. This leads to the destruction of the macrophage and the infection of other, nearby macrophages that swallow the bacteria.

Stage 2: TB colonises your lung

If the macrophages cannot control the TB, your infection enters its second stage after about a week, at which point the bacteria multiply very quickly. This stage lasts until the third week after initial infection.

Stage 3: The immune fightback

After about the third week, your body brings in more immune cells and Mycobacterium tuberculosis usually stops multiplying so quickly. At this stage the macrophages and the TB typically reach a balance and your infection comes under control. For at least nine out of ten people the infection stops here and they do not develop active TB.

Even if your infection is under control, some TB can survive for years inside macrophages. These infected macrophages are sealed off from the rest of your lung by a wall of healthy macrophages. In this stage you are not infectious, because the TB in the macrophages cannot enter your airways and cannot be coughed out or exhaled. If your immune system is strong, the lung heals leaving only a small cavity and a scar in the tissue. This scar can later be seen on X-rays and is a sign that you have had an infection with Mycobacterium tuberculosis.

Stage 4: The TB military base

In about one in 20 cases, the lung does not heal properly and TB is reactivated after 12 to 24 months following your initial infection. The reactivated Mycobacterium tuberculosis reproduces quickly and forms a hole in the lung tissue, where your body’s immune system cannot reach the bacteria. From here, the TB quickly spreads and attacks your body and you develop signs and symptoms of active TB such as coughing. In this stage, you are highly contagious because your sputum (mucous that you cough up from your throat) contains active TB bacteria. Reactivation is more likely to happen if your immune system is weakened, for example by HIV infection or malnutrition.
How your body fights back

- If your body’s immune system is strong, it manages to contain the bacteria and the infection does not spread further. This is called latent TB or asymptomatic primary TB (stages 1 to 3).

- If your immune system is weak, it cannot contain the TB bacteria, which rapidly spread. You develop symptoms and fall ill. This is called active TB or progressive primary TB (stages 1 to 3, but without the final control over TB in stage 3).

- If your immune system is initially strong and contains the TB bacteria, but subsequently weakens and can no longer control it, the bacteria first enter a dormant state but are then reactivated and begin to spread aggressively (stage 4). This is called secondary TB or reactivation TB. It can also be triggered by a new infection with TB bacteria, which leads to a reactivation of the initial infection.

How to treat HIV and TB together

Being HIV-positive dramatically increases your risk of developing active TB. In South Africa an estimated 58% of people with active TB are also HIV-positive. TB is also the number one killer of people who are HIV-positive.

Treating TB and HIV together can sometimes be very difficult. As ARVs help the immune system recover, the immune system starts fighting the TB. This is called TB IRIS (Immune Reconstitution Inflammatory Syndrome). It can make patients feel extremely sick and is dangerous. Fortunately, research in recent years has clarified at which stage you should be given certain treatments.

- If you have a CD4 count below 350 and you are diagnosed with TB, you must be put onto TB treatment immediately. You must start HIV treatment as soon as the intensive phase of TB treatment – the first two months – is finished.

- If your CD4 count is very low – for example, below 50 – you should be put on both HIV and TB treatment immediately.

TB can be cured!

TB usually requires six months of treatment. It is important to keep taking your medicines for the full six months, even if you feel better. If you stop too soon you may become sick again or develop drug-resistance. Even though the side effects of TB treatment can be bad, the consequences of not taking the drugs are likely to be much worse. (See page 12 for more on TB treatment.)

Get tested for TB

If you experience the above symptoms you should ask for a TB test at the clinic. If you are HIV-positive, you are at a significantly higher risk of developing TB and you should try to get tested as regularly as possible.

The main way to test for TB is to take sputum (mucous coughed up from the throat) and test it for TB germs. The test will come back smear-negative or smear-positive.

A smear-positive test means that there is a TB infection in your lungs and that you must start treatment immediately.

A smear-negative test means that you might not have TB. However, many HIV-positive people test smear-negative, yet they still have active TB.

If you are HIV-positive and have TB symptoms but a smear-negative TB test result, there are other checks your clinic can perform to see if you really do have active TB. A chest X-ray can help your diagnosis. Also, you can have what is called a TB culture test, but this takes several weeks to produce a result. (See page 20-21 for more on TB tests.)

This article was adapted by Marcus Low from material published by Alex Muller on the website TBOnline.info.
In most cases, if you take your TB medicines for the full six months as prescribed, the TB will be cured. However, if you do not take the medicines as required, or the clinic runs out of drugs, or you stop taking them because of side effects, the TB in your body might become drug-resistant and the drugs might no longer work. If this happens, you will have to start using new and more expensive drugs with uncomfortable side effects.

It often happens that people become infected with TB that is already drug-resistant. The introduction of better ways to diagnose TB should mean that you will not be placed on treatment to which you are already resistant. Whatever happens, the only hope is to work closely with your doctor and to take your medicines exactly as prescribed.

What are MDR- and XDR-TB?

• When you are resistant to both of the two most powerful first-line anti-TB drugs, isoniazid (INH) and rifampicin (RIF), you have multi-drug-resistant (MDR) TB.

• When you are resistant to any of the drugs in the fluoroquinolone class (for example ciprofloxacin or moxifloxacin), and at least one of three injectable second-line drugs (capreomycin, kanamycin, and amikacin), then you have extensively drug-resistant (XDR) TB.

Both forms of drug-resistant TB can be deadly. At present, XDR-TB patients in particular are at a very high risk of death. We need to keep campaigning for the development of new drugs to treat these conditions. (See page 22-24 for more on new TB drugs.)

A huge problem

Drug-resistant TB is a much bigger problem than it should be due to poor management of health care programmes.

In 2008 there were an estimated 440,000 new cases of MDR-TB worldwide, compared to 511,000 in 2007, according to the World Health Organization. MDR-TB accounts for less than 5% of global TB cases. Approximately 5% of MDR-TB infections progress into XDR-TB. However, it is important to note that due to severe under-reporting of MDR- and XDR-TB cases, the above figures are only estimates. In fact, less than 10% of all infections are actually diagnosed.

The Global Plan to Stop TB predicts that between 2010 and 2015, 1.3 million MDR- and XDR-TB cases will need treatment in 27 countries with the highest incidence of drug-resistant TB, including South Africa. This treatment will have a price tag of US$16.2 billion.

This article was adapted by Marcus Low from material published by Alex Muller and Kay Kim on the website TBOnline.info.
Pulmonary TB

Pulmonary TB is TB of the lung. It is by far the most common kind of TB since infection takes place when you inhale the bacteria into your lung. (Read about the symptoms of pulmonary TB on page 9)

Extrapulmonary TB

Extrapulmonary TB is an umbrella term for all the kinds of TB infection that can occur outside your lungs. TB can infect virtually any part of your body, but some parts like the lymph nodes and central nervous system are more commonly infected.

Lymph node TB

This is the most common form of extrapulmonary TB. TB often infects the lymph nodes in the neck and above the clavicles (the thin bones below your shoulders), which then swell up and the skin around them becomes inflamed. Any lymph node in your body can become infected. Often the swollen lymph nodes cause other problems because of their size. To diagnose lymph node TB, the health practitioner takes a sample of the infected node. This means that he or she must prick your lymph node with a syringe and take out a few cells to examine them under a microscope.

Pleural TB

The pleura is a thin skin that surrounds your lungs and separates them from the wall of your chest cavity. It is double-layered; one layer sticks to your lungs and the other to the chest wall. There is a small space between these layers in which TB bacteria can collect and multiply. As a result, the area becomes inflamed and if you are infected you will have fever and experience pain when you breathe. This inflammation causes the pleura to produce liquid, which pools between the two layers. The liquid is called a pleural effusion. To diagnose pleural TB, the health practitioner must take a sample of your pleural effusion fluid to test it for TB. This is done by inserting a needle through your chest wall into the space between the pleura layers and taking out some of the fluid.

TB of the bone or joint

TB can also infect your bones or joints. This causes pain and swelling of the affected area. Very often people do not think that their symptoms are caused by TB, but rather by an accident, or other injury. To diagnose TB of the bone or joint, health professionals must take an X-ray, and often use more sophisticated forms of X-rays such as CT scans (computer tomographic scans) or MRIs (magnetic resonance imaging). As with the other forms of extrapulmonary TB, a small sample of TB bacteria must then be extracted from the bone or joint using a needle.

TB of the nervous system and TB meningitis

Your central nervous system is made up of your brain and spinal cord. TB can infect both, and most often this causes TB meningitis – an infection of the thin layer that covers your brain. The symptoms depend on where in your brain the TB strikes. Usually people with TB meningitis become very sleepy. They do not react normally, can no longer move their hands or feet or walk, and cannot speak or focus their eyes. TB meningitis is dangerous and difficult to treat. To diagnose it health professionals must perform a lumbar puncture. This involves inserting a needle into your back to reach the fluid around your spinal cord, which is connected to your brain, to determine if there are TB bacteria in that fluid. The fluid is called central spinal fluid, or CSF.

TB of the bone or joint

TB can also infect your bones or joints. This causes pain and swelling of the affected area. Very often people do not think that their symptoms are caused by TB, but rather by an accident, or other injury. To diagnose TB of the bone or joint, health professionals must take an X-ray, and often use more sophisticated forms of X-rays such as CT scans (computer tomographic scans) or MRIs (magnetic resonance imaging). As with the other forms of extrapulmonary TB, a small sample of TB bacteria must then be extracted from the bone or joint using a needle.
Know your TB medicines

Medicines for TB

<table>
<thead>
<tr>
<th>TB medicines</th>
<th>Formulations available</th>
<th>Side effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rifampicin (R)</td>
<td></td>
<td>Nausea, vomiting, abdominal pain and flu-like symptoms. Rifampicin may colour body secretions (tears, sweat, semen and urine) orange or red. Hepatitis is a rare side effect.</td>
</tr>
<tr>
<td></td>
<td>150 mg <strong>R0.58</strong> <strong>R1.29</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>450 mg <strong>R1.05</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>600 mg <strong>R0.89</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>R (60 mg)/ H (60 mg) [paed] <strong>R0.99</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>R (300 mg)/ H (150 mg) <strong>R0.71</strong> <strong>R1.01</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>R (150 mg)/ H (75 mg) <strong>R0.41</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>R (150 mg)/ E (275 mg)/ H (75 mg)/ Z (400 mg) <strong>R0.47</strong> <strong>R0.73</strong></td>
<td></td>
</tr>
<tr>
<td>Isoniazid (H)</td>
<td></td>
<td>Fevers, rashes, peripheral neuropathy, neurotoxicity (damage to the nervous tissue) and hepatotoxicity (damage to the liver). Rare side effects include psychosis, jaundice and convulsions.</td>
</tr>
<tr>
<td></td>
<td>100mg <strong>R0.08</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>300 mg <strong>R0.49</strong> <strong>R0.66</strong></td>
<td></td>
</tr>
<tr>
<td>Ethambutol (E)</td>
<td></td>
<td>Nausea, headache, dizziness and visual impairment.</td>
</tr>
<tr>
<td></td>
<td>100mg R0.37</td>
<td></td>
</tr>
<tr>
<td></td>
<td>400mg R0.44</td>
<td></td>
</tr>
<tr>
<td>Pyrazinamide (P)</td>
<td></td>
<td>Nausea, vomiting, pain in the joints and jaundice.</td>
</tr>
<tr>
<td></td>
<td>S (1 gm/3ml) <strong>R8.10</strong></td>
<td></td>
</tr>
<tr>
<td>Streptomycin (S)</td>
<td></td>
<td>Loss of hearing, kidney damage, dizziness, impaired coordination, rashes, fever, yeast infections and oral thrush.</td>
</tr>
<tr>
<td></td>
<td>S (1 gm/3ml) <strong>R8.10</strong></td>
<td></td>
</tr>
</tbody>
</table>

Patients who are resistant to rifampicin and isoniazid have multi-drug resistant (MDR) tuberculosis. The medicines for MDR-TB have much more serious side effects. Taking the above TB medicines as prescribed will reduce your chances of needing the MDR-TB medicines shown below.

Medicines for MDR-TB

<table>
<thead>
<tr>
<th>MDR-TB medicine</th>
<th>Dosage per unit</th>
<th>Side effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kanamycin (Km)</td>
<td>1 gm / 3 ml bottle <strong>R17.00</strong></td>
<td>Kidney damage, loss of hearing, dizziness, peripheral neuropathy (damage to the peripheral nervous system), pain at the injection site and rashes.</td>
</tr>
<tr>
<td>Amikacin (Am)</td>
<td>100 mg <strong>R17.79</strong></td>
<td>Kidney damage, loss of hearing, dizziness, peripheral neuropathy, pain at the injection site, rashes, hypokalaemia (low potassium in the blood) and hypomagnesaemia (low magnesium in the blood).</td>
</tr>
<tr>
<td></td>
<td>250 mg <strong>R34.43</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>500 mg <strong>R50.57</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1000 mg <strong>R78.98</strong></td>
<td></td>
</tr>
<tr>
<td>Capreomycin (Cm)</td>
<td>1 g <strong>R28.91</strong> <strong>R120.00</strong></td>
<td>Kidney damage, loss of hearing, hypokalaemia (low potassium), rashes and pain at the injection site.</td>
</tr>
<tr>
<td>Moxifloxacin (Mfx)</td>
<td>400 mg <strong>R3.87</strong> <strong>R18.87</strong></td>
<td>Nausea, vomiting, diarrhoea, trouble sleeping, dizziness, yeast infections and sensitivity to light. Rare side effects include tendon damage/rupture.</td>
</tr>
<tr>
<td>Levofloxacin (Lfx)</td>
<td>250 mg <strong>R12.62</strong></td>
<td>Nausea, vomiting, diarrhoea, trouble sleeping, dizziness and sensitivity to light. Rare side effects include peripheral neuropathy and tendon rupture.</td>
</tr>
<tr>
<td></td>
<td>500 mg <strong>R19.88</strong></td>
<td></td>
</tr>
<tr>
<td>Ofloxacin (Oflx)</td>
<td>200 mg <strong>R8.61</strong></td>
<td>Nausea, vomiting, headache, malaise, insomnia, dizziness and sensitivity to sunlight. Rare side effects can include tendon rupture and peripheral neuropathy.</td>
</tr>
<tr>
<td></td>
<td>400 mg <strong>R16.86</strong></td>
<td></td>
</tr>
<tr>
<td>Ethionamide (Eto)</td>
<td>250 mg <strong>R1.45</strong> <strong>R1.69</strong></td>
<td>Nausea, vomiting, dizziness and fatigue. Rare side-effects include jaundice, depression, peripheral neuritis (tingling in the hands and feet) as well as vision disturbances.</td>
</tr>
<tr>
<td>Prothionamide (Pto)</td>
<td></td>
<td>Nausea, vomiting, depression, hallucinations, jaundice, menstrual disturbances and peripheral neuropathy.</td>
</tr>
<tr>
<td>Cycloserine (Cs)</td>
<td></td>
<td>Chronic headaches, dizziness, nightmares, depression, anxiety, hallucinations, confusion and sleep disturbances. Cycloserine should be immediately halted if the patient is suicidal or psychotic. Other side effects include rashes, peripheral neuropathy, jaundice and vision disturbances.</td>
</tr>
<tr>
<td>Terizidone (Trd)</td>
<td>250 mg <strong>R6.43</strong> <strong>R13.59</strong></td>
<td>Depression, anxiety, panic attacks, psychosis, hallucinations, paranoia, dizziness, slurred speech and convulsions. Terizidone should be immediately halted if the patient is suicidal or psychotic. Other side effects include nausea, vomiting and skin allergies.</td>
</tr>
<tr>
<td>Para-aminosalicylic acid (PAS)</td>
<td></td>
<td>Nausea, diarrhoea, fatigue, hepatitis, hypothyroidism (when the thyroid gland produces insufficient thyroid hormone) and malabsorption syndrome (disorders in the ability of the intestines to absorb nutrients). PAS should not be used in patients who are allergic to aspirin.</td>
</tr>
<tr>
<td>Clofazimine (Cfz)</td>
<td></td>
<td>Dry and flaky skin, nausea, abdominal pain as well as discolouration of the skin, retina, cornea and urine. Clofazimine may also cause irritated eyes, sensitivity to light, headache, fever, increased blood sugar and liver damage.</td>
</tr>
<tr>
<td>Linezolid</td>
<td>600 mg tablet <strong>R593.01</strong></td>
<td>Nausea, diarrhoea, dizziness, sleeplessness, peripheral neuropathy, vision disturbances, bloody stool and yeast infections.</td>
</tr>
</tbody>
</table>

Patients who are resistant to isoniazid, rifampicin, a fluoroquinolone and a second-line injectable medicine have extensively drug resistant TB.
The side effects of TB medicines are bad, but dying or developing drug-resistance is worse.
1. Ventilation

**Clinic:** Clinics are built with special ventilation systems to ensure that air is always circulating. Clinics also have structural elements such as raised roofs or holes in the walls to let air in and out.

**Home:** Opening opposite windows or doors in your own home will have the same effect. To create a crossdraft, you should be able to draw a straight line between two open windows.

2. Crowding

**Clinic:** Clinic benches are positioned to provide people with plenty of space in which to wait.

**Home:** You can also spread out at home by using your garden or stoep when you have friends over. If someone is sick, let them rest and recover in a secluded room.
Everyone is at risk of getting TB, even in their own home. Learn how to minimise the risk by following the strategies that clinics use to control the spread of infection.

### 3. Mask

**Clinic:** Masks provide a physical barrier to transmission. TB patients should always wear their masks. At clinics, health workers also wear masks.

**Home:** At home, carers and family members can wear masks too.

![Clinic photo](image1)

![Home photo](image2)

### 4. Coughing and sneezing

**Clinic:** Our arm provides a barrier and hides our mouth and nose so we cannot spread TB. At home, remember these signs!

**Home:** Remind family about this if they use their hands to cover coughs and sneezes. If you do have to cough or sneeze into your hands, wash them straight away.

![Clinic photo](image3)

![Home photo](image4)
The forced isolation of patients with drug-resistant TB has made headlines in recent years. Agnieszka Wlodarski from SECTION27 explores the solutions offered by South Africa’s new policy of decentralised care.
A BRIEF HISTORY OF ISOLATION TREATMENT IN SOUTH AFRICA

2008 and 2009 saw dramatic headlines about patients ‘escaping’ from specialised drug-resistant TB (DR-TB) hospitals in Gauteng, Eastern Cape and Western Cape. According to the Department of Health treatment guidelines at the time, patients had to be isolated for the initial phase of their DR-TB treatment. This usually meant six months of isolation but it sometimes lasted longer.

Patients were unhappy about being away from their families and support networks. They often worried about how their families would survive. Those in employment felt anxious that they might lose their jobs if they were away too long. To add to their concerns, conditions in these hospitals were often poor.

In some cases the Department of Health applied for court orders which would require ‘escaped’ patients to return to specialised hospitals to complete their treatment. However, forced isolation is tricky from a legal point of view. As a result, only one court judgment was obtained forcing four DR-TB patients to resume treatment in a specialised hospital (the case of ‘MEC of Health, Western Cape versus Goliath and others’).

IS FORCED ISOLATION LEGAL?

In the Goliath case the court ruled in favour of forced isolation, but the judgement might have been different if the court had considered the case in terms of Section 36 of the Constitution of South Africa. Section 36 ensures that in an open and democratic society a person’s rights cannot be limited (forced isolation restricting the right to freedom of movement) without a formal enquiry that considers various factors. In terms of Section 36 the following has to be weighed up:

(a) the nature of the right that is to be limited (in this case a patients’ right to freedom of movement as guaranteed in Section 12 of our constitution);

(b) the importance of limiting a person’s rights (the court could argue that the protection of the community and public health are at stake);

(c) the nature and extent of the limitation (namely the isolation); and

(d) less restrictive ways to achieve the same goal.

The second and fourth factors are particularly relevant. We cannot justify isolating patients when there are not enough beds in specialised hospitals to provide treatment for everyone who has DR-TB. People have to go back to their communities while they are on the hospital waiting lists. This means that even though in theory the courts could restrict a patient’s right to freedom of movement, the restriction would be pointless since many others with DR-TB are sent back to their communities and the goal of ensuring public health would not be met.

In the Goliath case, if the court had conducted a Section 36 enquiry it might at least have considered whether community-based care would have been a better alternative to isolation. This enquiry might also have addressed some of the negative effects of isolation, such as being away from your family for a long time.

TIME TO DECENTRALISE DR-TB CARE

To overcome the problems of isolation treatment South Africa is developing a new policy of decentralised care. This policy seeks to address several issues on which activists have campaigned for change. These issues include the strain on patients who are hospitalised for over six months, and long waiting lists due to the limited number of hospital beds.

Out of approximately 9,070 notified cases of multi-drug-resistant TB (MDR-TB) in 2009, across the country fewer than 5,000 patients began treatment in that
same year. The decentralised management of patients with MDR-TB (but not extensively drug-resistant TB, or XDR-TB) will shorten the number of days between diagnosis and the start of treatment. The end result will be better treatment coverage, reduced transmission of DR-TB, and the possibility of patients obtaining treatment closer to home. This is also likely to increase the social acceptability of MDR-TB treatment.

According to the draft policy on decentralised management of MDR-TB, the new approach will benefit patients by:

- Accommodating their personal responsibilities and needs as they will be closer to their own homes;
- Reducing transmission of MDR-TB by starting treatment sooner, which will eventually make more beds available;
- Improving treatment adherence using community-based programmes; and
- Lowering costs by reducing lengthy stays in specialised hospitals.

The draft policy on decentralised treatment proposes the following health framework for management of DR-TB patients:

Decentralised management of DR-TB means transferring responsibility for MDR-TB patients to lower levels of the health system on condition that they meet specific criteria. It includes the management of DR-TB in decentralised DR-TB units, satellite MDR-TB units, or in the community using mobile teams, community carers and household support. The World Health Organization’s MDR-TB guidelines define community-based care and support as any action or help provided by, with or from the community, including situations in which patients receive ambulatory (outpatient) treatment.
WHAT CAN WE DO TO SUPPORT DECENTRALISED TREATMENT FOR DR-TB?

- Civil society organisations must work together to ensure that this new policy addresses all concerns that South Africans have raised about MDR-TB treatment.

- Campaigners need to share information about how the policy is being implemented in the real world.

- We must ensure that the decentralisation is properly costed and budgeted. These are crucial factors that can determine the success of any new policy.

- We must lobby specifically for the rights of vulnerable groups such as children, migrants, refugees and miners.

- The same amount of dedication and care that has driven the response to HIV should also be used to address the TB pandemic in South Africa.

- We need to support a response to TB and DR-TB that centres on human rights.


Overcrowded hospitals cannot provide sufficient care to fragile patients. Photo by Mariella Furrer.

Decentralised clinics allow patients to seek treatment closer to home. Photo by Chelsea Maclelan.
For over a hundred years TB has been diagnosed using a method called smear microscopy. Now, we finally have a test that is both faster and more reliable. This new test is called the GeneXpert MTB-RIF test – or just GeneXpert for short.

How does the GeneXpert technology work?

Old-style smear microscopy requires skilled technicians to spend hours performing various laboratory tasks. The GeneXpert platform automates many of these steps and thus makes it possible to complete more tests using fewer laboratory technicians. This is why patients can now obtain their test results in hours rather than weeks.

The laboratory technician prepares the sputum sample collected at the clinic, places it into a cartridge, puts the cartridge into the GeneXpert machine, and the machine does the rest.

As with smear microscopy, there are three stages in the test:

1. Sample preparation: Technicians mix the sputum sample with a variety of highly specialised chemicals. These chemicals help to isolate a specific area of TB DNA, but we cannot see the TB under a microscope.

2. Amplification: Once the specific TB DNA has been isolated, technicians need to make more of it so that it will be easier to test. This process of isolating the desired region of DNA and cloning only that region is called amplification.

3. Detection: Once there is plenty of the copied DNA, technicians can try to detect it. We call the molecule used for this detection a probe. A probe is designed using genetic code that makes it stick to the DNA for which the laboratory technicians are searching (in this case TB). A probe is usually designed so that when it attaches itself to DNA it changes colour or becomes fluorescent. When a technician looks at it through a microscope and sees that the colour has changed or some of the sample has become fluorescent, he or she knows that the probe has found some TB. This means that the sputum sample is positive. The GeneXpert does all this automatically.

Both the old-style smear test and the brand new GeneXpert machine are being used at Site B Clinic in Khayelitsha to diagnose TB. Elizabeth Mills went to investigate.

<table>
<thead>
<tr>
<th>TIME REQUIRED</th>
<th>SMEAR MICROSCOPY</th>
<th>XPERT MTB/RIF TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 hours (Requires a lot of work by laboratory technicians. In fact, it can take weeks to get results.)</td>
<td>2 hours (Many tests can be done at once with little effort from lab technicians.)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SENSITIVITY</th>
<th>68%</th>
<th>98%</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIAGNOSIS OF DRUG RESISTANCE</td>
<td>No</td>
<td>Diagnoses rifampicin resistance</td>
</tr>
<tr>
<td>YEAR DEVELOPED</td>
<td>1886 (Developed by Franz Ziehl and Friedrich Neelsen)</td>
<td>2004 (Developed by a company called Cepheid, Inc.)</td>
</tr>
</tbody>
</table>

Xpert MTB/RIF is a sensitive test. For every 100 people with active TB it will correctly diagnose 98 of those cases. By contrast, smear microscopy identifies the TB in 68 out of 100 cases. This means that smear microscopy would miss 32 cases of TB whereas the GeneXpert test would miss only two.
The GeneXpert is particularly important for the diagnosis of TB in people with HIV. This is because smear microscopy has a high rate of false negatives (when the tests say that you do not have active TB, but you do in fact have it). The GeneXpert will thus ensure that far fewer cases of TB go undiagnosed and untreated.

South Africa has now bought 30 of these machines. During his 2011 budget speech, Health Minister Aaron Motsoaledi committed to providing the GeneXpert to all National Health Laboratory Systems (NHLS) laboratories by the end of 2012.

However, cost is a major problem. The GeneXpert machine costs US$17,000 (ZAR R117,800) and the individual cartridges used per test cost $16.86 (R118.02).

Cepheid should reduce the cost of the machines and cartridges as a matter of urgency.

The NLHS must also investigate how to bring down high associated costs, such as distribution, printing and tax, which are estimated at around R83.29 per test.

South Africa must also extend the benefits of the GeneXpert system to children. It is difficult to collect sputum samples from children so that these samples can be tested using the GeneXpert platform. Clinics need to urgently consider easy, non-invasive methods to collect samples from children. MSF has successfully used a mist machine, also known as a nebuliser, that is placed on the child’s face. These should be made available in all clinics where sputum samples are collected from children.

Make the test cheaper!
By Claire Wingfield, Treatment Action Group

Photo by Chelsea MacLachlan.
For centuries tuberculosis (TB) remained incurable. Then, between the 1940s and 1970s the discovery of new antibiotics and combination therapy changed everything. We had the medicines, so it was only a matter of distributing and using them correctly. Unfortunately this was easier said than done.

After 1963, when the last new class of TB drugs was discovered, development of new drugs virtually ground to a halt. It was not until the 1990s, when the emergence of drug-resistant TB (DR-TB) coincided with the HIV epidemic in the United States and Europe, that researchers and pharmaceutical companies renewed their interest in developing better TB medicines.

Since that time TB treatment research has undergone a renaissance. We now have the fullest pipeline of new drugs in decades. Six compounds from existing and novel drug classes are being evaluated in clinical trials, with more currently in pre-clinical studies. Existing drugs that have been used off-label (in other words, for unapproved purposes) to treat TB are being repurposed to shorten the length of treatment, reduce harmful effects, and improve treatment outcomes.

The most clinically advanced compounds are TMC207 (newly renamed bedaquiline) from Tibotec and OPC-67683 (newly renamed delamanid) from Otsuka Pharmaceuticals. Both compounds are in late stage clinical trials. Within a year, the companies are expected to seek regulatory approval to use these drugs in the treatment of DR-TB.

Excitement about these compounds is offset by concern that gaining worldwide regulatory approval is likely to be challenging. Depending on how quickly countries adapt their regulatory requirements, diagnostic capabilities, and DR-TB treatment programmes, these drugs may take years to become widely available in countries where TB is endemic.

TMC207
TMC207 is furthest along in development, so all eyes have been on Tibotec. The company has begun a compassionate use programme and an expanded access trial to provide pre-approval access for patients with limited or no treatment options. These types of programmes have been used for antiretrovirals and cancer drugs. However, no TB drug has ever been made available in this way. TMC207 is therefore a test case for how to guarantee the quickest possible access to a promising drug while also making sure that it is used appropriately.

The concern is that if new compounds are used inappropriately – with too few effective companion drugs – new drug-resistant strains of TB could emerge rapidly. This would limit any drug’s long-term impact on the pandemic. We need to acknowledge these challenges together with the urgent need to ensure access to innovative TB medicines.
drugs for people who are dying. There is a lot of discussion about how best to provide this access – pre- and post-approval – and how to be certain that patients benefit from high-quality programmes free of unnecessary restrictions. At the same time, steps must be taken to limit and monitor the emergence of drug resistance.

The responsibility for appropriate use of a new drug does not rest only with the developer.

Despite the recent progress in TB drug research we must remain cautious in our optimism. While the drugs now in development are the most promising in decades, they are still not enough to eliminate TB as a public health threat. We have no data on how best to use these drugs in children and limited information about how they might interact with antiretroviral therapy. As a result, those people more likely to suffer from severe disease may have to wait for new treatments. Promising new drugs are on the horizon and we must prepare to roll them out effectively wherever they are needed.

New drugs for children

Children make up approximately 20% of the global TB burden. This is probably an underestimate because it is difficult to confirm TB diagnosis in children. They are also at increased risk for rapid disease progression. But so far none of these new compounds have been evaluated in children. Children must be included early in the drug development process so that they, too, can benefit from new treatments. There is also an urgent need for more research into the safety and efficacy of using currently available MDR-TB medicines for treating children with drug resistant TB.

Existing and new TB drugs in clinical trials as of June 2011

<table>
<thead>
<tr>
<th>Drug</th>
<th>Use</th>
<th>Phase</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Repurposing existing drugs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rifapentine + isoniazid</td>
<td>LTBI treatment shortening</td>
<td>Phase II</td>
<td>Complete</td>
</tr>
<tr>
<td>isoniazid</td>
<td>LTBI</td>
<td>Phase III</td>
<td>Data analysis</td>
</tr>
<tr>
<td>rifapentine</td>
<td>DS-TB  treatment shortening</td>
<td>Phase II</td>
<td>Enrolling</td>
</tr>
<tr>
<td>rifapentine + moxifloxacin</td>
<td>DS-TB  treatment shortening</td>
<td>Phase II</td>
<td>Enrolling</td>
</tr>
<tr>
<td>moxifloxacin</td>
<td>DS-TB  treatment shortening</td>
<td>Phase III</td>
<td>Enrolling</td>
</tr>
<tr>
<td>gatifloxacin</td>
<td>DS-TB  treatment shortening</td>
<td>Phase III</td>
<td>Data analysis</td>
</tr>
<tr>
<td><strong>New drugs</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AZD5847</td>
<td>TBA</td>
<td>Phase II</td>
<td>Not yet enrolling</td>
</tr>
<tr>
<td>PNU-100480</td>
<td>DR-TB</td>
<td>Phase II</td>
<td>Not yet enrolling</td>
</tr>
<tr>
<td>SQ 109</td>
<td>DS-TB/ DR-TB</td>
<td>Phase II</td>
<td>Enrolling</td>
</tr>
<tr>
<td>PA-824*</td>
<td>DS-TB</td>
<td>Phase II</td>
<td>Enrolling</td>
</tr>
<tr>
<td>OPC-67683*(delamanid)</td>
<td>DR-TB</td>
<td>Phase II</td>
<td>Data analysis &amp; patient follow-up</td>
</tr>
<tr>
<td>TMC207*(bedaquiline)</td>
<td>DS-TB</td>
<td>Phase II</td>
<td>Enrolling</td>
</tr>
<tr>
<td></td>
<td>DR-TB</td>
<td>Phase II</td>
<td>Data analysis &amp; patient follow-up</td>
</tr>
</tbody>
</table>

LTBI = Latent TB Infection; DS-TB = Drug-Susceptible TB; DR-TB = Drug-Resistant TB

* Indicates from a new drug class
The South African Clothing and Textile Worker’s Union (SACTWU) has established a Worker Health Programme that shows how employers and unions can cooperate to create healthier work environments. Importantly, this programme uses a primary health care approach that prioritises prevention and takes TB seriously.

What is SACTWU’s Worker Health Programme?

SACTWU is the largest trade union in the South African clothing and textile industry. Its Worker Health Programme (SWHP) began in 1998 as an HIV/AIDS education project.

Today SWHP provides a full continuum of care – everything from screening and testing to treatment and support. The programme employs trainers, lay counsellors, nurses and home-based carers. Using mobile teams, it provides factory workers with access to primary health care, no matter where they are.

In the past year, SWHP has expanded to offer a comprehensive TB programme, including workplace

A healthy workplace is good for everyone. Workers with access to quality health care and support stay healthy, live better lives and are able to provide for their families. Workplace health programmes also suit employers because healthy workers are more productive. The disruption that tuberculosis (TB) causes in the workplace is costly for industry, employers, and workers alike.
education and training sessions. “We have been piloting a TB treatment programme in Western Cape cities,” says Nikki Soboil, the Director of SWHP. “It works … for the workers, and the employers are very happy.”

How does SACTWU’s Workplace Health Programme work?

1. Training
SWHP trainers visit workplaces daily to conduct TB and HIV education sessions on the factory floor. These talks usually happen over tea or lunch in the canteen. Since time is limited, trainers deliver practical ‘take-home’ messages with a focus on prevention, informing workers about basic infection control and TB symptoms. Trainers leave posters and other materials to encourage disease control, screening and testing.

In addition to these talks, SWHP also targets shop stewards for more intensive training. Shop stewards attend two- to three-day workshops at the union offices, which cover HIV, TB and workplace rights.

2. Infection control
During education sessions on the factory floor, SWHP trainers promote basic measures to control the spread of TB, like opening windows, coughing into a tissue and washing hands. SWHP also talks to factory management about infection control. This might include suggesting UV lights, tissues or better ventilation. SWHP has been able to supply factories with free alcohol gel dispensers for hand washing. Trainers also encourage SACTWU members, who work in the clothing and textile industry, to use fabric cut-offs to create handkerchiefs.

3. TB screening and testing
Trainers routinely group-screen for TB, asking workers if they are experiencing any symptoms. Teams of nurses and lay counsellors follow this up by visiting daily to test and screen for TB.

The TB tests involve collecting jars of sputum in the workplace or when workers visit an SWHP clinic to test. If SWHP clinics are too far away, workers are referred to a Department of Health (DoH) clinic for testing. In such cases, a nurse from SWHP phones to check that the worker has collected their test results.

If the sputum results are negative but the worker has clinical symptoms of TB, SWHP conducts a culture test and may refer the worker for X-rays if necessary.

4. TB treatment
The SWHP clinic in Salt River is the only non-government, non-private TB treatment site in the Western Cape. Workers can choose whether to have treatment from SWHP or at a local DoH clinic. Most SACTWU members who test TB-positive are treated through the SWHP clinic unless they live or work too far away. To date, SWHP has a 100% cure rate.

Soboil says that the success of the treatment programme is down to good partnerships and a dedicated team. “Partnerships are really important… [T]he DoH… link us to certain clinics and because of that we are able to refer easily. We are able to get drugs easily and we get our test kits through them. There has to be some kind of partnership otherwise it’s not going to work.”

5. Support
For the first two weeks of TB treatment, workers take sick leave. During this time, they either visit the clinic daily or the SWHP nurse goes to them. SACTWU nurses use the directly observed therapy (DOT) system to monitor patient adherence, but decide how regularly to monitor the patient based on how well that person is doing on treatment. Workers can also choose to
receive DOT at their factory, in which case they are supported by supervisors or occupational nurses. SWHP communicates with managers and occupational nurses about workers’ treatment, sick leave and other logistics, so that treatment happens on the workers’ terms.

**Union’s relationship with the employer**

The SWHP will test anybody at a factory for TB regardless of whether they are a SACTWU member or not. Although only SACTWU members and their families can attend SACTWU clinics, others are referred to DoH clinics for care.

The SWHP TB programme requires employer support in order to achieve its primary aim: promoting the health of workers. Once worker health is understood to be mutually beneficial, unions and employers are able to work together toward this goal.

**What can we learn from SACTWU’s Worker Health Programme?**

**We need clinics that cater for workers**

Most clinics in South Africa open between 07:30 and 15:00. This means that people who work are often unable to use them. By contrast, SACTWU clinics are open from 06:30 to 18:30, including Saturdays. For the most part, SACTWU clinics work on an appointment basis so that members can book a time that suits them best. They are also welcome to attend on a walk-in basis. More clinics in South Africa need to cater for workers by opening outside of traditional working hours.

**Partnerships make the difference**

SWHP has been able to partner with the DoH and global funders to make the programme a success. Networks and relationships keep the programme running, ensuring smooth referrals and access to resources.

**We need dedicated, qualified people to take on health issues in the workplace**

The SWHP teams are committed to their work and equipped with the necessary expertise. They keep up with scientific developments, diagnostics and infection control methods, and all lay staff receive accredited training.

**We need to reach beyond individual workers**

SACTWU’s Worker Health Programme extends beyond individual workers to their families and communities. Sister Vuyiswa, one of the nurses at the SWHP Clinic in Salt River, says that the best part of her job is that by getting to know one TB patient, she also gets to know their family. “Building relationships with families encourages … support for the patient on treatment and allows me to screen other family members for TB.” SWHP has also begun reaching out to schools, where it provides basic TB education.
**Teach teens about HIV**

By Luckyboy Mkhondwane

Not enough is being done in our schools to educate teenagers about HIV, sexuality, teenage pregnancy and prevention of sexually transmitted infections (STIs). This is a very serious issue since teenagers, like anyone else, are at risk of infection when they have sex.

Members of the Treatment Action Campaign (TAC) Branch in Katlehong South were concerned about the high incidence of teenage pregnancy in their area. They were also worried about reports from the local clinic indicating that a large number of high school children visit the clinic to seek treatment for gonorrhea, a common STI. They decided that something had to be done and raised the issue with TAC colleagues.

Nthabiseng Maretlane is a TAC Community Health Advocate from Katlehong South. Together with Dikeledi Senong, who is a TAC Prevention and Treatment Literacy Practitioner Maretlane has taken on the problem. The two of them have begun to offer education sessions covering teenage pregnancy, STIs, HIV and behavioural change at Katlehong High School and Thuto Pele High School. Both students and teachers in the two schools have welcomed the programme.

The education sessions give students a platform to talk freely about sexuality and the challenges they face as teenagers. They often feel that they cannot discuss such issues with their parents or teachers. Since Maretlane and Senong are both young women, it is easier for the teenagers to relate to them.

“The students are very vocal and become excited when talking about issues of sex and sexuality, and their participation level is very impressive,” notes Maretlane. “But they need a lot more education on issues [like] HIV, STIs and sexuality.”

The teenagers could not differentiate between HIV and AIDS, says Maretlane, even though they know how HIV is transmitted. “Their main concern,” she observes, “is pregnancy.”

“I would like to see this programme going out to all the high schools in the area,” says Maretlane. “Especially with the proposed HCT (HIV Counselling and Testing) in schools campaign, as the students will be better prepared for taking HIV tests and through the programme they can be empowered to accept their status if they test positive.”

---

**TAC remembers Xolani Khumalo**

Long-time TAC member Xolani Khumalo died on 13 June 2011. Xolani, a Prevention and Treatment Literacy Practitioner in uMgungundlovu, joined TAC in 2004. In 2009 he became a TAC Community Health Advocate, which he remained until his passing. Xolani was very energetic and hard working. He will be greatly missed by his family, colleagues, branch members and community. May his soul rest in peace.

**TAC remembers Sithembiso Mkhize**

Long-time TAC member Sithembiso Mkhize died on 17 June 2011. Sithembiso joined TAC in 2002. He was a TAC Prevention and Treatment Literacy Practitioner in eThekwini. Sithembiso was involved in the successful campaign by TAC to ensure access to ARV treatment for inmates of Westville Prison. At the time of his passing Sithembiso was employed by the University of KwaZulu-Natal in uMgungundlovu. May his soul rest in peace.
WE NEED YOUR HELP
For more than a decade, TAC has campaigned for all South Africans to have better access to HIV/AIDS treatment, care and prevention programmes. TAC has received world-wide acclaim and numerous international accolades, including a nomination for a Nobel Peace Prize in 2004. In 2006 the New York Times called TAC “probably the world’s most effective AIDS group”.

FUNDING IS IN CRISIS
Funding for HIV/AIDS has been negatively affected by the global recession. The funding gap is growing fast and is now estimated to be over $7.7 billion globally. In 2009, UNAIDS released studies on the impact of the economic crisis on HIV prevention and treatment programmes. The summary report states “the negative impact of the crisis on AIDS programmes is real and getting worse”.

THE EPIDEMIC CONTINUES
People with HIV and TB continue to depend on TAC’s education and campaigns - but we can’t continue our work without your help. Be part of our struggle. Support TAC’s work.

PLEASE DONATE to Treatment Action Campaign at www.myggsa.co.za

DONATE AT WWW.MYGSSA.CO.ZA OR BY EFT:
NEDBANK | ACCOUNT NO: 128 405 1870
BRANCH: 195005 | SWIFT: NEDSZAJJ
ACT NOW

A = Appetite Loss  C = Chest Pains  T = Tiredness
N = Night Sweats & Fever  O = Ongoing Cough  W = Weight Loss

IF YOU HAVE **ONE** OF THESE SYMPTOMS OF TB, **ACT NOW** BY GOING TO YOUR NEAREST CLINIC FOR A **FREE TB TEST**!