

FOREWORD



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I was struck by the words, recorded in this booklet, of a teenager from Manila. She was explaining what multidrug-resistant tuberculosis has meant for her life.

"I want to be a nurse and help others who are sick," said Charlene Laguinday. "I want to give back what was given to me."

Charlene has personally experienced the toll of this airborne infectious disease that sickens and kills so many people every year. She recently lost her mother to multidrug-resistant tuberculosis, or MDR-TB. She is now undergoing treatment for the same disease, and her health is improving with every week.

Her experience demonstrates the importance of high commitment to good-quality TB control. MDR-TB, which can spread from one person to another, is a tragedy that should not happen. Properly managed, TB can be cured. Poorly managed, TB can develop into a form that resists multiple drugs, with successful treatment undermined and costs multiplied at least 100 times.

The figures are alarming. MDR-TB is now causing an estimated half a million new cases every year. The stories collected in this booklet give you an idea of the suffering behind the statistics. Even more ominous is the recent rise of extensively drug-resistant TB, or XDR-TB. This form of the disease, which is extremely difficult to diagnose and in some cases impossible to treat, is now being reported from more than 50 countries.

If the right action is not taken right now, the continuing spread of MDR-TB could transform a disease that is curable with affordable medicines into a costly and deadly epidemic. If the right action is not taken right now, the continuing rise of XDR-TB could take the world back to the era that predates the development of antibiotics, with nothing in hand to guarantee treatment success.

This would be a vastly bigger tragedy. Some countries burdened with MDR-TB are showing the way forward with commitment, leadership and good results. However, to tackle this preventable problem on an adequate scale, national TB control programmes will depend on progress on a larger health agenda that aims at universal health coverage, high-quality patient-centred care, laboratory strengthening and infection control in health facilities. That agenda must also include improved mechanisms for drug prequalification and rational use of drugs, as well as the intensive engagement of the private sector, patients and communities.

I urge you to read the personal stories collected in AIRBORNE. These are human tragedies that should never have happened. But these are also stories about the uplifting success possible when the right elements are in place.

I further urge you to accept this call to action. The microbial world has given us a clear either-or situation. Either we tackle the problem now with rational and proven approaches, or we pay later with an epidemic of an airborne disease that renders our modern-day medicines and straightforward treatment regimens obsolete. This would truly be a tragedy, on a huge and costly scale, that should not happen.



Charlene Laguinday laughs in her two-room home in Manila. "I want to be a nurse and help others who are sick," she said.

INTRODUCTION

INSIDE A DARK HUT, CUT INTO A REMOTE MOUNTAINSIDE IN LESOTHO, A PRIEST WEARING A LEOPARD-PRINT CAPE AND SITTING ON A THRONE-LIKE CHAIR LED HIS PARISHIONERS IN HARMONIES THAT FILLED THE ROOM.

Sweat dripped from the tip of his nose, and the still air was so warm that my cheeks burned. I wanted to escape outside for the promise of a breeze; but I stood still, almost transfixed by the sounds and images.

Then I noticed a woman sitting against a wall.

She sat apart from 20 people squeezed together on the dirt floor. I had met her the day before. Her name was Matsepe Lenkoe, and the remarkable thing about her was that for the past year she had been living a world away in the capital city Maseru receiving treatment for multidrug-resistant tuberculosis (MDR-TB). Seeing her, the thought crossed my mind that this would be an ideal place to catch MDR-TB – if an infected person coughed, any of us could be breathing in the bacterium during the hours that the priest would keep us.

I stayed in the hut. This was the beginning of a journey around the world to learn more about the global response to MDR-TB; and here, far from any town or road, in an impoverished country, I learnt my first lesson, with sweat trickling down my back: The Government of Lesotho had protected me and all the others that morning at the Jerusalem Church of Africa. Because it had decided that treating MDR-TB should be approached as an emergency; and because, in very short order, it had built a comprehensive programme designed to prevent the spread of TB and to treat those

who had drug-resistant strains, we were safe. Thanks to this political commitment, Lenkoe was not only alive – she was no longer infectious.

This was quite remarkable. Still I wondered: Was she lucky?

There is no doubt.

The World Health Organization (WHO) estimates that as few as 10% of the roughly 500,000 people who contract MDR-TB every year receive treatment. And only 3% of the half-million were receiving drugs procured through the Green Light Committee, an initiative of WHO and the Stop TB Partnership that helps countries access quality-assured drugs needed to treat MDR-TB.

It is early days in the global response to treating drug-resistant TB. For the past decade or more, many countries around the world have successfully built TB control efforts. Now they have to build on those efforts to control the more dangerous threat of drug-resistant TB – strains that cannot be cured by the most commonly used drugs.

Experts from the WHO's Stop TB Department and the Stop TB Partnership warn that if countries do not act now to stop MDR-TB, the world will face an airborne contagion that will become increasingly untreatable and increasingly global. It will stop at no border, and it will infect much greater numbers of people. The early signs are already apparent: At the beginning of 2007, 20 countries reported cases of extensively drug-resistant TB (XDR-TB); at the end of 2008, the number had jumped to 55, in part because countries had started searching for cases.

In my travels over two months, I kept thinking back to similar trips that I had made around sub-Saharan Africa in 2003, when a few countries lucky enough to have leaders acknowledging a looming AIDS catastrophe had begun to figure out how to treat AIDS patients. In 2009, the situation is much the same for MDR-TB, an awakening both to the threat and to models that can control it even in the most challenging settings.



MDR-TB patient Matsepe Lenkoe (centre) covers her eyes during church in Sekhutlong, Lesotho.



The IV is for Dmitry Gagarin at the National TB Center in Almaty, Kazakhstan.

It was fascinating to watch those attacking the MDR-TB problem put in place these plans and then tinker with them day by day. No place did it exactly the same, each adapting models to fit their epidemic, their health-care system and their history. Kazakhstan, concerned about people staying indoors and spreading infections during its long, harsh winters, expanded numbers of hospital beds available for patients, and has begun to install infection-control systems in hospitals to protect health-care workers. Lesotho has been training hundreds of community health workers (and paying them small salaries) to monitor patients in far-flung areas. And the Philippines was treating patients at open-air drop-in centres and allowing them to return to their homes instead of keeping them in hospitals.

The Philippines model, in fact, had produced an unexpected benefit – something I had rarely, if ever, seen before in covering global health for nearly two decades: communities of patients who looked out for each other.

At one MDR-TB clinic in Manila, I watched Antia Silverio, a 48-year-old who had just finished her MDR-TB treatment five months before, run errands for doctors, nurses and patients. She was one of more than a dozen ex-patients who also had become volunteers; she told me that she couldn't leave – the caregivers had given her back her life, and now she wanted to do the same for others.

From my trips, there seemed little doubt that governments could beat this disease, despite the numerous barriers and obstacles. The question is, will they? In the stories that follow, you'll learn about governments that did take actions and saved thousands of lives. They saved people such as Silverio, who spends hours every week simply sitting next to patients and encouraging them to take their medicine, even though they hated doing so.

"I tell them, 'Look at me, I'm old, I've been really sick. If I did it, you can do it, too.'"

Is a patient a metaphor for a nation? If the Philippines can do it, can others as well? Global TB experts believe so. Now they need country leaders to prove them right.

– John Donnelly
February 2009

DEFINITIONS

MDR-TB

Multidrug-resistant TB (MDR-TB) is a form of TB that does not respond to the standard six month regimen using first line-drugs (i.e. resistant to isoniazid and rifampicin). It can take two years to treat with drugs that are more toxic, and 100 times more expensive. If the drugs to treat MDR-TB are mismanaged, further resistance can occur.

XDR-TB

Extensively drug-resistant TB (XDR-TB) is a form of TB caused by bacteria resistant to all the most effective drugs (i.e. MDR-TB plus resistance to any fluoroquinolone and any of the second-line anti-TB injectable drugs: amikacin, kanamycin or capreomycin).

STOP TB STRATEGY

The Stop TB Strategy aims to dramatically reduce the global burden of TB by 2015, and has six components: Pursue high-quality DOTS expansion and enhancement; Address TB-HIV, MDR-TB, and the needs of poor and vulnerable populations; Contribute to health system strengthening based on primary health care; Engage all care providers; Empower people with TB, and communities through partnership; Enable and promote research.

DOTS

is the basic 5-point package that is the first component of the Stop TB Strategy: political commitment with adequate and sustained financing; early case detection and diagnosis through quality-assured bacteriology; standardized treatment with supervision and patient support; effective drug supply and management; monitoring and evaluation of performance and impact.

MDR-TB: REACHING ALL CORNERS OF THE WORLD

In 2008, WHO released the largest survey ever carried out on drug-resistant tuberculosis with results from more than 80 countries. The Anti-Tuberculosis Drug Resistance in the World report confirmed that the spread of MDR-TB is reaching all corners of the world. But at the same time, the epidemic is far from uniform with regions and countries facing a variety of challenges. It also showed that a few countries had managed to stabilize or reverse the number of cases.

The report can be read at www.who.int/tb/publications/2008

REGION OF THE AMERICAS

The prevalence of MDR-TB is low in the region as a whole. The region has the largest number of Green Light Committee-approved projects. Many countries plan to upgrade laboratory networks due to increased demand for development of second-line testing capacity.

A world map with a dark background and light-colored landmasses. Five grey callout boxes are overlaid on the map, each containing text about a specific region. The regions are: European Region (top left), Eastern Mediterranean Region (center), Western Pacific Region (right), African Region (bottom left), and South-East Asia Region (bottom center).

EUROPEAN REGION

The proportion of MDR-TB was significantly higher in the Eastern European and Central Asian countries, with an average of 10.0% MDR-TB among new TB cases, and 37.7% among previously treated TB cases. In most of Central and Western Europe, both proportions and absolute numbers of drug-resistant cases remain low.

EASTERN MEDITERRANEAN REGION

The extent of second-line drug resistance is not known in the region. The primary limiting factor to expanding survey coverage is the high number of countries in conflict situations. Another limiting factor is the poor laboratory infrastructure in many countries.

WESTERN PACIFIC REGION

Information on resistance to second-line drugs is limited. The Western Pacific also faces limited capacity for culture and drug-susceptibility testing. Some countries have extensive culture networks in the public sector, but only one has a significant number of laboratories able to conduct drug susceptibility testing.

AFRICAN REGION

The most critical factor in addressing drug resistance in African countries is the lack of laboratory infrastructure and transport networks that can provide rapid diagnosis. It is possible that current survey methods, which are based on smear-positive cases, may underrepresent HIV coinfecting TB cases, which are more likely to be smear negative. In addition, transmission dynamics of drug-resistant TB in a heavily HIV-infected population are not well understood. A large outbreak of XDR-TB in an HIV-positive population in the province of KwaZulu-Natal, South Africa, was associated with extremely high mortality and highlighted the vulnerability of TB patients coinfecting with HIV.

SOUTH-EAST ASIA REGION

Though resistance in the region is moderate, the overall burden of MDR-TB is considerable. Important progress has been made throughout the region in initiating plans for MDR-TB treatment, and almost all countries have Green Light Committee applications approved or in the pipeline. Virtually, all countries have identified laboratory capacity as the primary bottleneck to scaling up diagnosis and treatment. Also, many countries in the region have growing private sectors that are currently managing most of the MDR-TB cases, and second-line drugs are widely available through the private sector.