Tuberculosis: Let's make use of the new opportunities to reverse the epidemic

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Tuberculosis (TB) has been one of the most important causes of premature death in South Africa. But the HIV epidemic has made it much worse, causing recorded TB deaths to triple from 1997 to 2005. TB kills more people in South Africa than any other disease. In Southern Africa and Eastern Europe, we face the growth of a drug-resistant TB epidemic. In Kwazulu-Natal the mortality rate from extensively drug resistant TB is close to 80%. TB is an enormous and frightening problem.

It is also a neglected disease. TB receives only a fraction of the global research funding received for cancer, heart disease and HIV. While the biggest investors in HIV research are pharmaceutical companies and the US National Institutes of Health, their investment in TB is pitiful. The largest funder of TB research is a private philanthropy organisation, the Gates Foundation. TB affects poor people with few resources to spend on new drugs, diagnostics or vaccines; it exposes the inequalities in global health research and care. TB also receives scant media coverage, perhaps because it is perceived as boring. But the evolving science of TB is fascinating and the human stories of suffering and coping with the disease are heart-wrenching.

The situation is changing. For the first time since the 1970s new TB drugs are not too far from approval. In particular a drug with the research name TMC207 has been shown to reduce treatment time for patients with drug-resistant TB (but it still needs further testing).

And a new diagnostic machine, the Gene Xpert, has been developed and is now recommended by the World Health Organisation. It diagnoses TB with reasonable sensitivity and high specificity in under two hours. It also diagnoses rifampicin resistance which is a strong indicator of multi-drug resistant TB. The Department of Health has announced that it has purchased 24 of these machines. This is enough to pilot them. We welcome this. If the device proves successful, it should be rolled out across the country.

The National Department of Health, under the leadership of Minister Aaron Motsoaledi, is approaching TB seriously and taking important steps to alleviate the epidemic. This is a wonderful change from what has come before. Nevertheless progress against the epidemic is slow. There are numerous actions that need to be taken. We list here the key ones:

- The manufacturer of the Gene Xpert, Cepheid must bring the price of both the device and each individual test down further. This will allow South Africa to purchase more and perhaps other much poorer countries to at least purchase a few.[1]
- Patients with drug-resistant TB must be given the opportunity to use TMC207. Even though it is not yet approved, the risk of dying from multi-drug or extensively drug resistant TB is so high that patients should have the right to make an informed choice to use the drug already. For this to happen, Tibotec, the drug manufacturer, has to make the drug available as part of an accelerated access programme across the world. In South Africa, the Medicines Control Council must be willing to grant a special exemption, called a Section 21 Authorisation, to patients who require it. Organisations providing care to patients with drug-resistant TB need to apply to both Tibotec and the MCC to allow their patients to use the drug. We call on this to begin

happening from 1 April.

- Monitoring and evaluation (M&E) of the TB and HIV programmes is poor. The Department of Health must take real and immediate steps to fix this.[2]
- New research shows cost-effective ways of tracing TB contacts.[3] We must implement them. While the Department of Health appears to be making progress on this, some provinces, such as the Eastern Cape are lagging behind. According to a Department of Health statement, the Eastern Cape only began following up its 2009 TB cases in 2011.
- Inferior second-line drugs such as ofloxacin must be replaced with levofloxacin or moxifloxacin, but the prices are high.[4]
- Isoniazid preventative therapy reduces the risk of TB. It should be implemented in high-risk settings such as mines, health facilities and prisons.
- Antiretroviral treatment reduces the risk of contracting TB. The ARV guidelines must be changed to treat everyone with a CD4 count of 350 cells/mm3 or lower. Currently this criterion only applies to people with TB or who are pregnant.
- Last year there were TB drug shortages. The TB tender is coming up for renewal. The Department of Health and Medicines Control Council must ensure that more first-line TB drugs are registered and can compete for the tender. Inconsistent drug supplies cause patients to default their treatment, reduce cure rates and fuel the drug-resistant epidemic.
- Managing TB properly requires good health systems. Health facilities need good management, well-trained health workers and sufficient diagnostics, drugs and means to do contact-tracing. These are critical if we are to make long-term progress against TB.
- We agree with Médecins Sans Frontières (MSF) that the decentralised community model for treating drug-resistant TB is better than centralised care.
- Patients with TB and HIV should be managed in one facility by one health-care team. They should not have to go to different clinics and see different nurses and doctors for the management of each disease. In other words, TB and HIV care should be integrated, from diagnosis through to treatment. The Department of Health has committed to this, but progress is slow.
- Health facilities should have proper infection control. They should take measures to prevent the spread of TB to people who do not have the disease. Importantly, they should take measures to stop the spread of drug-resistant TB to patients without drug-resistant TB. There also needs to be a public education programme encouraging people to keep windows open, especially in public spaces like taxis.
- Where is SANAC? The South African National AIDS Council is increasingly conspicuous by its lack of engagement on important HIV and TB problems. The organisation receives substantial funding, has a clear mandate and has over a dozen staff. But it is not delivering. It needs to be driving the development of a new National Strategic Plan on HIV/AIDS that prioritises the management of TB.

If over the next ten years we respond to TB with the same intensity and investment that has been given to HIV, we can turn this massive global epidemic into a much smaller more manageable problem.

[1] For prices of the Gene Xpert, see http://www.finddiagnostics.org/programs/tb/find-negotiated-prices/xpert_mtb_rif.html

[2] As an example of just how bad record keeping for TB can be, see Cudahy P et al. 2009. TB Case Outcomes at a Large Public Sector Hospital in Kwa-Zulu Natal, South Africa. 40th World Lung Conference, Cancun, December 2009.

[3] See Corbett EL et al. Comparison of two active case-finding strategies for community-based diagnosis of symptomatic smear-positive tuberculosis and control of infectious tuberculosis in Harare, Zimbabwe (DETECTB): a cluster-randomised trial. Lancet. 2010 Oct 9;376(9748):1244-53.
http://www.ncbi.nlm.nih.gov/pubmed/20923715

and A.E. Shapiro et al. targeting at-risk households: intensified case-finding for TB and HIV in contacts of TB patients in South Africa. XVIII International AIDS Conference, Vienna, July 18-23 2010. Late breaker THLBB107. http://pag.aids2010.org/Abstracts.aspx?SID=643&AID=17517

[4] See MSF's document on the prices of second-line TB drugs http://www.msf.org/shadomx/apps/fms/fmsdownload.cfm?file_uuid=D8A948E8-9E1B-4D82-8427-5FEA732ED566&siteName=msf

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