

Spotlight

New diagnostic technology raises hope in TB endemic countries

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An article from the HDN Key Correspondent Team

Alarm bells are sounding, not only in sub-Saharan Africa but the whole world over, amid increasing concern over our ability to control multi-drug resistant tuberculosis (MDR-TB) and extensively drug-resistant TB (XDR-TB).

During a September news conference in Uganda, nurses and midwives said that TB drug resistance had been observed at treatment centres in eight districts across the country. The Ugandan government has already acknowledged presence of drug resistant TB strains in the country.

MDR-TB is caused by a strain of the disease that is resistant to two of the most powerful anti-TB drugs – isoniazid and rifampicin – while XDR-TB is defined as a strain that is resistant to isoniazid and rifampicin, any fluoroquinolone, and at least one of the three following intravenous drugs: capreomycin, kanamycin and amikacin.

The emergence of these strains is complicating TB control efforts, according to experts, and is forcing laboratories to try to provide reliable drug susceptibility tests for both first- and second-line drugs. This measure aims to ensure effective TB treatment and to prevent the development of further drug resistant strains. This has also prompted public health measures to prevent and reduce the spread of MDR-TB and XDR-TB.

While these measures are easy to implement in developed countries, the lack of resources in developing countries, which bear the highest burden of the disease, is making it difficult to tackle the problem.

"For instance, if you went to Kampala in Uganda, the kind of technology being used now at the national reference laboratory is too old. It may not even help detect some of the resistant strains," said Dr Vinand Nantulya, the Senior Policy and Implementation officer of the Geneva based Foundation for Innovative New Diagnostics (FIND).

"And it is also dangerous to the users for they may end up contracting the dangerous strains in the course of their work."

But if announcements made at the ongoing 38th Union World Conference on Lung Health in Cape Town, South Africa are anything to go by, then there is hope for these countries. Medical technology group Becton, Dickinson and Company (BD) and FIND have announced a new pricing agreement for 39 high-burdened, low-income countries to purchase a diagnostic test called the BD BACTEC™ MGIT™ 960 system.

The MGIT system uses liquid cultures, which can dramatically shorten the mycobacterial

culture recovery time and improve patient management. This is particularly important when treating drug-resistant strains of TB.

Under the new price arrangement these countries will be helped to secure the technology at lower-than-market prices, meaning that TB and drug susceptibility tests will cost less than half of what they did before, according to Nantulya.

"A single test will be charged at three dollars because the machine [to conduct the tests] will be sold at 50 percent of the current price (more than \$40,000) and the reagents will be sold at less than 30 percent of what the current price is," he said.

The MGIT system also reduces the delay in receiving test results by one to two weeks and can provide drug sensitivity test (DST) results within as little as 10 days. This technology is already up and running at 15 laboratories in the Republic of South Africa.

"We are opening a similar laboratory in Lesotho and we have similar plans for Kenya, Tanzania, Uganda and Ethiopia very soon," FIND Chief Executive Officer, Dr Giorgio Roscigno said during a November 8 media briefing. The arrangement also allows for the training of laboratory technicians.

These developments follow World Health Organization (WHO) recommendations for the use of mycobacterial liquid cultures and drug susceptibility testing in low and middle-income countries. WHO endorsed liquid culture systems as the standard of care for TB diagnosis and patient management following FIND studies on MGIT culture and DST in eight countries. These recommendations are part of WHO's strategy for addressing the emergence of XDR-TB.

"Drug-resistant tuberculosis continues to pose a serious threat to many countries in the developing world," Roscigno said. "We applaud WHO for their important recommendations to address this healthcare crisis. The pricing agreement with BD is an important milestone in our longstanding relationship."

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