

# Improving the accuracy of TB testing

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Tuberculosis (TB) affects some 35-million people globally. In 2009 testing for TB using molecular diagnostics proved a game-changer for national TB programmes.

The [molecular diagnostics](#) technology increased access to TB testing, which then improved diagnosis and treatment and ultimately inhibited further infection. However, when the World Health Organization endorsed this molecular diagnostic test, there was no quality assurance in place for checking the accuracy of the testing machine.

A team of scientists from Wits, led by Prof. Wendy Stevens and Prof. Lesley Scott in the Department of Molecular Medicine and Haematology, in collaboration with Prof. Bavesh Kana from the Department of Science and Technology/National Research Foundation Centre of Excellence for Biomedical TB Research, developed TB Check technology.

TB Check guarantees the quality of the molecular diagnostic tests. In South Africa, TB Check has been used on all 289 [GeneXpert testing instruments](#) in the national TB programme since 2011. Over a year, TB Check showed that 2.6% of the TB tests were inaccurate and that test modules needed replacing.

In the absence of TB Check, 78 000 [test](#) results out of the three million tests performed at the time would have been inaccurate, leading to an incorrect diagnosis. As a result, some patients would have remained undiagnosed and either died or infected others, while others would have been subjected to unnecessary, costly drugs with unpleasant side effects.

The Global Laboratory Initiative, an advisor to the WHO, has endorsed TB Check for verification. The technology was developed in collaboration with the Centres for Disease Control, which provided significant funding, the National Health Laboratory Services, which was responsible for the rollout of the new diagnostic programme in South Africa, and the AIDS Clinical Trial Group in the USA, which provided funding for testing in particular countries.

TB Check was so successfully rolled out to local and international TB testing programmes at scale that Wits Enterprise "spun out" a new company, SmartSpot Quality (Pty) Ltd in 2015. TB Check has thus since been exported to 22 countries, with more in the pipeline.

Provided by Wits University

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