

Working with private laboratories

Laboratories in the private health sector are often poorly regulated without external quality control. Patients may therefore be diagnosed incorrectly based on false test results or inappropriate tests. That is why we support national programs to engage with private laboratories, and we encourage them to perform tests in line with national guidelines and to participate in external quality assurance programs. If they are willing to report their results and participate in the national program's supervision and quality assurance system, such private laboratories can benefit from preferential lower prices for use of the GeneXpert platform and the MTB/RIF test. ■



SCOOTER TRANSPORTS SPUTUM SAMPLES TO CLINIC IN ZIMBABWE

TAJIKISTAN - TRAINING GENEXPERT MAINTENANCE AND TROUBLE SHOOTING, PHOTO BY FIRUZA SAIDOVA



Developing tools and technical guidance

KNCV consultants contribute to articles and tools, such as the Handbook for National TB Laboratory Strategic Plan Development developed under the USAID supported TB CARE I project. This handbook, endorsed by the World Health Organization, helps countries develop a national TB-specific laboratory strategy. www.tbcare1.org

IMPROVING LABORATORIES AND DIAGNOSIS

Accessible laboratories with quality assured tests for TB are one of the essential elements in the control of the TB epidemic. KNCV provides extensive technical assistance to strengthen laboratories and laboratory networks, working together with local and international partners.

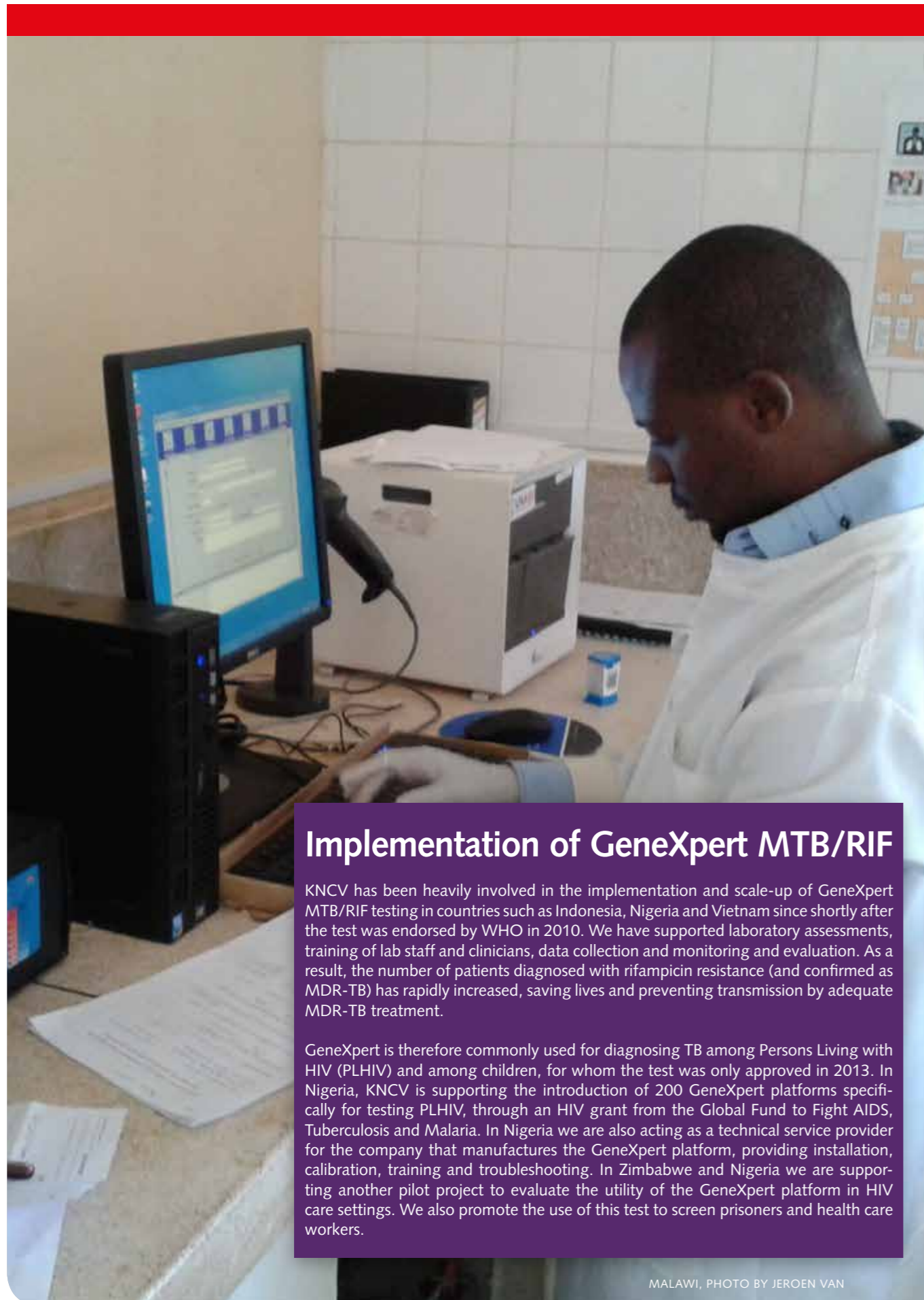
Supporting National Lab Strategic Plans

Laboratories in many countries often face challenges, such as lack of sufficient and trained staff, unreliable power or water supply, inadequate space, dilapidated building infrastructure, interruptions of essential supplies, and high turnover of personnel. Sometimes there are simply too few laboratories. As a result, the quality of laboratory examinations needed to make a diagnosis of TB or to test for anti-TB drug resistance is often insufficient. A massive expansion and upgrade of laboratory services is

frequently needed in order to attain and maintain universal access and quality in TB diagnosis. To reach this goal, KNCV helps in conducting individual laboratory and laboratory network assessments. These assessments result in a situational analysis (mapping) and identification of

strengths and weaknesses, opportunities and threats and a gap analysis. We then use the outcomes from these analyses to assist in developing a National TB Laboratory Strategic Plan, which includes expenses and implementation. ▶





Implementation of GeneXpert MTB/RIF

KNCV has been heavily involved in the implementation and scale-up of GeneXpert MTB/RIF testing in countries such as Indonesia, Nigeria and Vietnam since shortly after the test was endorsed by WHO in 2010. We have supported laboratory assessments, training of lab staff and clinicians, data collection and monitoring and evaluation. As a result, the number of patients diagnosed with rifampicin resistance (and confirmed as MDR-TB) has rapidly increased, saving lives and preventing transmission by adequate MDR-TB treatment.

GeneXpert is therefore commonly used for diagnosing TB among Persons Living with HIV (PLHIV) and among children, for whom the test was only approved in 2013. In Nigeria, KNCV is supporting the introduction of 200 GeneXpert platforms specifically for testing PLHIV, through an HIV grant from the Global Fund to Fight AIDS, Tuberculosis and Malaria. In Nigeria we are also acting as a technical service provider for the company that manufactures the GeneXpert platform, providing installation, calibration, training and troubleshooting. In Zimbabwe and Nigeria we are supporting another pilot project to evaluate the utility of the GeneXpert platform in HIV care settings. We also promote the use of this test to screen prisoners and health care workers.

MALAWI, PHOTO BY JEROEN VAN

Introducing new technologies

We advise on adoption and expansion of new diagnostic technologies (LED-FM, GeneXpert MTB/RIF, liquid culture) in the laboratory network. This entails ensuring that lab staff and clinicians are well-trained on the new technology; that maintenance and laboratory consumables are always available; and that transportation services for laboratory samples are optimised. We conduct evaluations of the utility, feasibility and cost-effectiveness of new diagnostic tests in day-to-day patient care. We also support laboratories in obtaining ISO accreditation. For instance we have provided such technical assistance in Indonesia, which has made great progress in laboratory strengthening over the past ten years.

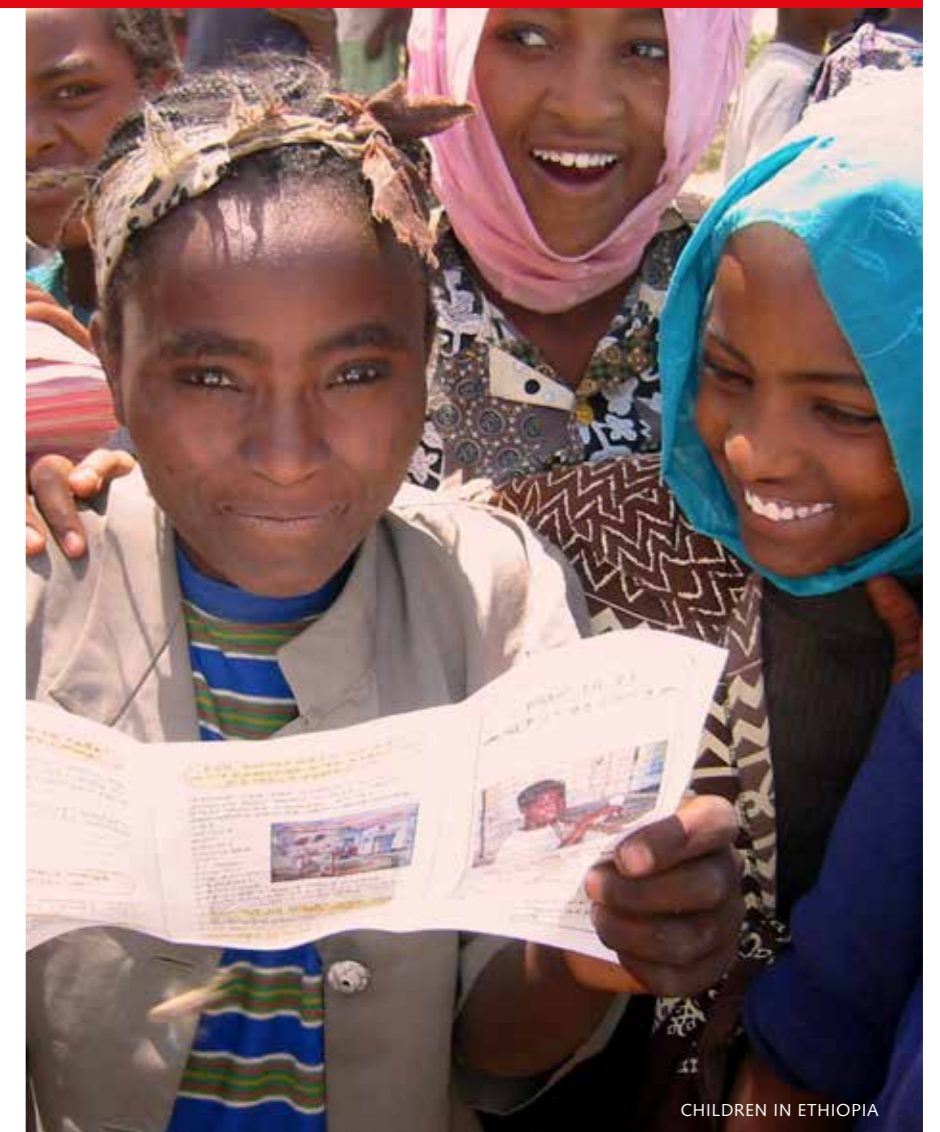
Working on quality assurance

Properly functioning external and internal quality assurance is very important in order to be confident that test results are reliable. Regular monitoring of quality can identify where closer supervision or training is needed. One way to do this is by having laboratories exchange sputum samples or smears they have already examined and then having each one conduct a blind re-examination of the samples and document and compare results. By analysing the discrepancies, the laboratories can identify the kind of support they need in order to improve their results.

This can be done between laboratories within the same country or with a laboratory abroad. In Zimbabwe, for example, KNCV assisted with quality assurance of drug resistance testing for the national survey. First we provided technical assistance for a review and revision of existing laboratory techniques in the National TB Reference Laboratory. We then arranged for the Supra-National Reference Laboratory in Antwerp to re-test samples that had previously been tested at the laboratory in Zimbabwe and compare the results for validation.

Training laboratory personnel and trainers

KNCV provides training packages for lab personnel. After on-the-ground training of staff we return on a regular basis to evaluate the laboratory performance and, if necessary, make further suggestions for improvement. We prefer to have a Training-of Trainers approach, followed by cascade training courses to quickly build national capacity. ▶



CHILDREN IN ETHIOPIA



LABORATORY IN ZAMBIA, PHOTO BY SUZANNE VERVER

Planning GeneXpert MTB/RIF scale-up

KNCV has developed a 37-steps planning framework for introducing GeneXpert in a country. These steps include conducting a detailed mapping of available labs, developing policy and diagnostic flow diagrams, conducting laboratory assessments, renovations, training of trainers, cascade training, recording and reporting, monitoring and evaluation, and maintenance and calibration. In addition to Nigeria, Indonesia and Vietnam, KNCV is also closely involved in upscaling GeneXpert in countries such as Botswana, Ethiopia, and Kazakhstan.