

This document provides an update on the global roll-out of the Xpert MTB/RIF assay, the WHO-endorsed test for the rapid and simultaneous detection of TB and rifampicin resistance. For background and guidance on use of the test, including the WHO Policy Statement, Rapid Implementation document and Checklist of prerequisites to country implementation, as well as published literature, visit <http://www.who.int/tb/laboratory/mtbrifrollout>.

Highlights from the 43rd UNION World Conference on Lung Health – Kuala Lumpur, Malaysia, 13-17 November 2012

Experiences in using Xpert MTB/RIF featured prominently in symposia, abstract sessions, and associated meetings of this year's UNION World conference in Kuala Lumpur. A sampling of highlights is provided below (click on links to access more information).

Union Conference Symposia

Rolling out Xpert MTB/RIF: bringing donors, laboratories and programmes together for sustainability

- [Introduction and status of the global roll-out of Xpert MTB/RIF for the diagnosis of tuberculosis](#) (C Gilpin et al, S13)
- [Implementing Xpert MTB/RIF in Africa through National TB Control and HIV/AIDS Control Programme collaboration and laboratory systems strengthening](#) (H Alexander et al, S14)
- [Programmatic experience with Xpert MTB/RIF implementation in Indonesia](#) (D Mustikawati, S14)
- [Impact and operational challenges of use of Xpert MTB/RIF on tuberculosis case finding in PLHIV in Botswana](#) (T Agizew et al, S15)
- [Experience with implementation of Xpert MTB/RIF in India](#) (N Raizada and K Sachdeva, S15)
- [Implementing Xpert MTB/RIF for diagnosis of tuberculosis in Nigeria: a joint effort with partners](#) (J Obasanya, S15)

TB REACH: Results from tuberculosis case finding innovations in the first two waves

- [Using community resources and new tools for active tuberculosis case detection in South Africa](#) (H Hausler et al, S2)
- [Active screening of the Tibetan refugee populations in India](#) (K Dierberg et al, S2)
- [Providing tuberculosis care to clients of private laboratories and practitioners in Pakistan and Bangladesh](#) (A Khan et al, S2)

Challenges and solutions for sustainable tuberculosis and TB/HIV care among migrants and marginalised populations

- [Active case finding of tuberculosis among cross-border migrants in Cambodia](#) (B Dickson et al, S21)

Advancing molecular diagnosis with a sustainable approach to impact patient care

- [Results from Xpert MTB/RIF implementation in MSF field projects](#) (E Ardizzoni et al, S38)

Best practice in the application of new technologies and innovations

- [Best practice for using GeneXpert to diagnose and initiate treatment for someone who may have MDR-TB](#) (S Fynn et al, S47)

Translating policies into practice: building lasting solutions for tuberculosis laboratory networks in countries

- [Rapid tuberculosis diagnostics scale-up in countries: EXPAND-TB and Xpert MTB/RIF roll-out](#) (F Mirzayev, S68)
- [Role of new rapid tuberculosis diagnostic tools in strengthening TB/HIV interventions: introduction of Xpert MTB/RIF in Swaziland](#) (M Lassovski et al, S69)

Thinking out of the box: catalysing innovations and expansion of mHealth in tuberculosis care

- [Innovative methods and novel technologies to improve tuberculosis case finding](#) (NH Viet Nhung et al, S35)

Union Conference abstracts (poster and oral)

- [Reporting Xpert MTB/RIF resistance data from South Africa's national programme](#) (W Stevens Denooy et al, S304)
- [Results from Xpert MTB/RIF implementation in Médecins Sans Frontières field projects](#) (E Ardizzoni et al, S111)
- [Introduction of Xpert MTB/RIF in National Tuberculosis Control Programmes of Nigeria and Indonesia: experiences with implementation under TB CARE I](#) (S van Kampen et al, S111)
- [The hidden costs of installing Xpert in a high-burden country: experiences from Nigeria](#) (S T Abdurrahman et al, S146)
- [Operational challenges of GeneXpert MTB/RIF implementation at remote health facilities in Western Kenya](#) (B Pederson et al, S109)
- [Impact of Xpert MTB/RIF on multidrug-resistant tuberculosis case detection in one South African district one year after implementation](#) (L Matsoso et al, S269)
- [Positioning of the Xpert MTB/RIF diagnostic system in rural KwaZulu-Natal, South Africa: preliminary findings from a cluster randomised trial](#) (R Lessells et al, S269)
- [The potential utility of Xpert MTB/RIF for real-time surveillance of drug resistance in rural KwaZulu-Natal, South Africa](#) (R Lessells et al, S270)
- [Success of GeneXpert MTB/RIF use as a case-finding strategy in private laboratories in Pakistan and Bangladesh](#) (A Codlin et al, S276)
- [Effectiveness of enhanced case-finding strategies in private-sector settings in Karachi, Pakistan](#) (A Codlin et al, S277)
- [Rifampicin resistance as a proxy for multidrug-resistant tuberculosis in Botswana](#) (V Anisimova et al, S74)
- [Implementation of Xpert for early diagnosis of rifampicin resistance: Pakistan experience](#) (S Tahseen et al, S76)
- [Alcohol-based conservation of sputum: quantitative and qualitative impact among referred samples from distant centres for GeneXpert MTB/RIF analysis](#) (E Andre et al, S106)
- [Performance of the GeneXpert MTB/RIF assay on pooled sputum sediments](#) (R Zanda et al, S108)
- [GeneXpert MTB/RIF sensitivity and specificity for Mycobacterium tuberculosis and rifampicin resistance on direct sputum](#) (R Zanda et al, S108)
- [Use of GeneXpert MTB/RIF for diagnosis of smear-negative tuberculosis in remote health facilities in Western Kenya](#) (B Pederson et al, S108)
- [Multicenter study of the feasibility and effectiveness for Xpert MTB/RIF in China](#) (Y Song et al, S110)
- [Reaching the targets: lessons learnt in decentralisation of tuberculosis drug resistance testing using the Xpert MTB/RIF assay in Nyanza Province, Kenya](#) (A Okumu et al, S158)
- [Implementation of Xpert in Pakistan: challenges and constraints](#) (S Tahseen et al, S159)
- [Improved tuberculosis case-finding and MDR-TB detection among Tibetan refugees in India](#) (K Dierberg et al, S221)
- [Global roll-out of Xpert MTB/RIF](#) (W van Gemert et al, S221)
- [The impact of the Xpert MTB/RIF assay for detecting Mycobacterium tuberculosis among tuberculosis suspects in Cambodia](#) (S Boy et al, S222)
- [Responsible technology: success, challenges and key lessons from a novel Xpert MTB/RIF deployment at a major public event in South Africa](#) (L Page-Shipp et al, S223)
- [Does the introduction of the Xpert MTB/RIF test result in an increased tuberculosis diagnostic yield in a routine operational setting in Cape Town](#) (P Naidoo et al, S224)
- [Engaging private laboratories in tuberculosis diagnosis and treatment: experience from Pakistan and Bangladesh](#) (M Khan et al, S226)
- [Early and improved tuberculosis case detection through the use of GeneXpert in Nepal](#) (B Rai and O Gorbacheva, S264)
- [Stool analysis by GeneXpert MTB/RIF for the diagnosis of paediatric tuberculosis: a pilot study](#) (E Walters et al, S301)
- [Performance of the Xpert MTB/RIF test for detection of M tuberculosis and rifampicin resistance in sputum specimens in two regions of Russia](#) (V Erokhin et al, S303)
- [Cost-effectiveness analysis of a new tuberculosis diagnostic algorithm](#) (E Talbot et al, S320)
- [Phased implementation of Xpert MTB/RIF technology for the diagnosis of drug-resistant tuberculosis in Nigeria](#) (E Oyama et al, S325)
- [Xpert MTB/RIF diagnosis and decentralised management of drug-resistant tuberculosis in rural South Africa](#) (H Hausler et al, S328)
- [Triage test characteristics for increasing the cost-effectiveness of Xpert MTB/RIF in the diagnosis of tuberculosis: a decision analytical model](#) (A Van't Hoog et al, S345)

- [Incorporation of GeneXpert MTB/RIF assay in the tuberculosis diagnostic algorithm in a sub-district hospital in a high MDR area in India](#) (F Salvo et al, S404)
- [Active case finding among contacts of smear positive patients in a high tuberculosis burden country using Xpert assays](#) (T Mao et al, S406)
- [Detection of DNA extracted from AFB smears with Xpert MTB/RIF assay \(preliminary data\)](#) (L Jugheli et al, S428)

Associated meetings

New Diagnostics Working Group Annual Meeting ([list of presentations](#))

- [The changing environment for diagnostics implementation](#) (K Weyer)
- [Next Generation Molecular TB Diagnostics Program – An Update from BMGF](#) (L Pyne-Mercier)
- Xpert MTB/RIF assay for pulmonary tuberculosis and rifampicin resistance in adults: A Cochrane systematic review and meta-analysis (C Boehme)

From Data to Scale-Up: Building on the Evidence Base for New TB Diagnostics (organized by the Brazilian Ministry of Health, the South African Ministry of Health, the Bill & Melinda Gates Foundation, and the Amsterdam Institute for Global Health and Development). Country presentations from Brazil, South Africa, Indonesia and India shared initial data on the impact and implementation feasibility of using Xpert MTB/RIF, and a panel discussion followed, including representatives from the Ministries of Health of Brazil and South Africa, FIND and the WHO Stop TB Department. A summary report on the event will be shared in the near future.

Upcoming events

10-14 December 2012: GHDonline forum (MDR-TB Treatment & Prevention community)- an online virtual panel discussion on the topic of “Scaling-up GeneXpert MTB/RIF: Planning and Training”. Guest panellists include Fuad Mirzayev and Wayne van Gemert (WHO), Elisa Ardizzoni (MSF), Daniela Cirillo (SRL Milan), Tom Shinnick, Indira Soundiram (Cepheid) and Jason Beste (Partners in Health). Sign up to participate in the discussion at: www.ghdonline.org/drtb/

16-17 April 2013: Global Forum of Xpert MTB/RIF Implementers, Annecy, France (dates tentative). The global forum will bring together GeneXpert users and partners to share up-to-date information and experiences on the use of the diagnostic, to discuss country, partner and donor activities and plans for improved coordination, and to obtain a greater understanding of the needs of implementers. The forum will be organized back-to-back with the annual Global Laboratory Initiative meeting and a consultation of the Supranational Reference Laboratory Network during the week of 15-19 April.

New publication

Weyer K et al. *Rapid molecular TB diagnosis: evidence, policy-making and global implementation of Xpert® MTB/RIF*. European Respiratory Journal. Published online before print: November 22, 2012. doi:10.1183/09031936.00157212. A comprehensive overview of Xpert MTB/RIF’s position in the TB diagnostic landscape today and WHO’s process leading to recommendation of the test and subsequent guidance. Abstract available at: <http://erj.ersjournals.com/content/early/2012/11/22/09031936.00157212.abstract>

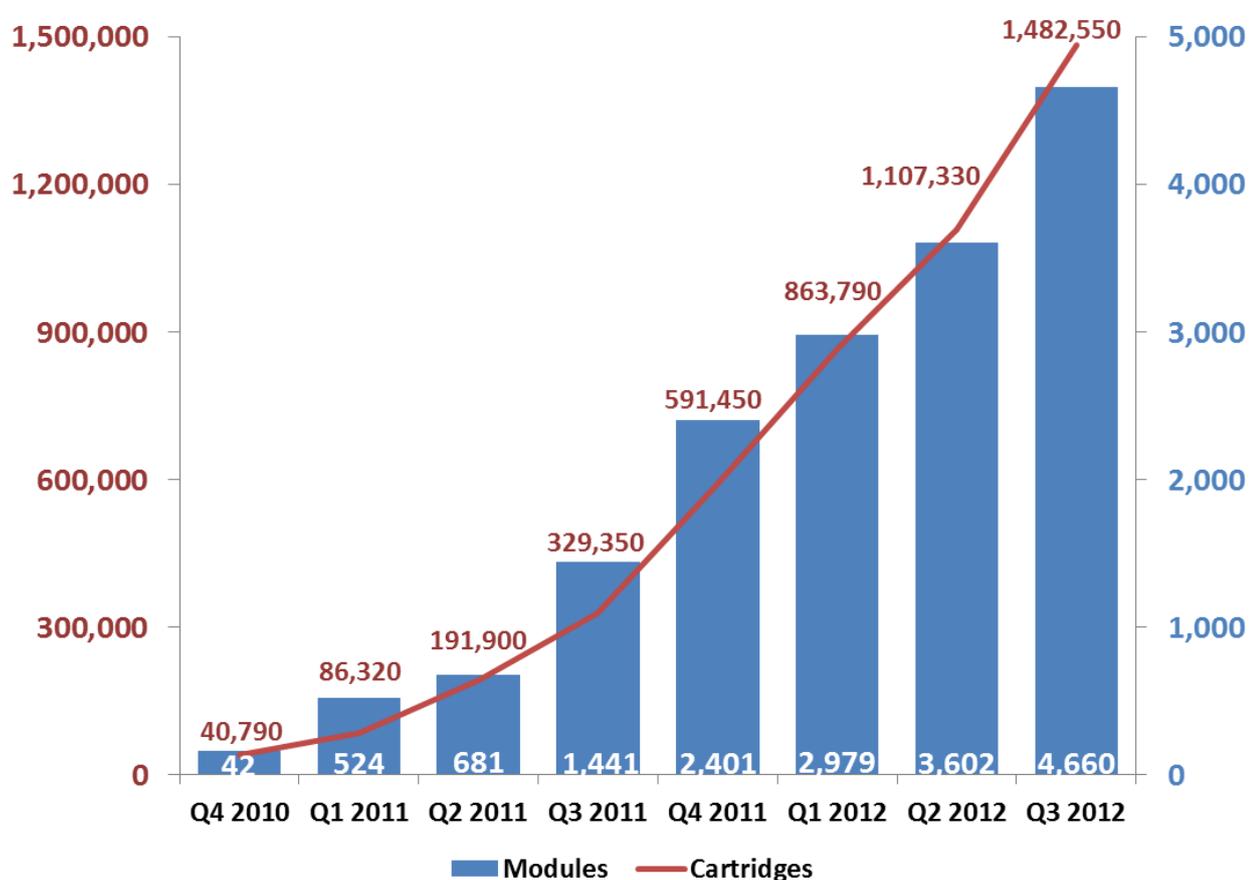
A list of published references about Xpert MTB/RIF continues to be regularly updated by WHO. Articles are categorized by topic: paediatric TB, extrapulmonary TB, cost-effectiveness, etc. This resource is available at: <http://www.stoptb.org/wg/gli/assets/documents/map/XpertPublications.pdf>.

Monitoring the global roll-out of Xpert MTB/RIF

The Laboratories, Diagnostics and Drug Resistance Unit of the WHO Stop TB Department maintains a website (<http://www.who.int/tb/laboratory/mtbrifrollout>) monitoring the roll-out of Xpert MTB/RIF, in order to facilitate coordination among implementers, including countries, technical agencies, nongovernmental agencies, and other partners.

By the end of September 2012, a total of 898 GeneXpert instruments (comprising 4,660 modules) and 1,482,550 Xpert MTB/RIF test cartridges had been procured in the public sector in 73 of the 145 countries eligible for concessional pricing. An acceleration in cartridge procurement was observed in Q3, likely associated with the drop in cartridge price that occurred in the middle of the quarter.

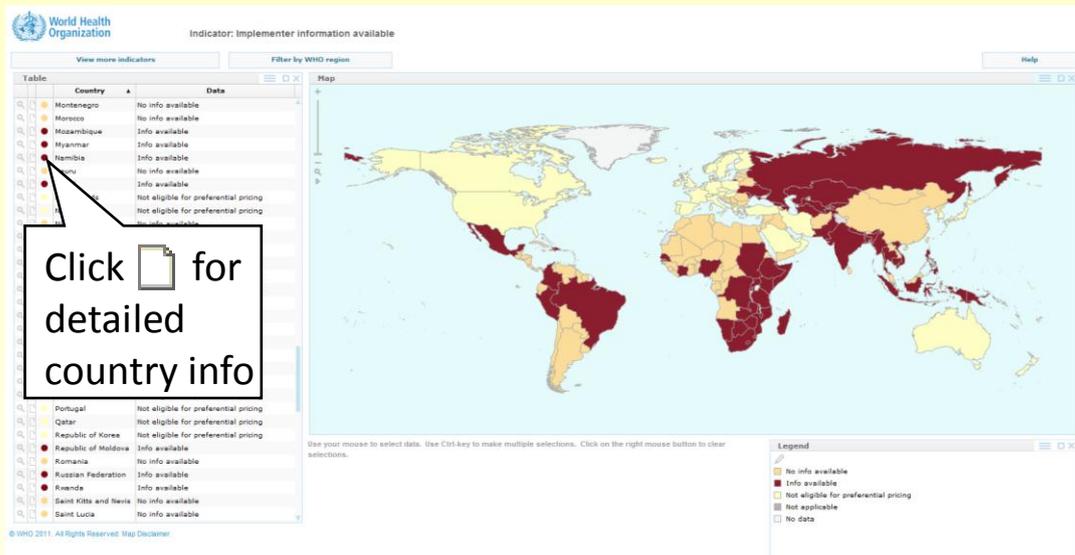
Cumulative number of GeneXpert modules and Xpert MTB/RIF cartridges procured under concessional pricing



Countries with the largest numbers of procured cartridges under concessional pricing, as of 30 September 2012:

- 780,610: South Africa
- 85,560: India
- 44,430: Kenya
- 41,180: Zimbabwe
- 40,980: Tanzania
- 33,620: Brazil
- 31,000: Pakistan
- 26,310: Swaziland
- 22,520: Nigeria
- 21,930: Mozambique

WHO collects and shares information from National TB control programmes and partners describing the placement of instruments, planned orders, and funding sources. This information, including detailed information by country, is available at: <http://www.stoptb.org/wg/gli/assets/documents/map/2/atlas.html>

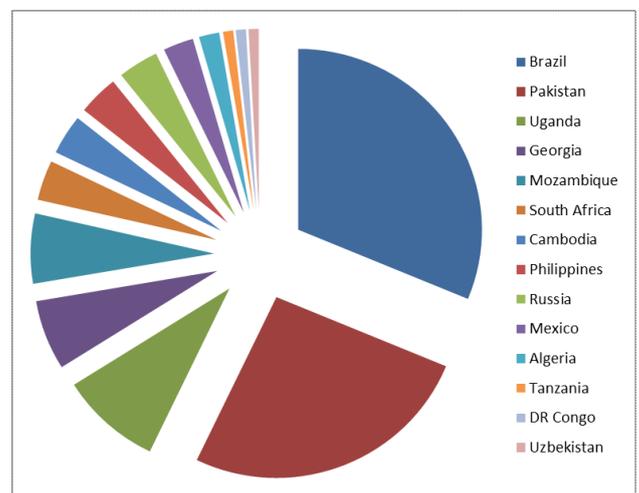


 Countries for which the National TB control programme and/or partners have shared detailed information on placement of instruments, funding, and planned orders

In order to have the most comprehensive and up-to-date information to facilitate coordination, we rely on all country implementers, partners, and funders to notify us of any updates/changes. A reporting form can be found at: <http://www.stoptb.org/wg/gli/assets/documents/map/2/XpertMTBRIFreportingform.doc>

Collection of evidence on use of Xpert MTB/RIF

The WHO Stop TB Department’s Laboratories, Diagnostics and Drug Resistance Unit continues to ask implementers of Xpert MTB/RIF to kindly share basic information on the ongoing use of their GeneXpert instruments, via the website: <https://extranet.who.int/xpertmtbrif>. Collectively this information would be invaluable to provide more effective guidance for the wider global scale-up in use of Xpert MTB/RIF. For more information on this initiative, visit: http://www.who.int/tb/features_archive/xpert_use_web



Relative contributions of countries to the WHO global collection of evidence for scale-up (by numbers of quarterly data submissions from facilities)

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