EXPANDING AND ACCELERATING ACCESS TO DIAGNOSTICS FOR PATIENTS AT RISK OF MULTI-DRUG RESISTANT TUBERCULOSIS

Lack of diagnostic capacity is a crucial barrier preventing an effective response to the challenges of drug resistant tuberculosis (TB), with less than 5% of the estimated global burden of multi-drug resistant tuberculosis (MDR-TB) patients currently being detected. Addressing the massive need for scale-up of TB laboratory services, a network of international partners involved in laboratory strengthening has recently been structured into a Global Laboratory Initiative (GLI)[1], with the secretariat hosted in the Stop TB Department of the World Health Organization (WHO) and working closely with National TB Programmes (NTPs), non-governmental organizations, technical and financial partners, and WHO offices at country and regional levels, in strengthening TB laboratory services. One of the key GLI priorities is to anticipate the impact of novel technologies for rapid detection, identification, and drug susceptibility testing of *Mycobacterium tuberculosis*, and to ensure that the associated laboratory infrastructure, financial, and human resources are mobilized to facilitate their absorption.

FIND is a Product Development and Implementation Partnership (PDIP) devoted to developing and implementing diagnostic tools for poverty-related diseases that can be used as near as possible to where patients seek care. As of today, FIND has obtained endorsement from WHO for three new tuberculosis technologies which are currently being scaled up in 27 countries under this project. FIND has built up an extensive partnership of some 150 organizations (including Governments), companies and institutions which includes the WHO and Stop TB Partnership. Likewise, FIND as one of the partners in the EXPAND-TB Project, will propose a partnership with country Ministries prior to the deployment of all the activities under this Project, in the form of a Memorandum of Understanding.

In December 2008 the **UNITAID**[2] Board approved the "Narrowing The Gap" Project: Expanding And Accelerating Access To Diagnostics For Patients At Risk Of Multi-Drug Resistant Tuberculosis 2008 – 2011" to procure and implement new TB diagnostic tools in selected 16 low and low-middle income countries. In May 2009 the "Narrowing The Gap" Project: Expanding And Accelerating Access To Diagnostics For Patients At Risk Of Multi-Drug Resistant Tuberculosis project (**EXPAND-TB Project**) was expanded to 11 additional countries including India. Project partners include the **WHO-GLI**, **Foundation for Innovative New Diagnostics** (**FIND**)[3] and the Stop TB Partnership's **Global Drug Facility** (**GDF**)[4]. The overall goal of the Project is to narrow the huge diagnostic gap in MDR-TB control by expanding and accelerating access to new diagnostic technologies within appropriate laboratory services in selected countries, accompanied by the necessary know-how for technology transfer, and ensuring that such tools are properly integrated within TB control programmes, thereby addressing one of the key obstacles to the scale-up of MDR-TB control.

GOALS AND OBJECTIVES OF THE COLLABORATION:

The EXPAND-TB Project will contribute to the improvement of the detection and management of TB and MDR-TB through the UNITAID-funded supply of diagnostics to high burden countries. The specific operational objectives are to:

(a) Expand and accelerate access to quality-assured new diagnostic technologies. Currently these are technologies developed and validated by FIND, and endorsed by WHO: liquid culture, speciation by immuno-chromatography and line probe assay;

(b) Impact market dynamics to leverage price reductions for diagnostic tools, instruments, reagents, and supplies and stimulate a greater number of suppliers of new TB diagnostics; and

(c) Improve case detection and management of TB and MDR-TB by deploying all reasonable efforts to ensure the TB diagnostic tools supplied are taken up and properly used by National TB Control Programmes.

The successful achievement of these objectives will require significant complementary resources to strengthen laboratory infrastructure and services in recipient countries. Thus, another aim of the Project is to build on UNITAID support to maximize the opportunity to mobilize resources from other partners for laboratory strengthening, including to:

(a) Upgrade and modernize national TB reference laboratories as needed to accommodate TB diagnostic tools that are procured through this Project, including installation of negative pressure and molecular testing facilities;

(b) Ensure training in good laboratory practice, bio-safety, and new diagnostic methods;

(c) Provide sustained technical assistance and mentoring to ensure proper use of diagnostic tools.

[1] http://www.who.int/tb/dots/laboratory/gli/en/
[2] UNITAID is a newly-formed global health initiative hosted and administered by World Health Organization ("WHO"), which has been established to provide funding to increase availability and reduce prices of quality drugs and diagnostics for the treatment of HIV/AIDS, malaria and tuberculosis, for people in the greatest need in developing countries (http://www.unitaid.eu/).
[3] http://www.finddiagnostics.org/
[4] http://www.stoptb.org/gdf/

THE PARTNERS in EXPAND-TB Project are collaborating to establish the key elements outlined above to ensure that the diagnostic tools are used as intended:

UNITAID is a global health initiative, established to provide sustainable, predictable and additional funding to significantly impact on market dynamics to reduce prices and increase the availability of high quality drugs and diagnostics for the treatment of HIV/AIDS, malaria and tuberculosis for people in developing countries. UNITAID works through the collaborative efforts of donors, national governments, international organizations, non-governmental organizations and foundations.

GLI is a global network of partners (e.g., donors, national agencies, private foundations, scientific organizations, control programmes) and technical expert groups and committees dedicated to TB laboratory strengthening at global, regional and country levels. The activities of GLI include development of international policy guidance on appropriate laboratory technology, norms and standards, best practices and procedures, laboratory capacity development, interface design with other laboratory networks and laboratory quality assurance. GLI is one of seven Working Groups of the Stop TB Partnership. GLI activities are coordinated by a Secretariat provided by the WHO Stop TB Department.
The GLI provides the necessary policy framework, norms, manuals, and standards for laboratory strengthening, thereby ensuring that international standards for laboratory bio-safety, equipment, and procedures are met. The GLI participates, with FIND, in laboratory assessments to identify the activities required, and will, with FIND and GDF, develop a plan to mobilize resources from other global health partners. The GLI provides overall guidance for the project and working closely with FIND and GDF will also monitor project indicators and assess the global Project impact.

FIND is a not-for-profit foundation under Swiss law which facilitates the development and implementation of diagnostics tools for neglected diseases. FIND does not manufacture diagnostic devices itself; rather, it works through academia, research institutes and diagnostics manufacturing companies to ensure that these tools are developed, evaluated and demonstrated through a clearly defined set of phases, from feasibility through impact and negotiates reduced prices for procurement within the public health sector of developing countries. FIND has accumulated extensive experience with new TB diagnostic tools through their development and evaluation, and demonstration of their effectiveness through multi-country based studies. FIND is responsible for project management, including support for procurement and logistics, according to ISO 13485 and 9001 certified project management standards. FIND will share manuals, guidelines, and operating procedures that have been developed to assist with the introduction of new diagnostics and their proper use, for peer review and global endorsement. FIND also participates, with the GLI, in laboratory assessments to identify the activities required and provide long-term, on-site mentoring with support from laboratory experts to ensure knowledge-sharing and technology transfer for the successful integration of diagnostics into the national TB programmes.

GDF is an initiative of the Stop TB Partnership which coordinates and manages procurement and delivery of high-quality anti-TB drugs and diagnostics and enables access to such products at the lowest possible price for countries in need. GDF will coordinate and manage procurement and delivery of Diagnostic Equipment and Supplies for eligible countries.

FRAMEWORK OF THE EXPAND-TB PROJECT

A Memorandum of Understanding shall be proposed and signed between FIND (on behalf of the Expand-TB team) and the recipient countries prior to the deployment of activities under this Project, which are structured in three phases:

Phase 1. Laboratory Preparedness

- Assessment of TB laboratory networks in recipient countries;
- Establishment of infrastructure to meet bio-safety requirements;
- Strengthening of quality assurance systems, along with the introduction and/or reinforcement of SOPs;
- Initiation of policy reform in NTPs on new diagnostic algorithms

Phase 2. Introduction of New Diagnostics

- Installation of diagnostic instruments, procurement of reagents and other essential supplies[5]
- Integration of the new diagnostics into screening and treatment guidelines of National TB Programmes.

Phase 3. Impact Assessment

- Continued support and oversight of technology transfer,
- Measuring the impact of new diagnostics.

[5] In accordance with WHO adopted policies on the use of new tools for TB diagnosis and drug susceptibility testing (for example recently adopted liquid culture methodology and the line-probe assays for detection of isoniazid and rifampicin resistance in patients at risk of MDR-TB)