

Laboratory Systems Strengthening

Context

Health related MDGs will not be achieved in poor countries without accessible and reliable laboratory services. The diagnosis of tuberculosis requires microscopic examination of sputum smears. HIV status needs to be confirmed by a laboratory test before treatment, and response monitored with CD4 counts. Since the introduction of combination therapy the over diagnosis rates of malaria associated with presumptive clinical diagnosis cannot be justified. Laboratory confirmation by microscopy or rapid test is cost-effective for adults and older children in high transmission areas and also probably in children under 5 years old. Anaemia affects over half of all pregnant women and children in poor countries. Accurate haemoglobin measurement, not conjunctival pallor, is the best way to confirm all but the most severe cases. Adequate supplies of safe, accurately matched blood are essential to prevent deaths from severe anaemia.

Despite overwhelming evidence that laboratory services are absolutely critical for achieving the MDGs, they remain one of the most neglected components of health systems. The reasons why laboratories have been so neglected range from failure to engage laboratory staff in key decisions to a limited focus on technology rather than on effective management systems. Marginalisation and chronic neglect of laboratory services means that results are inaccurate or unknown. Consequently patients are mismanaged, drugs are wasted and surveillance data is unreliable. Until poor countries develop laboratory services they can rely on, they will continue to be dependent on externally funded and therefore unsustainable, laboratory technology to monitor disease burden and the impact of disease control programmes.

What We Offer

We are committed to helping countries improve and expand the reach and quality of their laboratory networks. Sustainable and integrated capacity building is needed to effectively tackle the common health problems facing the majority of the population, particularly the most disadvantaged. We focus on supporting local health workers to provide high quality essential laboratory tests for the major health problems that affect poorer countries, such as HIV, tuberculosis, malaria and maternal health.

LATH has extensive clinical and technical expertise in successfully developing and strengthening essential medical laboratory services and building capacity of laboratory managers and their staff in all aspects of laboratory services in low and middle income countries. We have international expertise in a range of laboratory services including micro biology, haematology, parasitology and blood transfusion. We also have wide ranging experience in the control of malaria, tuberculosis, HIV and the neglected tropical diseases.

We provide the following support for laboratory systems and services at all levels of the health system:

- National policy development and planning
- Implementation, monitoring and evaluation of laboratory systems and technologies
- Development of internal and external quality assurance systems
- Assessment of existing health systems and development and strengthening of their associated laboratory services

- Capacity development of laboratory managers/staff in all aspects of laboratory work (methodology, safety, management, supervision and quality assurance)
- Tailor-made LSTM approved training courses for laboratory staff
- Establishment and development of reference laboratory facilities

Selected Examples of Experience:

County	Client	Date	Programme/Project
Sudan	The Norwegian Heart and Lung Patient Organisation (LHL)	2010	Assessment of Tb EQA in White Nile State. We are providing short term technical assistance to assess the quality of smear microscopy in White Nile State, and to provide recommendations for improvement. This work is carried out on behalf of the National TB Programme in Sudan.
Malawi	USAID	2008-10	Technical Support to the Malawian TB central reference laboratory We are providing resident laboratory technical assistance to the Central Reference Laboratory during its refurbishment to Category 3. We will continue to provide support to the reference laboratory as the National TB programme undertakes the countries first MDR TB survey.
Global	Stop TB Partnership	2008-09	Support to the New Diagnostics Working Group. In concert with group members we are facilitating the production of a scientific blueprint and a product pipeline for all new TB diagnostics under development. We are also providing administrative support to the working group secretariat to help organize meetings and teleconferences.
Malawi	TBCAP	2008	Support to the National TB programme to develop an MDR TB survey. We supported the NTP to design an MDR-TB survey and DOTS plus protocol. As part of this work we made recommendations for improvements to the infrastructure and processes of the TB central reference laboratory to improve safety and quality of results.
Malawi	Malawian College of Medicine	2007 - 2009	Technical support to the BSc in Medical Laboratory Technology at the College of Medicine. We supported the College of Medicine in Malawi to develop its own, partly work-based, BSc to train district laboratory managers. The production of 'home grown' graduates is known to reduce 'brain drain'; the work-based component and input into the curriculum by the Ministry of Health, ensure that graduates skills are tailored for the Malawian context.
Nigeria	DFID	2006-2008	Partnership for Transforming Health Systems Programme – Community Diagnostic Programme We have formulated a cross State strategy to provide a coordinated and harmonised approach to laboratory strengthening within the programme. The objectives of this strategy are to develop in-country capacity to lead implementation of the plan through a strategic selection of primary health care facilities in the context of their referral and supervisory systems, develop a transferable resource package for laboratory services, engage key stakeholders in the process and monitor the impact of the improved laboratory service.

County	Client	Date	Programme/Project
East Africa	AMREF	2007-2008	<p>Accreditation of the laboratory management and methods in support of anti-retroviral rollout course</p> <p>AMREF have developed and delivered a new East African regional training programme for laboratory technicians to support antiretroviral treatment. We provide an external monitoring and evaluation service for the course. This type of external validation, which could be applied to a range of courses, ensures international quality programmes and strengthens educational capacity</p>
Malawi	DFID	2002-08	<p>Essential Medical Services Project</p> <p>We have been centrally involved in developing evidenced based recommendations for an Essential Medical Laboratory Service as part of the Ministry of Health's Essential Health Package. In this project we conducted a base-line assessment of district laboratory services, the results of which were used to determine a package of essential laboratory tests and support systems required to deliver them. Critical tests were identified and systems of quality control put in place. This package was then piloted and modified in Ntcheu and then in Dedza to ensure the programme could be implemented nationally. The Essential Medical Laboratory service package is now being scaled-up nation-wide as part of their Health SWAp (Sector Wide Approach), which we currently support through the provision of long term technical assistance.</p>
Malawi	MoH, Malawi	2005-07	<p>National TB Programme Central Reference Laboratory</p> <p>We are supplying technical assistance to help build capacity at the central reference laboratory. We have focused on investment in capital equipment and infrastructure, internal quality assurance, participation in supra-national quality assurance for drug sensitivity testing and supervising the national TB microscopy EQA scheme.</p>
Pakistan	DFID	2004-2005	<p>Strategic assessment of the national TB control programme in Pakistan</p> <p>TB laboratory system was part of this review. Key recommendations resulting from this work included developing a total quality management approach to the service as well as focusing on the development of drug sensitivity testing centres due to the high number of uncontrolled first and second line TB drug treatments circulating.</p>
Kenya	DFID	2003-2005	<p>HIV/AIDS Prevention & Care Programme</p> <p>Together with the NGO, Liverpool VCT & Care, we have been working directly with the MoH National AIDS Control Programme in the development of a National Quality Assurance Strategy for Voluntary Counselling and Testing (VCT). This has involved setting up and implementing a National QA Programme for all VCT service providers (public and private) in Kenya which involves new-site registration, annual licensing and voluntary accreditation. Laboratory QA has been an integral component of this work.</p>