

## Editorial

A dependable laboratory service for diagnosis and monitoring of treatment by sputum smear microscopy are key components of the Directly Observed Treatment Short-course (DOTS) strategy. With the expansion of DOTS, a growing demand for the high quality laboratory services is noted.

Tuberculosis laboratory networks must meet high-quality and reliable laboratory services. This will be achieved through integrating laboratory network functions with the regular operations of a National Tuberculosis Programme (NTP); implementing systematic and efficient quality assurance schemes; developing training curricula; establishing good laboratory practices, including standard operating procedures; establishing drug resistance surveillance capacity; and developing operational research capacity in various diagnostic areas.

SAARC TB and HIV/AIDS Centre identified ten Tuberculosis Laboratories in Member States as National TB Reference Laboratories. The National Tuberculosis Reference Laboratory plays an essential role in the organization and maintenance of the laboratory network. The National TB Control Programmes of SAARC Member States have developed a large network of laboratories providing microscopy services with good access and equity. Every day in India, under the Revised National Tuberculosis Control Programme (RNTCP) more than 10,000 patients are being examined for TB, free of charge. The diagnosis of these patients and the follow up of patients on treatment will be achieved through the examination of more than 40,000 laboratory specimens. As a result of these examinations, every day, more than 2500 patients will be cured, stopping the spread of TB in the community. In order to achieve this, more than 300,000 health care workers have been trained and more than 7000 laboratory microscopy centres have been upgraded and fitted with binocular microscopes since the inception of the RNTCP.

In Bangladesh, a total of 3.02 million smears were examined in 2006. There are four culture facilities linked to the NTP, one of which exclusively undertakes research. Most of laboratories are quality assured by 33 EQA centres in the country.

A network of 401 quality controlled microscopic facilities providing services for diagnosis and treatment follow-up have been established in the country by the government of Nepal, International, National Non Government Organizations and the private sector. In Nepal, at present there are five laboratories performing culture and two of them provide Drug Susceptibility Testing (DST).

In Sri Lanka, accessibility to diagnostic services for tuberculosis has been strengthened by establishing over 100 additional microscopy facilities all over the country. On an average, one laboratory caters currently for a population of 130,000. In addition to providing smear microscopy services for patients referred from various hospitals, the Central Laboratory of Sri Lanka has a public health role in the following areas: External Quality Assessment (EQA) to the chest clinic laboratories, training of laboratory technicians in smear microscopy, Culture and DST facilities, involving private laboratories in the TB control programme, conducting and coordinating research.

The laboratory network in Pakistan (as of December, 2007) is composed of National TB Reference Lab -1, Provincial Reference Laboratory - 4, Regional Laboratory - 3, Intermediate Reference Level/District Level Laboratory - 112 and Peripheral Laboratories or Diagnostic Centres - 1026. External Quality Assessment (EQA) of sputum microscopy has been implemented in 41 of 132 districts.

In Bhutan, 29 laboratories were performing smear microscopy in 2008 and laboratory upgradation for DST is being implemented.

SAARC TB Reference Laboratory was established with the support of SAARC Canada Regional TB and HIV/AIDS project. One of the important components of this project was to improve the accuracy in laboratory diagnosis of the respective National TB Reference Laboratories of the region. The STAC building is under construction, which will be ready by June 2010 with a hope to provide Supranational Reference Laboratory for SAARC region.

The laboratory capacity for sputum microscopy has been satisfactorily developed in the SAARC region. The SAARC Member States are working hard to develop/strengthen a network of quality assured and accredited laboratories for Culture and DST for *M. tuberculosis*. However, there are many challenges ahead in terms of development of infrastructure and availability of trained human resources.