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# Strengthening lifesaving tuberculosis laboratories in India

"Patients go through a miserable journey while they're waiting to be diagnosed for multi-drug resistant TB (MDR-TB)," said Dr. Aparna B. Srikantam, the head of the microbiology division at the Blue Peter Public Health & Research Centre (BPHRC) Laboratory in Hyderabad, India. "First they're diagnosed with TB and taking their treatment. One day, they realize they're not responding to the treatment."

Until recently, this could have meant months of uncertainty, more severe illness, or even death. The biosafety level II lab took three months to diagnose MDR-TB. "By the time the results came," Dr. Srikantam said, "often the patients would have already died, or patients had deteriorated and didn't respond to treatment." They'd also had more time to spread MDR-TB to other people.

BPHRC needed support—both financial resources and technical expertise—to upgrade the lab and speed up diagnosis. Fortunately, the lab, which provides diagnostic and follow-up services to four surrounding districts, is one of many that has been able to make critical improvements with support from United States Agency for International Development and PATH.

## SAFE AND RAPID DIAGNOSIS MEANS LIVES SAVED

With PATH's help, the BPHRC lab became accredited in line with national and international standards and has been upgraded to a higher level of biosafety. It was the first private-sector accredited TB lab in India to be upgraded to level III. It is now also better equipped with diagnostic capabilities. With the equipment and infrastructure needed to safely conduct liquid culture and molecular diagnostic tests (known as line probe assay or LPA), staff at BPHRC can now diagnose TB within days instead of months, and stay protected from potentially infectious samples.

PATH/Gabe Bienczycki

"Because of personnel and environmental safety risks, we couldn't handle live bacteria before," said Dr. Srikantam. "Without a safe environment, you can't do rapid diagnosis. We've created a very safe environment, so

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there's no risk to the health care workers. It would not have happened without USAID's support."

In the year prior to the lab upgrade, 68 MDR-TB patients died before they could access treatment. Since the upgrade, the lab has diagnosed more than 300 patients with drug-resistant TB and the majority of them have already begun treatment. BPHRC is now an official member of the National TB Laboratory Network.

## IMPROVING LABS ACROSS INDIA

India has the highest number of TB cases in the world. Functioning laboratories are critical to diagnose the disease, including drug-resistant forms, so that people who are sick can access the lifesaving treatment they need as quickly as possible while reducing the risk of infecting others with TB. Laboratories also help monitor how patients are progressing through their treatments.

PATH helps to assess what laboratories need, improve laboratory infrastructure, and train staff. "Workshops have allowed laboratory staff to express issues and challenges and come together to build a strong national network," said microbiologist Dr. Ranjani Ramachandran.

Through this work, 35 TB labs in India have been accredited. PATH will continue to support the remaining laboratories on their path toward accreditation and to help all maintain their accreditation status once reached. These efforts not only help laboratory workers by providing them with critical resources and training, but also give patients a better chance to access quality lifesaving treatment faster.

## PATH'S WORK IN LABORATORY STRENGTHENING

With support from USAID, PATH is strengthening laboratories by:

- Improving laboratory infrastructure and networks.
- Ensuring the availability of proper diagnostic and safety equipment.
- Strengthening external quality assurance to ensure that laboratories are doing quality work.
- Providing training, supervision, and mentoring for laboratory staff.
- Providing technical support to design laboratory facilities in line with national and international standards.

### For more information

To learn more about PATH's TB work in India, please contact Dr. Satish Kaipilyawar at skaipilyawar@path.org.

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This document was prepared for the United States Agency for International Development's Bureau of Global Health Tuberculosis Task Order by PATH.

### About PATH

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