For many years, medicines to treat TB in children were not available in the appropriate dosage, and treatment providers and caregivers would need to crush or break pills designed for adults to treat children. However, all TB drugs approved for use in children are now available in child-friendly formulations. This means that if children with TB get the right diagnosis, the appropriate TB treatment options are now available. Countries must therefore scale up and accelerate implementation of WHO-recommended regimens to treat TB in children.
What needs to happen?

We need more research and development in TB diagnostics that are specifically designed for children.

Such child-adapted diagnostic tests should:

- make use of easy-to-collect samples in children, for instance through finger-prick blood tests or oral swabs;
- be highly sensitive and specific, i.e. have a high probability to correctly identify TB in children;
- be point-of-care tests, suitable for and easy to use at primary care levels by any health care worker in remote and low-resource settings, i.e. robust and independent of any lab infrastructure; and
- be affordable for low- and middle-income countries.

If a test works in children, it will work in adults, but not the other way around.

MSF and TB

Médecins Sans Frontières (MSF) is the largest non-governmental provider of TB treatment worldwide and has been involved in TB care for 30 years, often working alongside national health authorities to treat people in a wide variety of settings, including conflict zones, urban slums, prisons, refugee camps and rural areas. In 2022, MSF had TB activities in 37 countries, treating a total of 20,417 TB patients, of whom 2,596 had MDR-TB. Almost all MSF facilities that see children, in almost every context, struggle with the challenges of diagnosing and treating TB in children.

For all these reasons, the treatment decision algorithms, based on clinical signs and symptoms combined with chest X-ray where available, are essential to helping doctors better diagnose TB in children.

In summary, diagnosing TB in children relies on a combination of approaches, from assessing clinical signs and symptoms, complemented with radiology, such as X-ray or ultrasound, to GeneXpert MTB/RIF Ultra on stool or other samples when possible. However, all the available tools are insufficient, and are often not available or integrated at the primary healthcare level, where most children with TB seek care.

In 2022, to address these challenges and better guide TB programmes and health care workers, WHO issued updated guidelines for the management of TB in children with several recommendations that aim to reduce the number of children with TB that continue to go undiagnosed.

First, two evidence-based treatment decision algorithms were developed to guide clinicians to diagnose TB in children using chest X-ray and clinical symptoms or clinical symptoms alone when X-ray is not available.

Second, WHO also recommended using GeneXpert MTB/RIF Ultra on stool alongside other sample types such as gastric aspirate samples; as young children swallow much of their sputum, TB can be detected in stool, and in gastric fluid that is aspirated with a feeding tube passed through the child's nose into the stomach.

However, the sensitivity of GeneXpert MTB/RIF Ultra – its ability to identify the disease – on stool samples is much lower than when using sputum samples. Testing gastric aspirate samples can yield slightly higher sensitivity than stool, but sample collection is more invasive and difficult to tolerate for children. Because of this, gastric aspirate samples are rarely used.

"It's baffling that this deadly but curable disease has existed for millennia, but in the 21st century, still only 40% of children with TB get the treatment they need to stay alive, because the right tools to test TB in kids still don't exist."

- Dr Nasiba Maksumova, MSF Tajikistan