

# Reversing the neglect of children and adolescents affected by tuberculosis



Although tuberculosis is preventable and curable, it remains among the top ten causes of death in children younger than 5 years globally.<sup>1</sup> More than 80% of children who die from tuberculosis are younger than 5 years, and 96% die without ever receiving appropriate care.<sup>2</sup> Estimates from WHO indicate that in 2021, 1.2 million children (aged <10 years) and young adolescents (aged 10–14 years) developed tuberculosis, and 209 000 died from the disease.<sup>3</sup>

At the UN High-Level Meeting in September, 2018, heads of state and government representatives adopted the first political declaration affirming commitments to end tuberculosis by 2030, aligning global tuberculosis elimination with the Sustainable Development Goals targets.<sup>4</sup> However, by the end of 2021, only 54% of the 3.5 million children targeted to receive tuberculosis treatment by 2022 were reached, and just 15% of the target was met in children with rifampicin-resistant or multidrug-resistant tuberculosis.<sup>2</sup> Only 40% of children younger than 5 years received tuberculosis-preventive treatment (TPT); in TPT-eligible children aged 5 years or older, less than 4% received the treatment. Ending tuberculosis in children and adolescents cannot be achieved unless the gaps in preventing, diagnosing, and treating the disease in these vulnerable populations are recognised and addressed by the global health community, national policy makers, and tuberculosis programme managers.

Persistent gaps in children's access to tuberculosis care are due to two main factors. First, few diagnostic tests exist that are adapted to children, who are usually unable to produce sputum samples and have paucibacillary disease in which the organism is more difficult to detect.<sup>5</sup> Clinical diagnosis, complemented with radiology where available, remains the mainstay of diagnosing tuberculosis in children, but access to radiology is challenging in resource-restricted settings where most child deaths from the disease occur. Second, tuberculosis care is not well integrated into primary child health programmes and services, and capacity to manage tuberculosis in children and adolescents at the primary care level of the health-care system remains low. Therefore, investments are urgently needed to

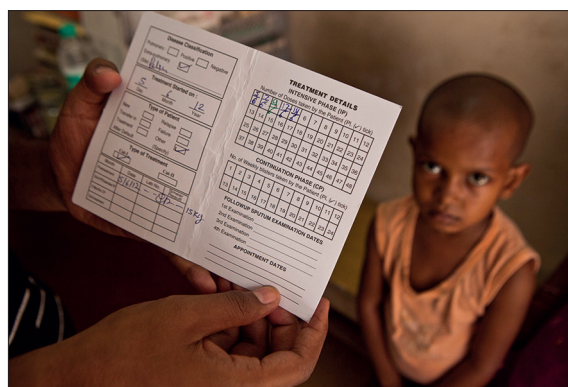
increase access to available diagnostic tools and to accelerate research in developing sensitive, non-sputum tests for children that are suitable for use in remote and low-resource settings. Countries should also invest in capacity-building programmes enabling front-line health-care workers to diagnose and treat tuberculosis in children and adolescents across all levels of the health-care system, as is done for adults.<sup>6</sup>

Apart from diagnosing and treating tuberculosis, implementing TPT in children and adolescents to prevent disease progression following exposure remains a major challenge. Children younger than 5 years, or children with substantial immune compromise, are at greatest risk of disease progression and death. National programmes should urgently invest in scaling up the use of already licensed shorter TPT regimens (ie, 3 months instead of 6–9 months), especially those with available child-friendly formulations for improved adherence and successful prevention of the disease. This scaling up needs to be accompanied by the implementation of pragmatic approaches, such as community-based or home-based treatment,<sup>7</sup> which are essential to improve TPT uptake and completion.

In 2022, WHO issued new, consolidated, evidence-based guidelines for the management of tuberculosis in children and adolescents, with an accompanying operational handbook.<sup>8</sup> These new policies and implementation guidance offer an important opportunity to improve tuberculosis care in children and adolescents. The policies provide clear guidance on the use of evidence-based approaches to diagnose

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tuberculosis in children (eg, Xpert MTB/RIF Ultra on stool and treatment-decision algorithms for settings without laboratory infrastructure), a shorter treatment regimen for children and adolescents with non-severe tuberculosis (ie, 4 months instead of 6 months), and all-oral treatment regimens for children with multidrug-resistant or rifampicin-resistant tuberculosis.

With the second UN High-Level Meeting on tuberculosis to be held on Sept 22, 2023, we recognise the gains made with shorter treatment and prevention regimens.<sup>7</sup> However, we call for renewed political leadership, commitments, and increased financial resources to close the remaining gaps in tuberculosis prevention and find all children and adolescents with the disease. These goals require innovative new diagnostics that meet the specific needs of children and adolescents, and urgent implementation and scale-up of the new WHO guidelines, especially at primary care levels in which most children and adolescents with tuberculosis are managed. To ensure accountability we urge countries to monitor progress in closing the tuberculosis response gaps—especially in children and adolescents—on a yearly basis. For too many years children and adolescents have been neglected by global and national policy makers, researchers, and manufacturers of tuberculosis diagnostics and drugs. Now is the time to act and end the unnecessary and preventable deaths caused by tuberculosis in children and adolescents.

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- 1 Perin J, Mulick A, Yeung D, et al. Global, regional, and national causes of under-5 mortality in 2000–19: an updated systematic analysis with implications for the Sustainable Development Goals. *Lancet Child Adolesc Health* 2022; **6**: 106–15.
- 2 Dodd PJ, Yuen CM, Sismanidis C, Seddon JA, Jenkins HE. The global burden of tuberculosis mortality in children: a mathematical modelling study. *Lancet Glob Health* 2017; **5**: e898–906.
- 3 WHO. Global tuberculosis report 2022. <https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022> (accessed July 7, 2023).
- 4 UN. Political declaration of the UN General-Assembly High-Level Meeting on the Fight Against Tuberculosis. <https://www.who.int/publications/m/item/political-declaration-of-the-un-general-assembly-high-level-meeting-on-the-fight-against-tuberculosis> (accessed July 7, 2023).
- 5 Reuter A, Hughes J, Furin J. Challenges and controversies in childhood tuberculosis. *Lancet* 2019; **394**: 967–78.
- 6 Zawedde-Muyanja S, Reuter A, Tovar MA, et al. Provision of decentralized TB care services: a detect-treat-prevent strategy for children and adolescents affected by TB. *Pathogens* 2021; **10**: 1568.
- 7 Sinha P, Shenoi SV, Friedland GH. Opportunities for community health workers to contribute to global efforts to end tuberculosis. *Glob Public Health* 2020; **15**: 474–84.
- 8 WHO. WHO consolidated guidelines on tuberculosis. Module 5: management of tuberculosis in children and adolescents. <https://www.who.int/publications/i/item/9789240046764> (accessed July 7, 2023).