



Tackling Paediatric Tuberculosis: The Role of Tactic in Bridging Policy and Practise

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ABSTRACT

Paediatric tuberculosis (TB) remains a global health crisis, as diagnostic and treatment gaps persist, leaving millions of children vulnerable. The Treatment and Access for Children with Tuberculosis Initiative (TACTiC), led by Médecins Sans Frontières, identifies critical policy failures and works to bridge the gap between global guidelines and real-world implementation. Through research, advocacy, and operational changes, TACTiC has advanced Paediatric TB care by expanding access to child-friendly treatments, advocating for affordable diagnostic tools, and influencing global health policies. Despite their progress, financial and logistical barriers continue to hinder widespread adoption, underscoring the need for sustained global commitment to eradicating Paediatric TB.

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Introduction

Tuberculosis (TB) is the leading cause of infectious disease-related death, with over a quarter of the global population infected (Médecins Sans Frontières Access Campaign, 2024a). In 2022, an estimated 1.25 million children developed TB, yet studies suggest the true incidence is likely much higher (Médecins Sans Frontières, 2023a; Maphalle, Michniak-Kohn, Ogunrombi, & Adeleke, 2022). Research indicates that fewer than 50% of paediatric TB cases are accurately diagnosed and treated (Médecins Sans Frontières USA, 2024). Even among diagnosed children, treatment initiation is frequently delayed, allowing further disease progression before intervention (Médecins Sans Frontières Access Campaign, 2024b). Consequently, TB claims a child's life every three minutes and remains one of the leading causes of death in children (Médecins Sans Frontières International, 2024; Médecins Sans Frontières Access Campaign, 2012). In response, Médecins Sans Frontières (MSF) launched the Treatment and Access for Children with Tuberculosis Initiative (TACTiC) to improve TB diagnosis, treatment, and prevention in children.

The Challenges of Paediatric TB

Children under five are highly vulnerable due to their underdeveloped immune systems, higher respiratory rates, and weaker cough reflexes. Paediatric TB progresses rapidly and often spreads beyond the lungs, leading to severe forms such as miliary TB, where the bacteria spreads throughout the bloodstream (Centers for Disease Control and Prevention, 2025). A major challenge associated with Paediatric TB is the inaccessibility of reliable diagnostic tests in low-resource settings. These procedures are often unavailable due to financial constraints, weak health systems, and restrictive policy environments

(Médecins Sans Frontières Access Campaign, 2024b). Thus, diagnosis largely relies on clinical symptoms, which overlap with other childhood ailments (Médecins Sans Frontières Access Campaign, 2024a). Additionally, the lack of clear lung cavitations in paediatric TB makes chest X-rays difficult to interpret. Smear microscopy and molecular tests require sputum samples, which children struggle to produce with sufficient bacterial loads (Médecins Sans Frontières & Partners in Health, 2024). Alternative methods, such as gastric aspiration, are invasive and remain largely inaccessible as they typically require clinical infrastructure and skilled staff. Despite the recent development of paediatric TB medications (Médecins Sans Frontières Access Campaign, 2024a), financial and bureaucratic barriers force healthcare providers to administer crushed adult pills, risking inaccurate dosing and adverse effects (Médecins Sans Frontières Access Campaign, 2024a; Médecins Sans Frontières USA, 2024).

Three Pillars of TACTiC

TACTiC focuses on three core pillars: Implementation, Operational Research, and Advocacy (Médecins Sans Frontières, n.d.).

Implementation

TACTiC works to implement paediatric TB guidelines from the World Health Organization's (WHO) 2022 Global TB Report regarding clinical decision algorithms, stool-based testing, and shorter treatment regimens (World Health Organization, 2022; World Health Organization, 2024a). MSF collaborates with health ministries to assess local needs and improve national TB programmes (Médecins Sans Frontières, n.d.). To strengthen healthcare capacity, MSF offers training, workshops, and telemedicine support (Médecins Sans Frontières, n.d.).

MSF's user-friendly tools allow for the expansion and inspection of its operations while ensuring high-quality care (Médecins Sans Frontières, n.d.).

Operational Research

In partnership with Epicentre, MSF's epidemiological division, TACTiC conducts studies to support the integration of the latest evidence-based strategies into national health systems. The Pediatric Algorithm Study assesses the diagnostic performance, feasibility, and acceptability of the WHO treatment decision algorithms for children under 10 across 5 countries (Epicentre, 2023). The Four-Month Treatment Regimen for Children with Non-Severe Drug Susceptible TB study seeks to promote the broader uptake of effective shorter-duration treatment options by identifying barriers to implementation and proposing solutions (Huerga, 2023).

Advocacy

TACTiC advocates for greater recognition of paediatric TB in global political agendas. In 2023, MSF successfully pushed for paediatric TB's inclusion in the United Nations (UN) Political Declaration on TB and continues to push for commitments to be translated into action (Médecins Sans Frontières, 2023b). TACTiC engages industry leaders to expand access to child-friendly diagnostic and treatment tools, which remain underutilized due to cost (Médecins Sans Frontières, n.d.). Although MSF's Time for \$5 campaign successfully reduced GeneXpert MTB/RIF Ultra test prices by 20% in high-burden TB countries, further reductions are needed (Médecins Sans Frontières Access Campaign, 2019; Médecins Sans Frontières Access Campaign, 2023b). Furthermore, MSF advocates for expanding the market to prevent such monopolies, lower costs, and improve service quality (Médecins Sans Frontières Access Campaign, 2024c). MSF also helped secure access to Bedaquiline, a child-friendly drug-resistant tuberculosis (DR-TB) drug, in 134 countries by challenging Johnson & Johnson's secondary patents (Médecins Sans Frontières Access Campaign, 2023c; Johnson & Johnson, 2023). This enabled affordable generic versions of the drug, increasing treatment accessibility.

MSF continues its effort with Delamanid, another key DR-TB drug (Médecins Sans Frontières Access Campaign, 2023d).

TACTIC Operation Sides and Cases

Sub-Saharan Africa's 10 participating countries account for one-third of paediatric TB cases. Underdiagnosis is severe due to reliance on sputum-based tests, and adolescents are often excluded from national guidelines despite their heightened risk of DR-TB. Malnutrition is a major concern, accelerating TB progression and mortality in 30–50% of cases (Médecins Sans Frontières, n.d.). South Asia's three participating countries constitute another third of the global paediatric TB burden. High caseloads and DR-TB are major concerns due to elevated transmission rates in their densely populated urban centres, while diabetes triples TB risk and complicates TB management (Médecins Sans Frontières, n.d.). The Philippines alone accounts for over 10% of TB cases. Diagnosis relies heavily on clinical assessment rather than microbiological confirmations, raising concerns about accuracy (Médecins Sans Frontières, n.d.). Furthermore, all 14 countries across three regions struggle with underfunded paediatric guidelines and diagnostic delays but require tailored interventions to curb paediatric TB on a global scale (Médecins Sans Frontières Access Campaign, 2024b; Médecins Sans Frontières, n.d.).

TACTIC Policy Survey

TACTiC's 2024 policy survey assessed paediatric TB management programmes in participating countries, revealing significant gaps in adopting WHO's 2022 guidelines. While some countries integrated recommendations, implementation was hindered by financial constraints and inadequate training (Médecins Sans Frontières Access Campaign, 2024b). Of the 14 surveyed countries, only one fully aligned its policies with WHO guidelines, seven

achieved over 80% alignment, and four fell below 50% (Médecins Sans Frontières Access Campaign, 2024b). The greatest deficiencies were observed in diagnostic practices. Only 5 countries modified their guidelines to initiate treatment in children based on strong clinical suspicion, even if bacteriological tests returned negative. Only 9 countries allow DR-TB treatment initiation without bacteriological confirmation or chest X-ray, only 10 recommend using stool-based testing, and only 8 have the resources to implement it (Médecins Sans Frontières Access Campaign, 2012; Médecins Sans Frontières Access Campaign, 2024b). Another key issue is the limited adoption of molecular diagnostics for paediatric TB in primary healthcare centres, although they offer high sensitivity and detect extrapulmonary TB (Médecins Sans Frontières Access Campaign, 2024a). These centres also lack clear guidelines on preventative therapy for children exposed to TB. Stockouts of paediatric fixed combination drugs, which reduce the number of tablets needed and the risk of drug resistance, remain a recurring issue (Médecins Sans Frontières Access Campaign, 2012; Médecins Sans Frontières Access Campaign, 2024b).

Conclusion

TACTiC is working to improve paediatric TB care through collaboration with national TB programmes, operational research to understand regional challenges, and a focus on strengthening diagnostic and treatment accessibility. However, its long-term impact depends on sustained collaboration between policymakers, researchers, and healthcare providers to expand policy implementation, invest in child-friendly TB tools, and enhance healthcare worker training. With continued investment and commitment, the progress made by TACTiC can contribute to a stronger response to paediatric TB.

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