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## TURBO TALK: Implementation of treatment-decision algorithms for children with pulmonary tuberculosis: cross-cutting lessons for operational scale-up

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### Introduction

In 2022, the World Health Organisation (WHO) released new integrated treatment-decision algorithms (TDAs) for diagnosis and management of tuberculosis in children and adolescents. The Médecins Sans Frontières (MSF) intersectional initiative TACTiC (test, avoid and cure tuberculosis in children) supports field implementation of WHO recommendations, including TDAs. As part of TACTiC, the TB-ALGO-PED study, conducted in health projects in Guinea, Niger, Nigeria, South Sudan, and Uganda, assesses the performance, feasibility, and acceptability of the TDAs. TDA implementation was conducted before, or in tandem with, the initiation of study data collection. We documented the experiences and processes of operational implementation with the aim to identify generalisable lessons to support future scale-up of TDA use across other countries and projects.

### Methods

TDAs were introduced between April 2023 and January 2024 in five MSF run, or supported, health projects located in countries with a high TB burden, Guinea, Niger, Nigeria, South Sudan, and Uganda. For the documentation of the implementation, qualitative data were collected using document analysis, implementor interviews, and focus group discussions between September 2023 and July 2024. Each facility completed a structured framework of documentation that included a context description and a step-by-step breakdown of pre- and post-implementation pathways of tuberculosis management, highlighting logistical and clinical challenges. Focus group discussions with five implementers, six staff from medical departments, and six researchers provided further detail. We analysed the data and published an implementation report by October 2024.

### Ethics

This study was approved by the MSF Ethics Review Board, as well as by the respective national Ethics Committees.

### Results

Results spanned three domains of implementation: context, people (actors), and process. Project level, regional, and national contextual factors affected implementation at all facilities. Patterns of leadership and stakeholder engagement also varied. In all cases, research leadership and infrastructure strongly supported and informed the process. Often, operational leadership prioritised development and delivery of health-worker training about the TDAs. They gave less attention to detailed context assessment, including local leadership dynamics, with planning of procedural elements.

### Conclusion

Implementation of the WHO TDAs for the diagnosis and management of pulmonary tuberculosis in children and adolescents is a multi-layered process. Key points for future implementors are: (1) investment should be made in a pre-implementation context assessment, with adaptations and health system strengthening before intervention; (2) leadership of change should be locally driven and include a spectrum of people from ministry of health to community recipients, and informal opinion leaders within professional groups; (3) a child tuberculosis service pathway should be planned, structured, and integrated with other care pathways for a facility; and (4) TDA implementation should be viewed as a long-term process that adapts and improves based on feedback, monitoring, and evaluation.

### Conflicts of interest

All authors declare no competing interests.