



Experiences of Médecins Sans Frontières TACTiC project on the Treatment Decision Algorithms

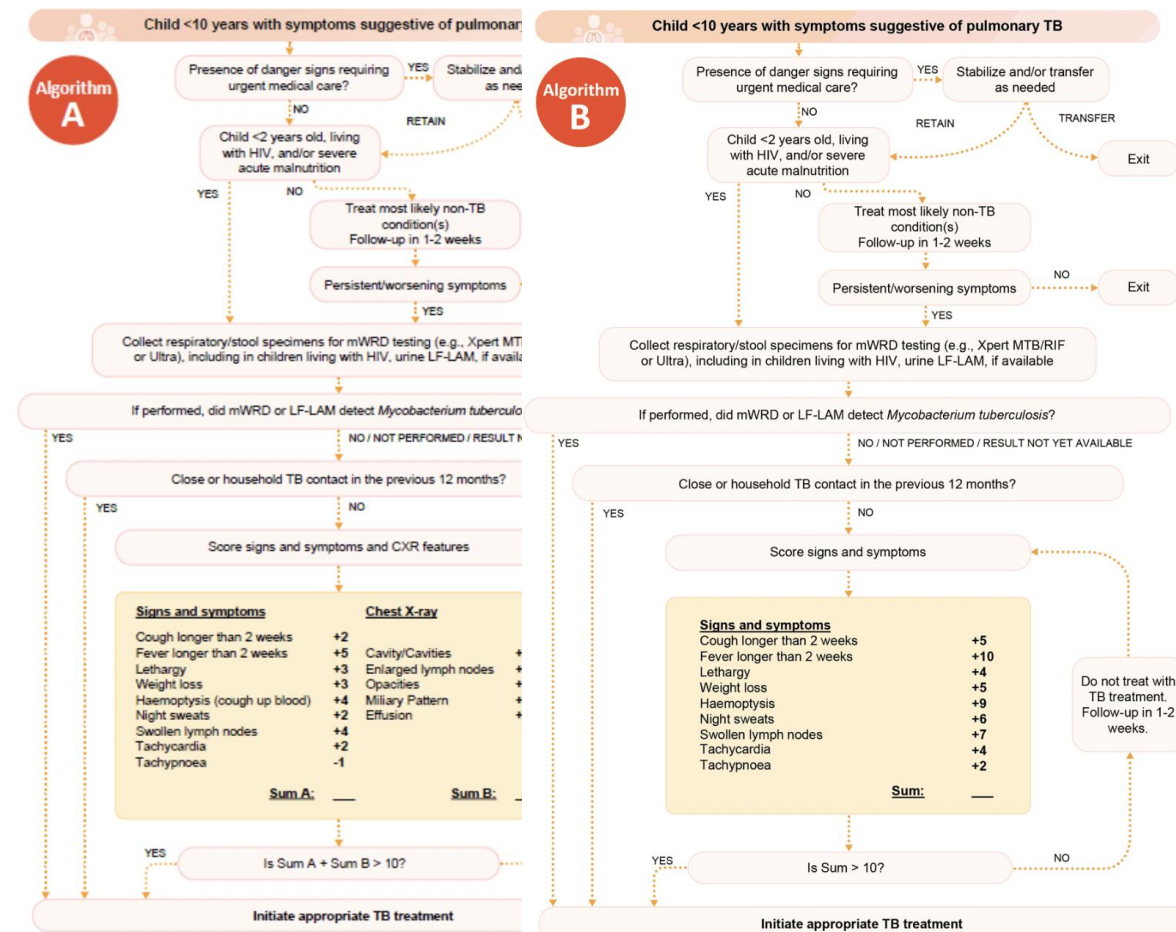
Webinar: Enhancing TB service delivery for children and adolescents through collaborative experience sharing

December 18th, 2025



What is TB Treatment Decision Algorithm (TDA) and why it is needed?

- Data-driven approach, not reliant on expert opinion
- Clinical and patient information prioritized, including:
 - Age
 - HIV status
 - Undernutrition
 - Severity of symptoms
 - Contact with a TB case
 - Diagnostic tests and chest X-ray used when available, but:
- Treatment decisions remain simple without investigations
- Negative results do not delay treatment when clinical suspicion is high
- Rapid treatment initiation for highest-risk children (<2, undernutrition, CLHIV, children with TB contact history)



WHO Global TB report, 2025



TB incidence and mortality in children and adolescents, 2024

Global tuberculosis report 2025

10.7 million

TB among all ages in 2024

1.23 million

TB deaths in 2024

1.2 million

children (0–14 years) developed TB in 2024 (11% of all TB)

174 000

TB deaths in 2024 (14% of all TB deaths)

45%

<5 year olds



727 000 adolescents

(10–19 year-olds) developed TB in 2012 (Snow et al, 2018)



Among deaths in HIV-negative children and young adolescents 0–14

71% were in children <5 years



96% of deaths occurred in children who did not access TB treatment

(Dodd et al, 2017)



2 000

(1.1%) TB deaths in the 0–14 year age group were among children living with HIV



Remaining programmatic gaps

% of missing persons with TB in different age groups (2024)



World Health Organization



TDA Implementation

The Test Avoid Cure TB in Children (TACTiC) project launched by MSF aims to:



Support countries

to implement the latest WHO recommendations for diagnosing, treating and preventing TB in children



Conduct operational research

to generate scientific evidence on the effectiveness, feasibility and acceptability of the WHO recommendations for TB in children



Advocate for

national policy reforms and sufficient resources for their implementation

TACTiC
Test Avoid Cure TB in Children

MEDECINS SANS FRONTIERES
DOCTORS WITHOUT BORDERS

epicentre
EPIDEMIOLOGIE • EPIDEMIOLOGIE



- 12 countries
- 52 projects



TDA Implementation



Results and lessons learned from **TB AlgoPed Study (5 countries)**: TDA feasibility & acceptability

Contextual assessment and adaptation of tool use aligned with national guidelines and resources

- Phased implementation
- Integration into routine care for sustainability
- Early stakeholder engagement
- Targeted capacity building
- Continuous mentorship
- Simple monitoring indicators

Implementation of new tools like TDA is not just a clinical process, but also requires coordination with health systems and community awareness to be effective and sustainable



From Guidelines to Practice



- Updated MSF Guidelines: Ensuring alignment with the latest evidence-based practices.
- Medical Advocacy: Promoting updates of national TB guidelines.
- Dedicated Capacity: Required to address funding challenges and sustain program impact.
- Cross-Sector Integration: Collaboration across programs beyond TB, such as nutrition, maternal, and child health.

TACTIC: A SURVEY OF PAEDIATRIC TB POLICIES IN 14 COUNTRIES Summary Dashboard

| Survey Indicator | Afghanistan | Central African Republic <i>*Guidelines are being updated</i> | Democratic Republic of the Congo | Guinea <i>*Guidelines are being updated</i> | India | Madagascar | Niger | Nigeria | Pakistan <i>*Guidelines are being updated</i> | The Philippines | Sierra Leone | Somalia | South Sudan | Uganda <i>*Guidelines are being updated</i> | LEGEND | | |
|--------------------|-------------|--|----------------------------------|--|-------|------------|-------|---------|--|-----------------|--------------|---------|-------------|--|--------|-----|-----|
| DIAGNOSIS | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| PREVENTION | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| TREATMENT CAPACITY | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| TREATMENT CAPACITY | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

* The countries included are Afghanistan, Central African Republic, Democratic Republic of the Congo, Guinea, India, Madagascar, Niger, Nigeria, Pakistan, The Philippines, Sierra Leone, Somalia, South Sudan, and Uganda.



TB AlgoPed Study

TDA feasibility / acceptability (TB AlgoPed Study): High Accuracy

- On average, TDA **double the number** of diagnoses & treatments
- Most common reason to start treatment was **clinical-radiological score**
- Feasible including in settings without Xray
- 10 Key lessons for future implementation



MSF supported facilities implementing the WHO recommended treatment decision algorithms have seen:



1.5 - 5 times

increase in the number of children diagnosed and started on TB treatment*

* preliminary data from TACTiC study TB ALGO PED



Contextual importance



| | |
|---|---|
| High HIV prevalence Mozambique, Guinee Conakry | <ul style="list-style-type: none">• High HIV/TB co-infection rates• Higher risk of disseminated and severe TB• Atypical clinical and CXR presentation• Lower threshold for TB investigation• TB-LAM• Integration with HIV services |
| High undernutrition burden Nigeria, Niger | <ul style="list-style-type: none">• High prevalence of SAM/MAM (malnourished children classified as presumptive TB)• Malnutrition as a major TB risk factor• Overlapping clinical signs (weight loss, infections)• Shortened diagnostic pathway for SAM• Early GeneXpert sample submission• Integrated nutrition–TB management |
| Complex humanitarian crisis CAR, DRC, Somalia, South Sudan | <ul style="list-style-type: none">• No 'universal approach' to complex humanitarian contexts – each is unique• Population displacement• Fragile health systems - Limited access to health facilities• Poor continuity of care• TB diagnosis must be linked to guaranteed treatment availability• Competing seasonal health priorities (Malaria, measles, diarrhea outbreaks) |



X-ray

- Access and quality: Inconsistent availability, equipment limitations and technical issues, high costs
- Interpretation: Limited reading capacity
- Training and mentorship for X-ray technicians (technique) and clinicians (interpretation)
- Bedside support and telemedicine support
- Use TDA without X-ray when unavailable, equipment inadequate, or interpretation capacity limited
- Interest in POCUS and CAD

Too many children do not have access to chest X-ray

CHEST X-RAY

- **High sensitivity**
- **Low operational cost**
- **Rapid results**



There is lack of expertise in high TB burden settings to interpret children's chest X-ray images



Open Questions in clinical TDA use



1. Timing of TDA in clinical scenario.

- On admission vs during follow-up
- No clear timeframe for evolving clinical situations

2. Symptom Overlap & Clinical Evolution

- Overlap with undernutrition, pneumonia
- How to interpret TDA when the child improves with treatment
- Should TB still be considered despite improvement?

3. Integration with Other Diagnostics

- TDA not designed for ultrasound (POCUS)
- How to act on subtle US findings (e.g. pleural effusion)

4. Extrapulmonary TB

- Limited diagnostics in low-resource settings
- Need for specific guidance or parallel algorithms

5. Sample Collection

- “Collect respiratory specimen” without number specified
- New guidelines recommend multiple sample

6. Reporting & Documentation

- TDA not included in NTP reporting tools
- Limits monitoring of systematic use and impact



Challenges in implementation



- Updating guidelines \neq automatic implementation at facility level
 - Incomplete country rollout, even where guidelines updated (Somalia, CAR, DRC)
 - Referral issues: some clinics unaware of TDA, may not accept patients
 - Countries delayed guideline updates due to anticipated rollout challenges
- Low to high increase of treatment demand after systematic TDA use:
 - Some contexts: 5 \rightarrow 10 children/month
 - High-burden/malnutrition contexts: 20 \rightarrow 50 children/month
- Need for careful planning: collaboration with partners, drug supply, staff training



Conclusion



- TDA provides a structured, evidence-based approach for pediatric TB treatment decision in children with pulmonary TB
- Improves early identification and rapid treatment initiation, especially for high-risk children
- Successful implementation requires:
 - Policy adoption and guideline updates, universal rollout
 - Capacity building and mentorship
 - Collaboration with MoH and partners
 - Community engagement
- Operational challenges remain: drug supply, workload, diagnostic limitations
- Continued research, adaptation, and advocacy are essential for sustainable use





THANK YOU !



SCAN THIS QR CODE TO VISIT OUR
WEBSITE



Agustina watches as Dr Trisha Thadhani conducts a medical evaluation of her grandson Ion, at one of MSF's active case finding sites for tuberculosis. Tondo, Manila, Philippines, March 2023. © EZRA ACAYAN



TACT C
Test Avoid Cure TB in Children

