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

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Test Avoid Cure TB in Children

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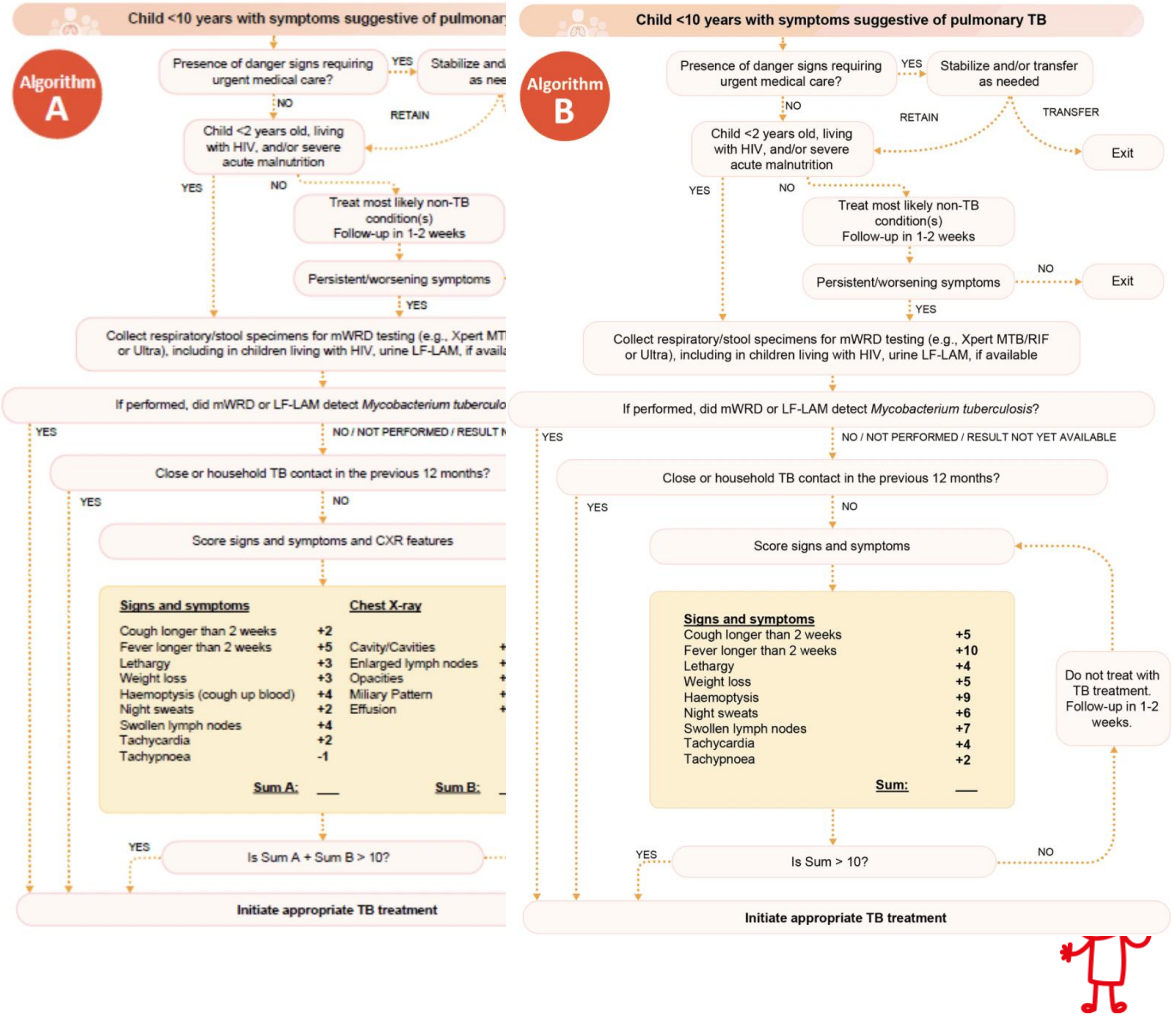
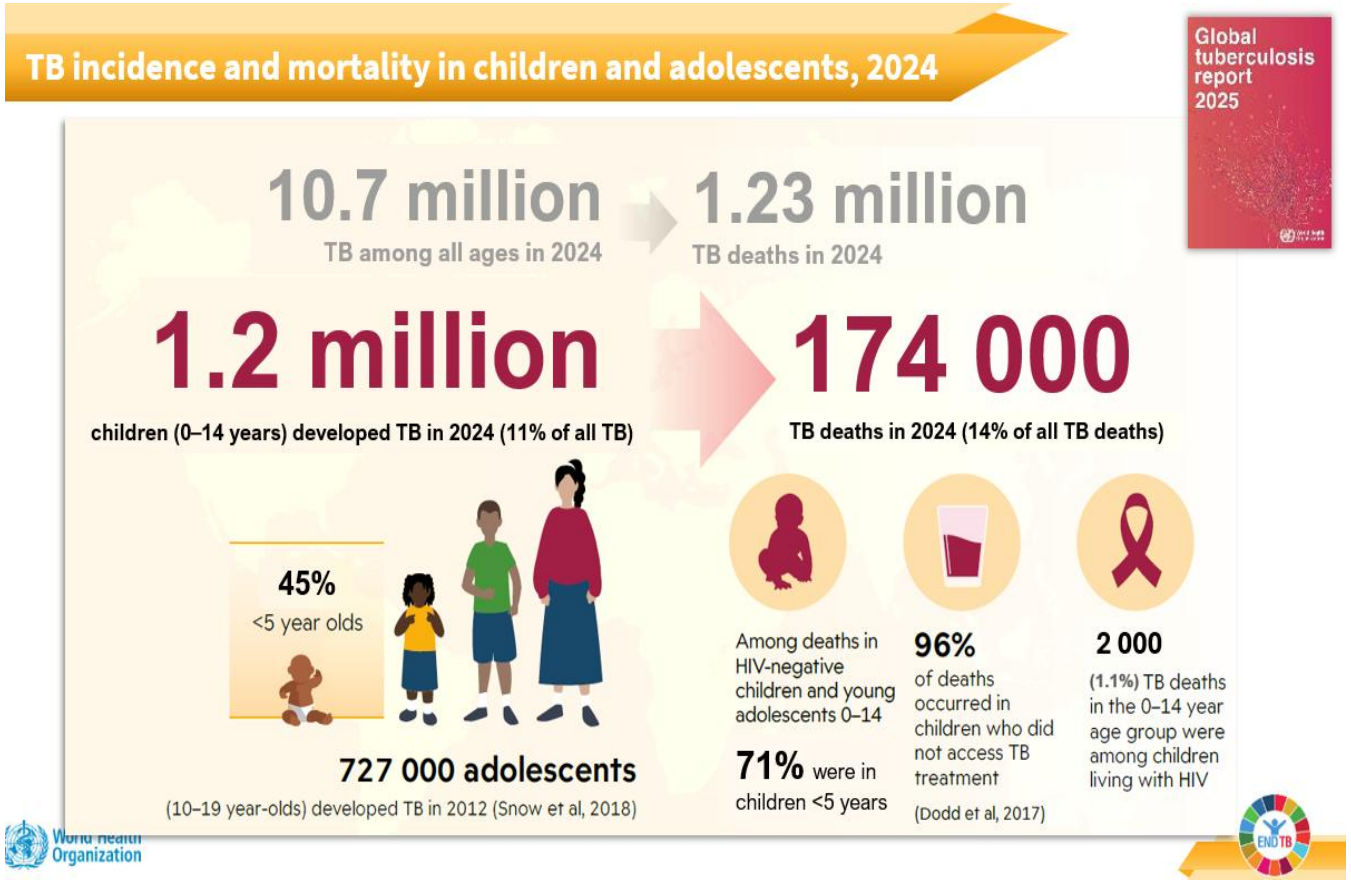
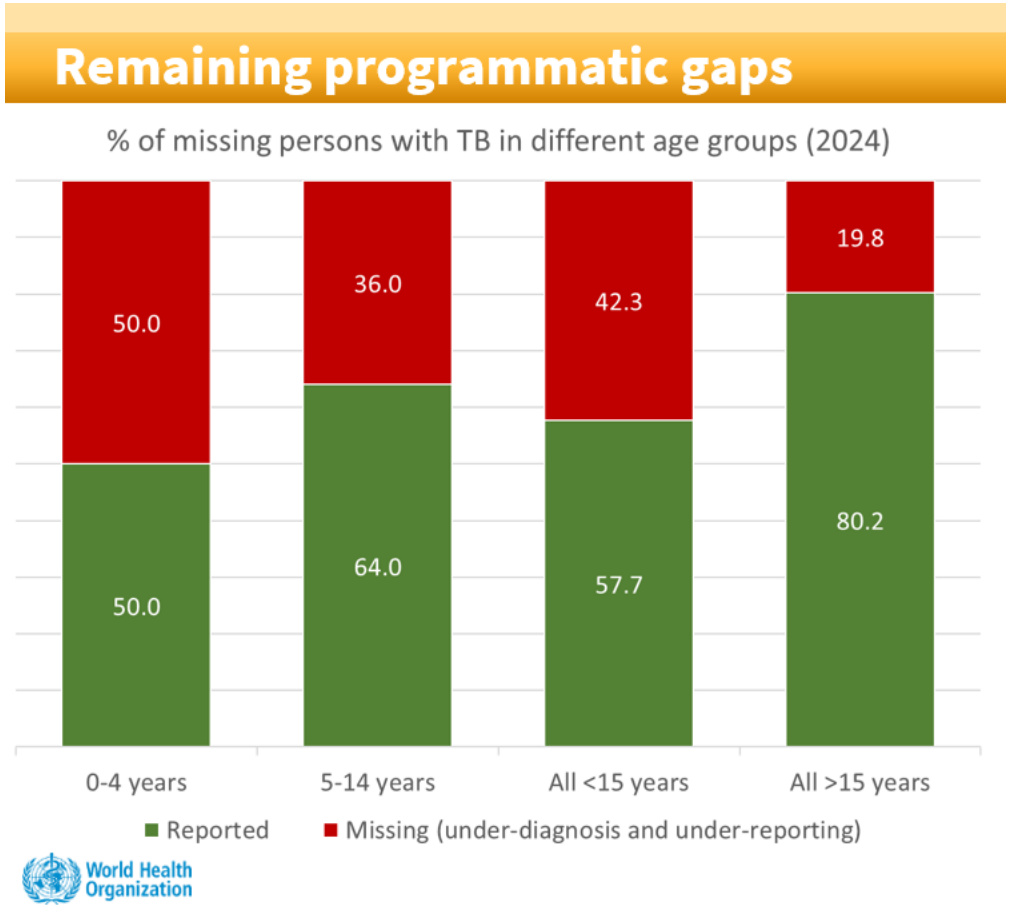
What is TB Treatment Decision Algorithm (TDA) and why it is needed?

- 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)

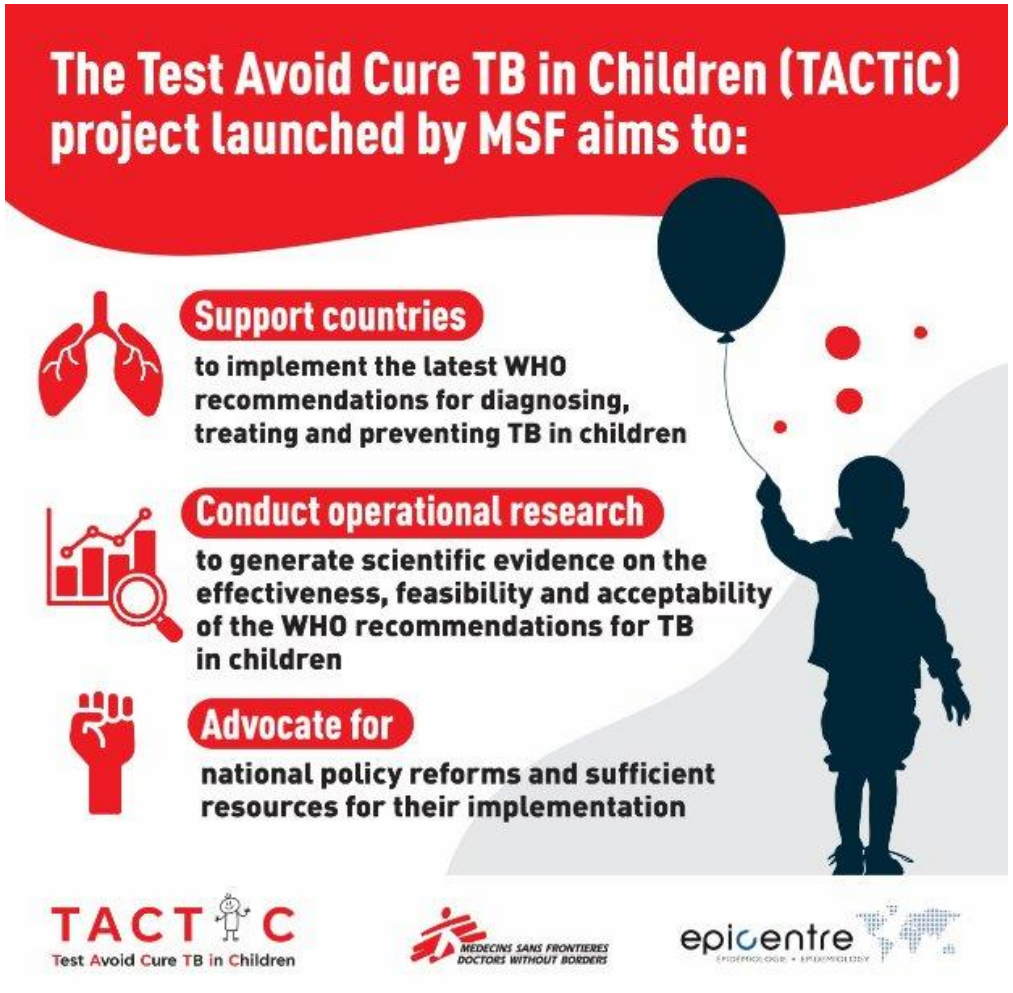


WHO Global TB report, 2025





TDA Implementation



- 12 countries
- 52 projects

TDA Implementation

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

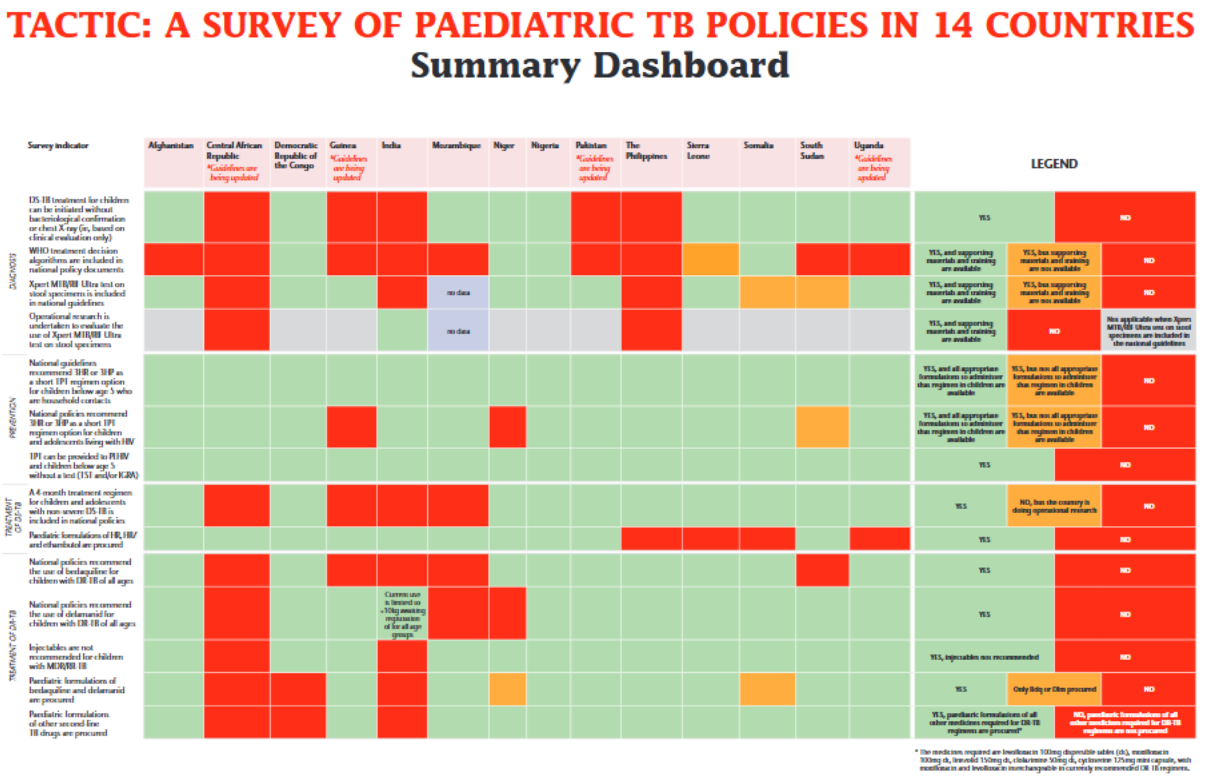
Contextual assessment and adaptation of tool use aligned with national guidelines and resources

- 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

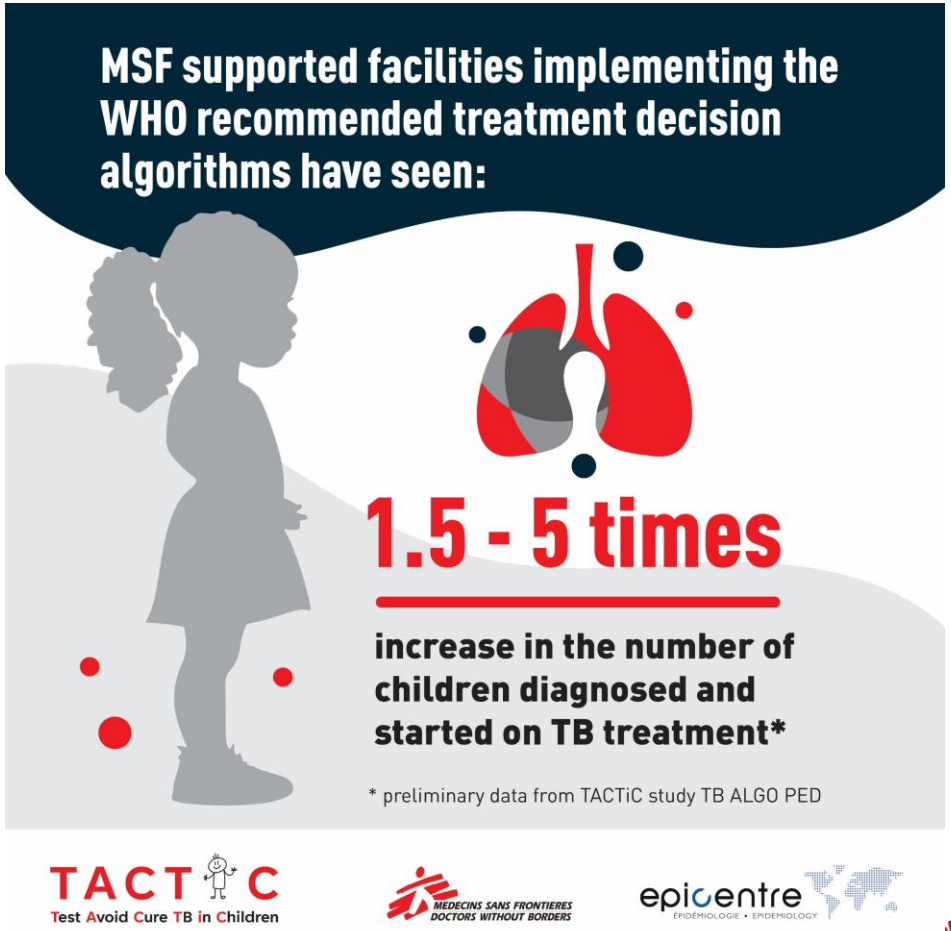
- Updated MSF Guidelines: Ensuring alignment with the latest evidence-based practices.
- Medical Advocacy: Promoting updates of national TB guidelines.
- Dedicated Capacity: Required to address funding challenges and sustain program impact.
- Cross-Sector Integration: Collaboration across programs beyond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



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

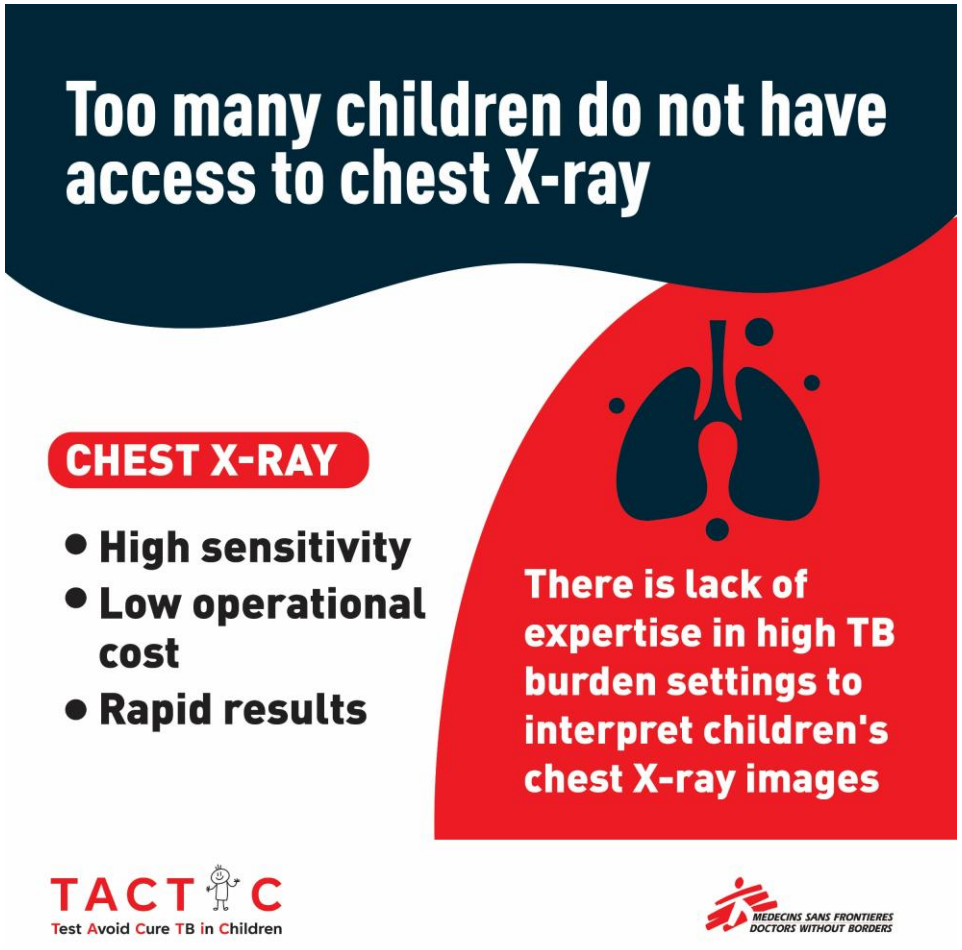


Contextual importance

High HIV prevalence Mozambique, Guinee Conakry	• 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	• 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	• 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



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 ≠ 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 ⟶ 10 children/month
  - High-burden/malnutrition contexts: 20 ⟶ 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

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

THANK YOU !

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