

Introduction + Methods



This research study examined the change in the **proportion of children treated for tuberculosis (TB) before and after the introduction of WHO-recommended treatment decision algorithms** for pulmonary TB in children in five countries.



Programmatic data extracted in aggregate, monthly from routine registers for children under 5 or 10 years of age (as available in country):

- Admissions or consultations
- TB treatment initiated
- 12 to 18 months before and after algorithm introduction

Interrupted time series analysis

accounting for:

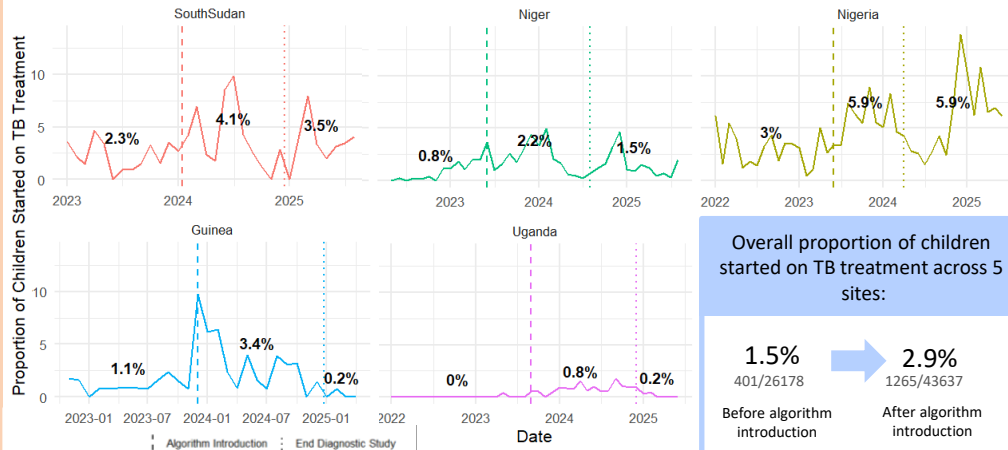
- Malnutrition season
- Site
- Presence or absence of diagnostic study



Results

With the algorithm + diagnostic study, TB treatment increased compared to without algorithm → OR: 2.0 ($p < .001$)
With the algorithm, without diagnostic study, compared to without algorithm → OR: 1.3 ($p < .001$)
(Binomial logistic model adjusting for site, period, and site*period interaction)

Proportion of Admitted or Consulted Children Started on TB Treatment Over Time by Site
(Without Algorithms, With Algorithms and During Diagnostic Study, With Algorithms and Without Diagnostic Study)



In sites with pronounced peak malnutrition seasons (South Sudan, Niger, Nigeria), proportion of children started on TB treatment decreased slightly during the peak season (OR = 0.92, $p = 0.13$)

An increase in TB cases was observed after introducing the algorithms and persisted over time.

When introducing the algorithms, consider planning to increase pediatric TB medication supply.

Diverse factors including national policy, type of population and comorbidities, and staff training and availability may also be influencing the trends, and could warrant further study.

These findings indicate steps to solidify gains in TB detection after algorithm introduction may be necessary, such as strong staff training and integration of algorithms into daily practice and national guidelines.

Increase in TB diagnosis among children after implementing new WHO treatment decision algorithms in 5 sub-Saharan African countries



E. Briskin, L.F. Nyikayo, I. Barry, A.M. Issa Soumana, M.B. Abdullahi, M. Namulwana, M.M. Oumarou Farouk, J. Mwanga-Amumpaire, L. Moreto, B. Schramm, F. Nackers, H. Huerga, TB ALGO PED Study Group

Affiliations: Epicentre, Field Epidemiology, Paris, France, Médecins Sans Frontières, Malakal, South Sudan, Médecins Sans Frontières, Conakry, Guinea, Epicentre Research, Maradi, Niger, Médecins Sans Frontières, Maiduguri, Nigeria, Epicentre Research, Mbarara, Uganda, Médecins Sans Frontières, Niamey, Niger, Médecins Sans Frontières, Barcelona, Spain

