SOUTH SUDAN

ADVOCACY COUNTRY FACT SHEET

September 2025

Médecins Sans Frontières in South Sudan

Médecins Sans Frontières (MSF) started supporting South Sudan in 1983 and currently has over 3,773 staff in the country.

MSF teams work in collaboration with the Ministry of Health to improve access to health care in urban and rural communities, informal settlements and areas affected by conflict, including 11 MSF sites that provide TB services (Bentiu, Lankien, Leer, Malakal, Ulang, Yei, Kejo keji, Renk, Twic/Mayen Abun, Abyei, Aweil, Old Fangak). In 2024, MSF treated a total of 2667 TB patients in South Sudan, including adults and children.

The burden of paediatric TB in South Sudan

According to the latest WHO Global TB Report, a total of 23,918 new and relapse TB cases in South Sudan were notified in 2023, of which 5,300 (22%) were children under 14 years old. The WHO data report that an estimated 24% of the children under 14 years who have TB were missing diagnosis and treatment.[1]

In South Sudan, paediatric TB care is provided in most health facilities that offer TB care, including hospitals and some primary healthcare centers. The Ministry of Health supplies TB medicines to the public hospitals and to few private hospitals.

According to the World Food Programme 302,078 children remain at risk of severe acute malnutrition and 1 million children at risk of moderate acute malnutrition in South Sudan.[2] Nutrition is one of the major determinants in the development of TB disease and there is a strong relationship between the incidence of tuberculosis and the prevalence of malnutrition. Nutritional support to all children living in households with a person with TB will help prevent the development of TB in those children.

TB can affect any part of the body. Inside the lungs is the most common (pulmonary TB), but TB can affect any other part of the body outside the lungs (extrapulmonary TB) – for example, brain, bone, eye, and the gastrointestinal tract. Extrapulmonary TB affects children more frequently than adults. WHO data show that up to 15% of the persons with TB in South Sudan have extrapulmonary TB. [1]

Test Avoid Cure TB in Children (TACTiC) project

Today, children who fall ill with TB have less than a 1-in-2 chance of being diagnosed and offered treatment globally.[3] Alarmingly, 96% of children who die from TB never reached diagnosis and treatment. Underdiagnosis in children is multifactorial but one main reason is that the laboratory tests to aid in the diagnosis of TB are not adapted to children. Children have lower levels of bacteria in the lungs than adults, which means that laboratory tests often fail to detect TB in children. In addition, available tests require specimens such as sputum which are difficult to collect from children.

In 2022, WHO revised its guidance for the management of paediatric TB to be in line with the most recent scientific evidence. The new WHO guidelines include a number of important updates on how to improve the diagnosis, treatment and prevention of TB in children that, if adopted and implemented, could dramatically reduce the number of deaths due to TB amongst children.

[1] World Health Organization, Global Tuberculosis Report 2024

[2] UNICEF/WHO/World Bank joint child malnutrition estimates, July 2023, https://data.unicef.org/resources/dataset/malnutrition-data/

[3] Dodd et al. The global burden of tuberculosis mortality in children: a mathematical modelling study. Lancet Global Health 2017

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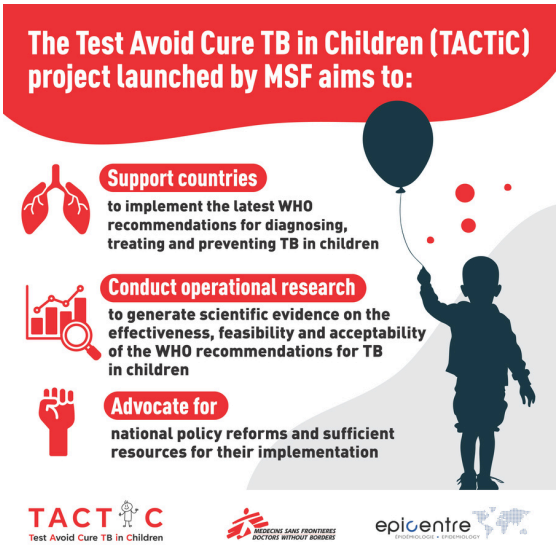
The project Test Avoid Cure TB in Children (TACTiC)

was launched by MSF immediately after the publication of the updated WHO guidelines in 2022. The project aims to support the implementation of the WHO recommendations for paediatric TB care in MSF projects, especially in integrated care facilities which have a high burden of undiagnosed TB, as well as generating evidence and advocating for better tools to diagnose, treat and prevent childhood TB. The MSF TACTiC project covers 12 countries with a high burden of TB and in which MSF provides TB care, including South Sudan.



Key new recommendations by the World Health Organization (WHO)

Improved treatment decision algorithms algorithms, based on latest scientific evidence, making it possible to diagnose children based on clinical symptoms (with or without X-rays), and initiate treatment in children even when laboratory tests (such as GeneXpert) are not available or have inconclusive or negative results which are common in children with TB.

Short all-oral treatment regimens (4 months) for non-severe, drug-susceptible tuberculosis. Children with non-severe tuberculosis can be offered a more appropriate, shorter and less costly 4-month treatment regimen, rather than the standard 6-month regimen.

Short all-oral treatment regimens (6 - 9 months) for drug-resistant TB. All children with multi-drug resistant TB (MDR-TB), regardless of age, can be treated with bedaquiline and delaminid based all-oral 6 to 9-month regimens with lower pill burden and good efficacy.

Short all-oral preventive treatment (3 months) for children who are household contacts of a person with drug susceptible TB. Isoniazid and rifampicin daily for 3 months (3HR) and isoniazid and rifapentine once-a-week for 3 months (3HP) are more convenient and easier to take than longer preventive treatments for drug-susceptible TB. WHO now recommends rifapentine for all ages which means that 3HP can be used for all children, including those who are less than 2 years old. Rifapentine is available as dispersible tablets that can be used with isoniazid dispersible tablets, ensuring child friendly formulations for all ages. For household contacts of a person with DR-TB, WHO recommends 6 months of levofloxacin.

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Paediatric TB in national policies: new opportunities

Within the TACTiC project, MSF teams have surveyed the alignment of national policies with the latest WHO recommendations for paediatric TB care, including in South Sudan. Data collection took place between October 2023 and May 2024, and analysis was based on the draft guidelines shared by the National Tuberculosis Program (NTP) in 2024. The report was published on 15 October 2024.

The report can be downloaded here: TACTiC: Test avoid cure TB in children | MSF

Since the publication of the MSF report in 2024, South Sudan has further updated its national consolidated guidelines for the management of tuberculosis and chronic lung diseases, but the new guidelines have not been signed nor disseminated yet.

UPDATED TACTIC POLICY SURVEY DASHBOARD SOUTH SUDAN

Last reviewed July 2025

DIAGNOSIS

- DS-TB treatment for children can be initiated without bacteriological confirmation or chest X-ray (i.e. based on clinical evaluation only) — 🟢
- The WHO recommended treatment decision algorithms are included in national policy documents — 🔴
- Xpert MTB/RIF Ultra test on stool specimens is included in national guidelines — 🟢

PREVENTION

- National guidelines recommend 3HR or 3HP as a short TPT regimen option for children below age 5 who are household contacts — 🟢
- National guidelines recommend 3HR or 3HP as a short TPT regimen option for children and adolescents living with HIV — 🟡
- TPT can be provided to PLHIV and children below age 5 without a test (TST and/or IGRA) — 🟢

DS-TB TREATMENT

- A 4-month treatment regimen for children and adolescents with non-severe DS-TB is included in national policies — 🟢
- Paediatric formulations of HR, HRZ and ethambutol are procured — 🟢

DR-TB TREATMENT

- National policies recommend the use of bedaquiline for children with DR-TB of all ages — 🟢
- National policies recommend the use of delamanid for children with DR-TB of all ages — 🟢
- Injectables are not recommended for children with MDR/RR-TB — 🟢
- Paediatric formulations of bedaquiline and delamanid are procured — 🟢
- Paediatric formulations of other second-line TB drugs are procured — 🟢

🟢 *National guideline is fully aligned with WHO guideline*

🟡 *National guideline is partly aligned with WHO guideline*

🔴 *National guideline is not aligned with WHO guideline*

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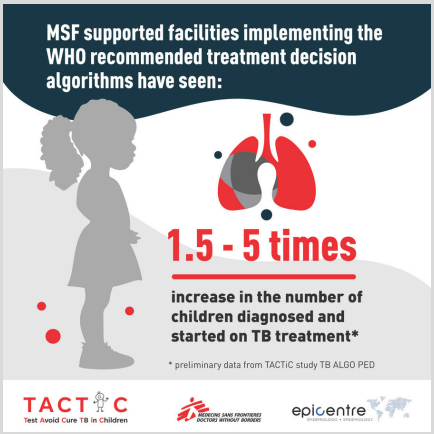
Diagnosing TB in children

If a child presents with symptoms that are suggestive of pulmonary TB, the WHO guidance offers treatment decision algorithms based on latest scientific evidence to help healthcare workers assessing TB symptoms in children to initiate treatment even when laboratory tests are not available, inconclusive or negative **(Annexe 1)**.[4]

The WHO guideline development group agreed that it was most important to avoid missing a diagnosis in a child who has TB, while accepting a certain degree of over-diagnosis with the new treatment decision algorithms, considering the large case detection gap and the consequences of a missed diagnosis of TB.

The national TB guidelines in South Sudan do mention that a clinical diagnosis can be used in scenarios where a child has a negative laboratory test or where it was not possible to obtain a sample. However, the diagnostic algorithm for TB in children recommended by the national guideline of South Sudan **(Annex 2)** is not aligned with the WHO recommended algorithms. For instance, the diagnostic algorithm in the national guideline does not have a scoring system but is based on a set of minimum criteria associated with TB disease. Moreover, not all risk factors for TB in children are included and there is no specific algorithm for settings that do not have access to X-ray. Samples for laboratory testing include sputum and stool and urine for HIV infected children, but do not include nasopharyngeal and gastric aspirates which are also WHO-recommended specimens for Xpert Ultra testing in children.

The national guideline does contain a note that the algorithm may be updated following review of evidence from external validation of the WHO recommended treatment algorithms.



Data from the MSF supported facilities implementing the WHO recommended treatment decision algorithms show an increase of 1.5 to 5 times the number of children diagnosed with TB when using the WHO algorithms. [5,6]

Preliminary results from an ongoing MSF study in 5 African countries on the implementation of the WHO recommended treatment decision algorithms, show that up to 80% of the children who started TB treatment were diagnosed with the clinical or clinical-radiological scores of the algorithms. [7]

Programmatic data from MSF teams in South Sudan report that the WHO-recommended treatment decision algorithms increase the detection rate of TB in children by 3 times. The proportion of admitted children started on anti-tuberculosis treatment increased from 1.8% in the 12 months prior to introducing the WHO-recommended treatment decision algorithms to 4.9% after their introduction.

4 WHO operational handbook on tuberculosis. Module5: Management of tuberculosis in children and adolescents. 2022, Annex 5. Treatment Decision Algorithms

5 Armour-Marshall et al. TB diagnosis in children with severe acute malnutrition using the 2022 WHO algorithms in nutrition insecure contexts. World Conference on Lung Health 2024 of the International Union Against Tuberculosis and Lung Disease, 12 – 16 November 2024, Bali, Indonesia

6 Chara et al. Impact on paediatric TB diagnosis of implementing the new WHO Treatment Decision Algorithms in an MSF nutritional centre, Maiduguri, Nigeria. World Conference on Lung Health 2024 of the International Union Against Tuberculosis and Lung Disease, 12 – 16 November 2024, Bali, Indonesia

7 Huerga et al. How accurate are new diagnostic TB algorithms in children? Interim results from a Médecins Sans Frontières study in 5 countries. World Conference on Lung Health 2024 of the International Union Against Tuberculosis and Lung Disease, 12 – 16 November 2024, Bali, Indonesia

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Preventing TB in children

Children under the age of 5 and those living with HIV are at much higher risk of developing active TB disease compared to adults. For this reason, all children who have been in close contact with a person who has bacteriologically confirmed TB, and all children and adolescents living with HIV, should be offered TB preventive treatment (TPT) after ruling out active TB disease.

An MSF counsellor provides consultation to a patient in Malakal, Upper Nile state of South Sudan

Historically, the most widely recommended TPT regimens were either 6 or 9 months of isoniazid preventive treatment (IPT), which were especially challenging for children and young adolescents to complete. Shorter preventive treatment options, first recommended in 2018, have improved acceptability for patients and caregivers, reduced loss to follow-up and helped minimise resource implications for healthcare providers.

WHO guidelines now recommend a number of shorter regimens suitable for children under the age of 5 and children living with HIV, including 3 months of isoniazid plus rifapentine once weekly (3HP) and 3 months of isoniazid plus rifampicin daily (3HR).[8] Alternative regimens of 4 months of rifampicin (4R – all ages) and 1 month of daily isoniazid plus rifapentine (1HP – age 13 years and over) may also be offered.

The national guideline recommends 3HR for children up to 10 years who are HIV negative and 6H (IPT) for who are HIV positive. For children above 10 years 3HP is recommended regardless of HIV status and 1HP for children 13 years or older. A systematic review of 3HR versus 6IPT or 9IPT in children under 15 years of age showed that adherence was significantly better with 3HR than 6IPT or 9IPT. No serious drug-related adverse events were reported, and the risk of side effects was lower in children treated with 3HR therapy compared with 9IPT monotherapy. [9]

Treating drug-sensitive TB in children

In children and adolescents aged between 3 months and 16 years with non-severe TB, WHO recommends a 4-month treatment course consisting of 2 months of isoniazid, rifampicin and pyrazinamide, with or without ethambutol, followed by 2 months of isoniazid and rifampicin (2HRZ(E)/2HR).[10,11] In adolescents aged 12 years and over, the 4-month isoniazid, rifapentine, pyrazinamide and moxifloxacin (HPZM) regimen may be used. Infants aged <3 months or weighing <3 kg and adolescents aged >16 years are recommended to be treated with 6 months regimen consisting of 2 months of isoniazid, rifampicin, pyrazinamide with or without ethambutol, followed by 4 months of isoniazid and rifampicin (2RHZ(E)/4HR). Children and adolescents above 12 years can benefit from the alternative 4 months regimen consisting of 2 months of isoniazid, rifapentine, pyrazinamide and moxifloxacin followed by isoniazid, rifapentine and moxifloxacin (2HPMZ/2HPM). WHO recommends that children aged between 3 months and 16 years with extrapulmonary TB (EPTB) limited to peripheral lymph nodes should be treated with the shorter regimen (2HRZ(E)/2HR).

Children with forms of drug-susceptible EPTB other than osteoarticular TB and TB meningitis should be treated with a 6-month treatment regimen of 2HRZE/4HR. Children with osteoarticular TB should be treated with 2HRZE/10HR. Children with TB meningitis should be treated with 2HRZE/10HR or the newly recommended alternative short intensive treatment regimen composed of 6 months of isoniazid, rifampicin, pyrazinamide and ethionamide (6HRZEto).

The national guideline of South Sudan is fully aligned with the WHO recommendations how to treat drug-susceptible and EPTB in children and adolescents. The national guidelines do not yet recommend the use of 2HPMZ/2HPM.

8 WHO operational handbook on tuberculosis. Module5: Management of tuberculosis in children and adolescents. 2022, TB preventive therapy

9 Assef at al. 2018. 3-month daily rifampicin and isoniazid compared to 6- or 9-month isoniazid for treating latent tuberculosis infection in children and adolescents less than 15 years of age: an updated systematic review. Eur Respir J. 52:1800395.

10 Turkova A, Wills GH, Wobudeya E, et al for the SHINE trial team. 2022. Shorter treatment for nonsevere tuberculosis in African and Indian children. N Engl J Med. 386:911-922

11 WHO operational handbook on tuberculosis. Module5: Management of tuberculosis in children and adolescents. 2022, Treatment of drug-susceptible TB in children and adolescents

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Treating drug-resistant TB in children

Historically, children with drug-resistant forms of TB were treated with regimens up to 18 months. The development of new all-oral treatment regimens has significantly improved the chances of cure for people with MDR-TB. The new WHO guidelines, issued in 2022, include several important updates that could dramatically improve treatment outcomes if children can access these new MDR-TB treatments. Bedaquiline has become the cornerstone of shorter all-oral treatment regimens for MDR-TB, while delamanid is crucial to longer all-oral MDR-TB regimens for people with fluoroquinolone resistance. [12]

The 2022 WHO guideline revision extended these recommendations to all eligible children with MDR-TB, regardless of age, which finally addresses the needs of the youngest and most vulnerable children. With the most recent WHO rapid communication, published in 2024, children of all ages can benefit from these new drugs as part of shorter all-oral regimens.

The 2024 draft national TB guideline recommends the use of 4-6 Bdq(6), Lfx-Cfz-Hh-E-Z-Eto or Lzd/5 Lfx-Cfz-E-Z to treat DR-TB in children under 14 years old.

The tuberculosis (TB) ward at the MSF hospital in the Bentiu IDP camp, Unity State, South Sudan.

[12] WHO Rapid Communication: Key updates to the treatment of drug-resistant tuberculosis: rapid communication, 2024

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CALL TO ACTION

Médecins Sans Frontières (MSF)

- Support the National Tuberculosis Program (NTP) to revise the treatment decision algorithms in the national guidelines using local data on the WHO recommended algorithms from the operational research study conducted by MSF in South Sudan.
- Support the NTP in the translation of the operational research on the WHO recommended treatment decision algorithms conducted by MSF in South Sudan into implementation.
- Support the NTP in the finalization and dissemination of the national consolidated guidelines for management of tuberculosis and chronic lung diseases.

Ministry of Health and National Tuberculosis Program

- Further update the national TB guidelines through circulars to be fully aligned with the latest WHO recommendations, and more specifically to include the WHO-recommended treatment decision algorithms.
- Develop national paediatric TB roadmaps, setting out specific plans and timelines to increase access to the diagnosis (including access to X-ray), treatment and prevention of TB in children, in line with UN High-Level Meeting commitments.
- Prioritise paediatric TB within national strategic plans, monitoring and accountability processes, and ensure sufficient resources are allocated to paediatric TB in both national budgets and donor funding requests.
- Support family and community-centered models of care for screening, diagnosis, treatment and prevention of TB in children, including the integration with other service delivery platforms for maternal and child health, such as antenatal care, immunization, nutrition and HIV programs.
- Given high prevalence of underweight children in the country, ensure collaborative services and linkages between paediatric TB and nutrition programs. Programs providing nutrition support in South Sudan must include the families affected by TB in the eligibility criteria for nutrition support.

The Global Fund and other funders

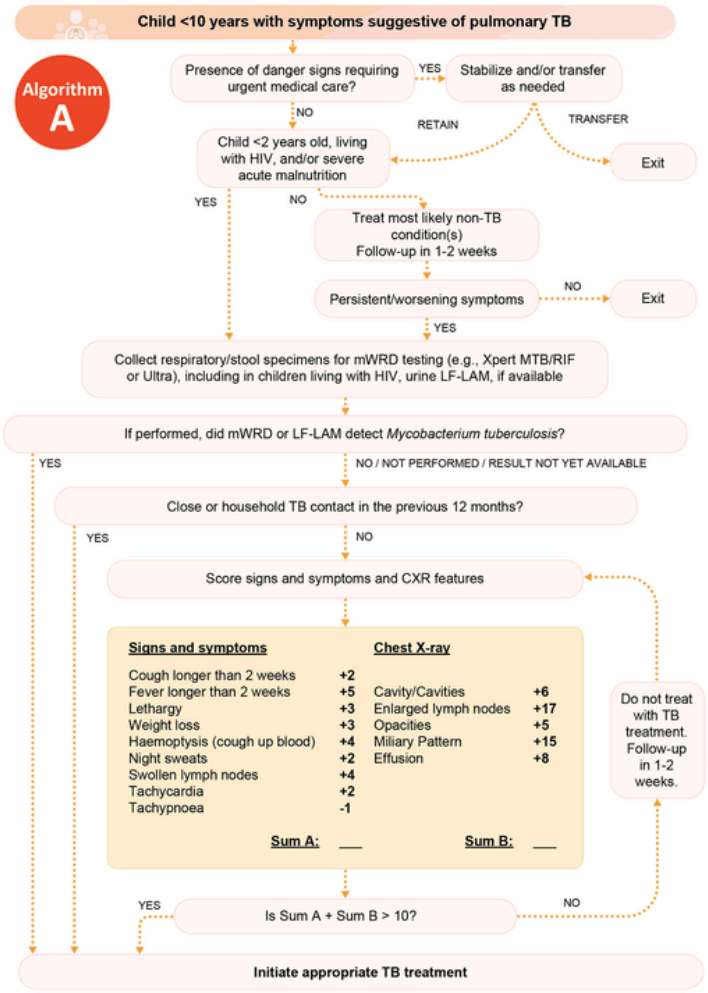
- Support the NTP and its stakeholders with targeted funding for policy reforms and their implementation, inside and outside the usual funding cycles.
- Support the NTP and its stakeholders to scale up investments for paediatric TB interventions within funding requests.
- Support the NTP and its stakeholders in the preparation of funding requests to secure sufficient community health workers for household screening and providing TPT and food to the family of a person diagnosed with TB.

Civil society and affected communities

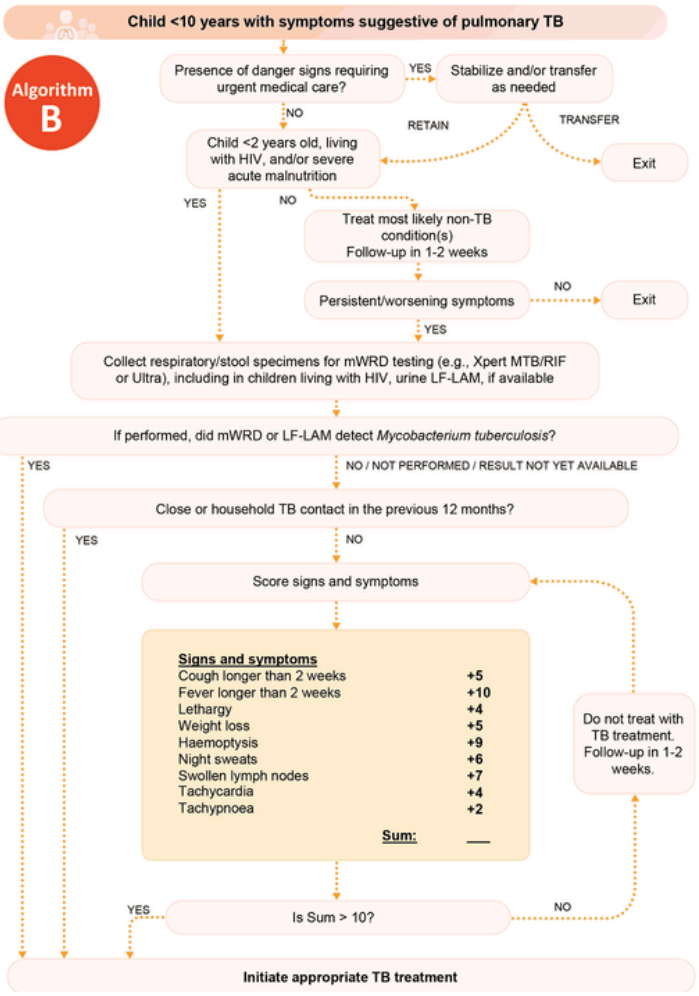
- Advocate with the NTP and its stakeholders that national guidelines must be fully aligned with the latest WHO guidelines for the management of TB in children.
- Advocate for ambitious national paediatric TB roadmaps, policy reforms aligning with the lates WHO guidelines, and the implementation in national strategic plans and funding requests to donors.
- Monitor the implementation of national policies at health facility level and hold leaders accountable.
- Advocate for children with TB in existing national governance forums, including country coordinating mechanisms and multisectoral accountability frameworks.

ANNEX 1. The WHO recommended treatment decision algorithms [7]

Algorithm A for settings with chest X-ray



Algorithm B for settings without chest X-ray



[7] World Health Organization, Global Tuberculosis Report 2024, Operational Handbook, Annex 5. Treatment Decision Algorithms

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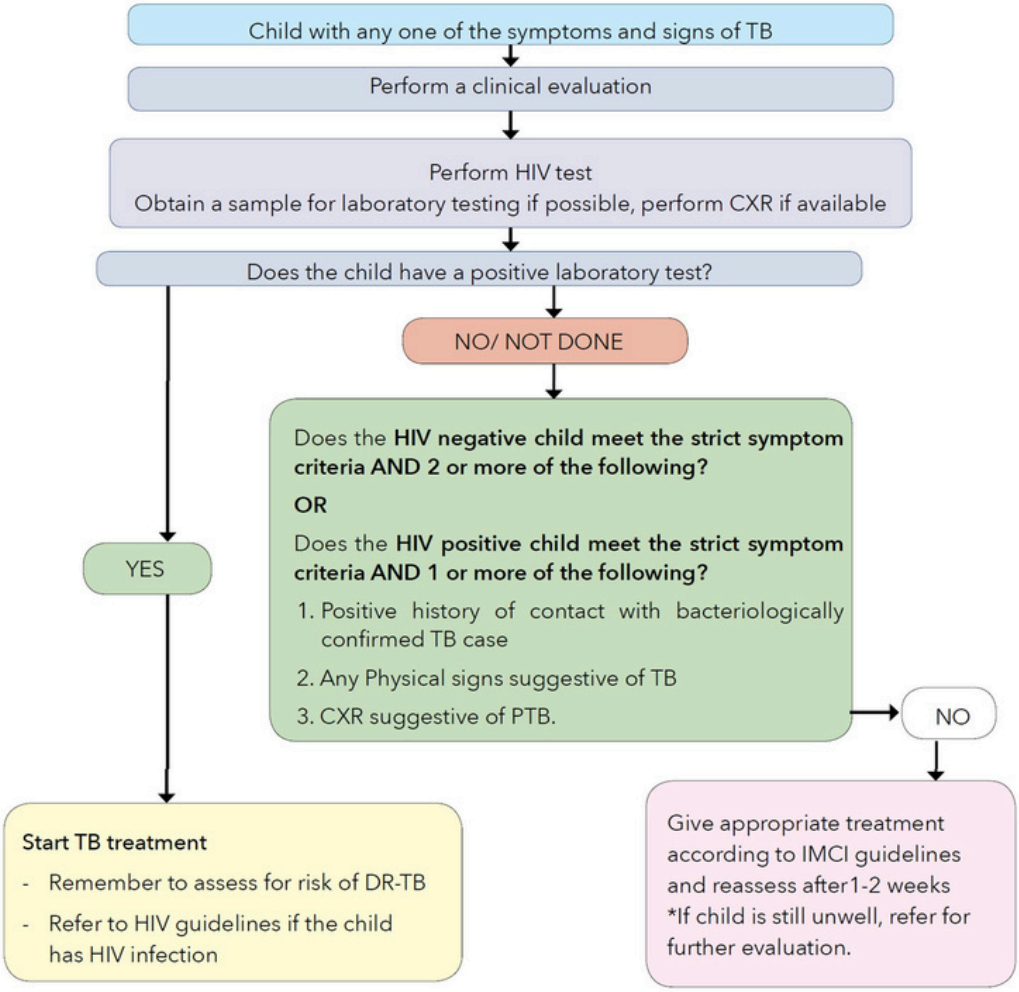
ANNEX 2. The treatment decision algorithms in the national consolidated guidelines for managment of tuberculosis and chronic lung diseases of South Sudan



Sample for laboratory testing

- Sputum
- Stool for children who are unable to provide a sputum sample
- Urine for children ith HIV infection and advaced HIV disease or seriously ill irrespective of CD4 cell counts or unknown CD4 cell counts.

Strict Symptom Criteria

Any two of;

- Cough for 2 weeks,
- Poor weight gain,
- Persistent fevers for 2 weeks or more,
- Reduced playfulness/activity.

Physical signs suggestive of TB

- Enlarged lymph nodes around the neck or the armpit (TB adenitis).
- Acute pneumonia not responding to a complete course of appropriate spectrum antibiotics.
- Persistent wheeze not responding to bronchodilators (usually asymmetrical).
- Presence of a swelling on the back bone (Gibbus).
- Signs of menengitis in child with symptoms sugestive of TB.

CXR suggestive of TB includes

- Hilar lymphadenopathy
- Miliary picture
- Cavitation

Note:
It is important to note that the algorithm may be updated following the review of evidence from external validation of the WHO recommended Treatment Algorithms that were included in the 2022 WHO guidelines on the management of tuberculosis in children and adolescents.

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GLOSSARY OF TUBERCULOSIS TREATMENT REGIMENS

3HR	3 months isoniazid plus rifampicin
3HP	3 months isoniazid plus rifapentin
6IPT	6 months of isoniazid
9IPT	9 months of isoniazid
2HRZ(E)/2HR	2 months of isoniazid, rifampicin and pyrazinamid, with or without ethambutol, followed by 2 months of isoniazid and rifampicin
2RHZ(E)/4HR	2 months of isoniazid, rifampicin and pyrazinamid, with or without ethambutol, followed by 4 months of isoniazid and rifampicin
2HRZE/4HR	2 months of isoniazid, rifampicin and pyrazinamid and ethambutol, followed by 4 months of isoniazid and rifampicin
2HRZE/10HR	2 months of isoniazid, rifampicin and pyrazinamid and ethambutol, followed by 10 months of isoniazid and rifampicin
2HPMZ/2HPM	2 months of isoniazid, rifapentine, moxifloxacin and pyrazinamide followed by 2 months of isoniazid, rifapentine and moxifloxacin
HPZM	4 months of isoniazid, rifapentine, pyrazinamide and moxifloxacin
6HRZEto	6 months of isoniazid, rifampicin, pyrazinamide and ethionamide

4-6 Bdq(6), Lfx-Cfz-Hh-E-Z-Eto or Lzd / 5 Lfx-Cfz-E-Z

4 months, or 6 months if no conversion after 4 months, of bedaquiline, levofloxacin, clofazimin, high-dose isoniazid, ethambutol, pyrazinamide, ethionamide or linezolid, followed by 5 months of levofloxacin, clofazimin, ethambutol and pyrazinamide

Details for the treatment of drug-suspectible and drug-resistant pulmonary and extrapulmonary TB in children and adolescents are available in chapter 5 of the WHO operational handbook on tuberculosis, module 5: management of tuberculosis in children and adolescents (for direct click link here)