



The Use of Benchmarking and Planning Tool to Assess Quality of TB Care in Children and Adolescents: A Mixed-Method Study (Tanzania Case)

Presenter: **Dr. Peter Neema**



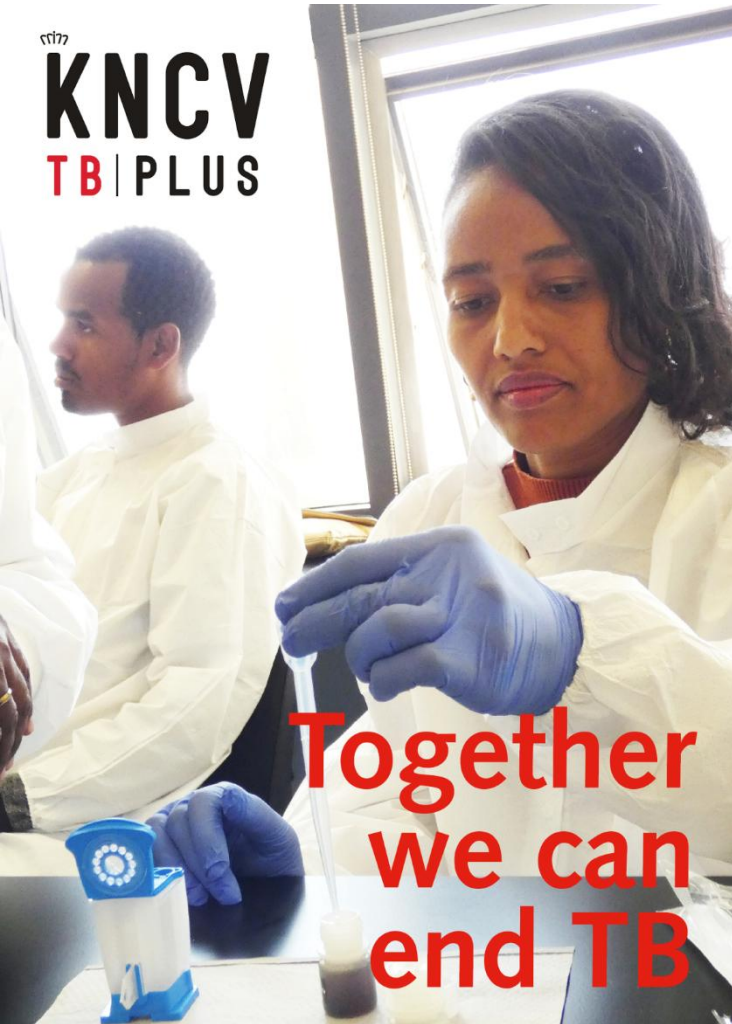
15th October, 2025



Webinar (Virtual)



Overview of SMT project – children and adolescent TB



Ensure no child suffers from TB through EARLY detection, RIGHT diagnosis, and RIGHT treatment

Jan – Dec 2025

Project team KNCV HQ:

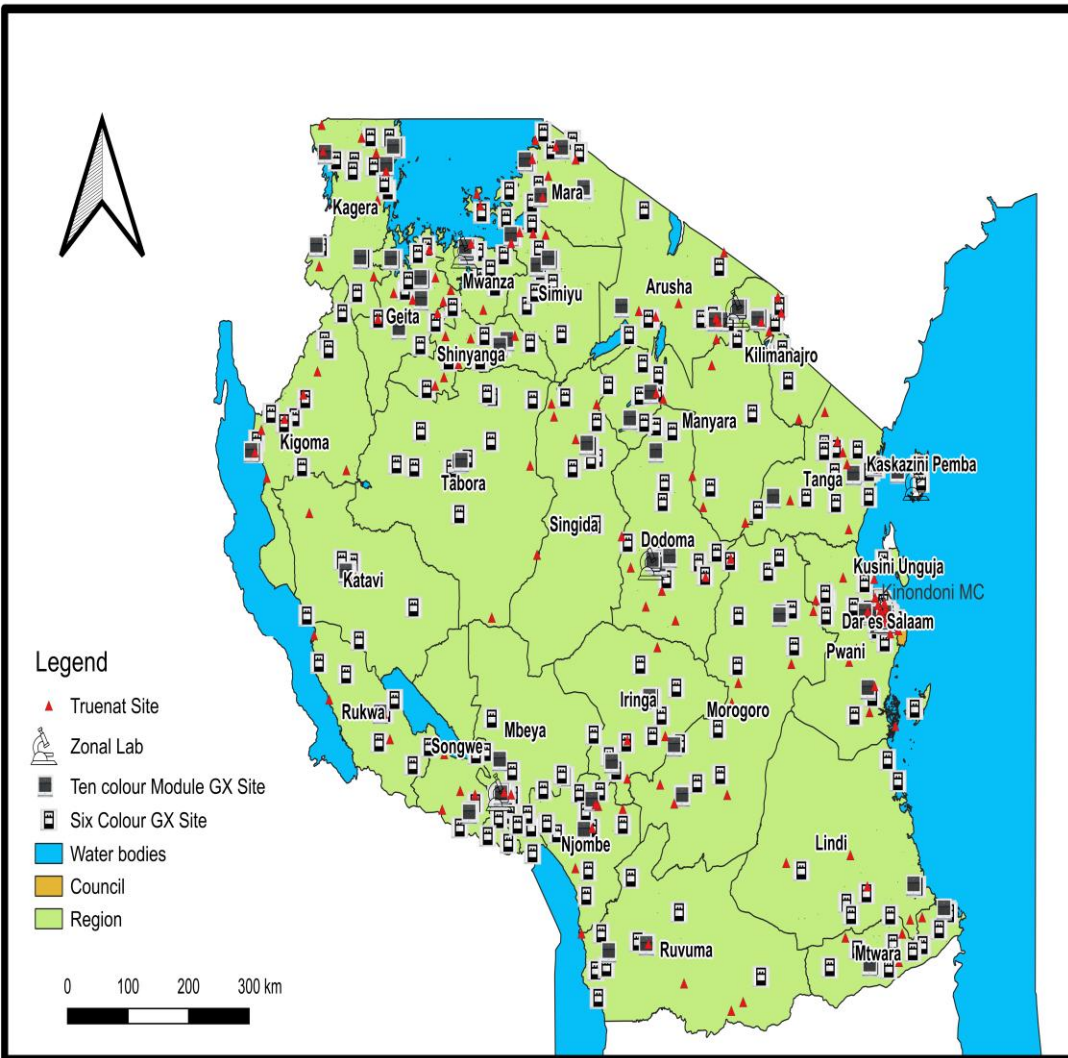
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LAY OUT

1. Profile/background and Rationale
2. Study Objectives
3. Methodology
4. Findings (Mapping, HCW, Benchmarking & Stakeholders views)
5. Best Practice
6. Conclusion

UR OF TANZANIA:TB PROFILE



Treatment

- 9,693 Health facilities 39.9% Private owned
- 5,896 (60.8%) TB/Leprosy Treatment Centers

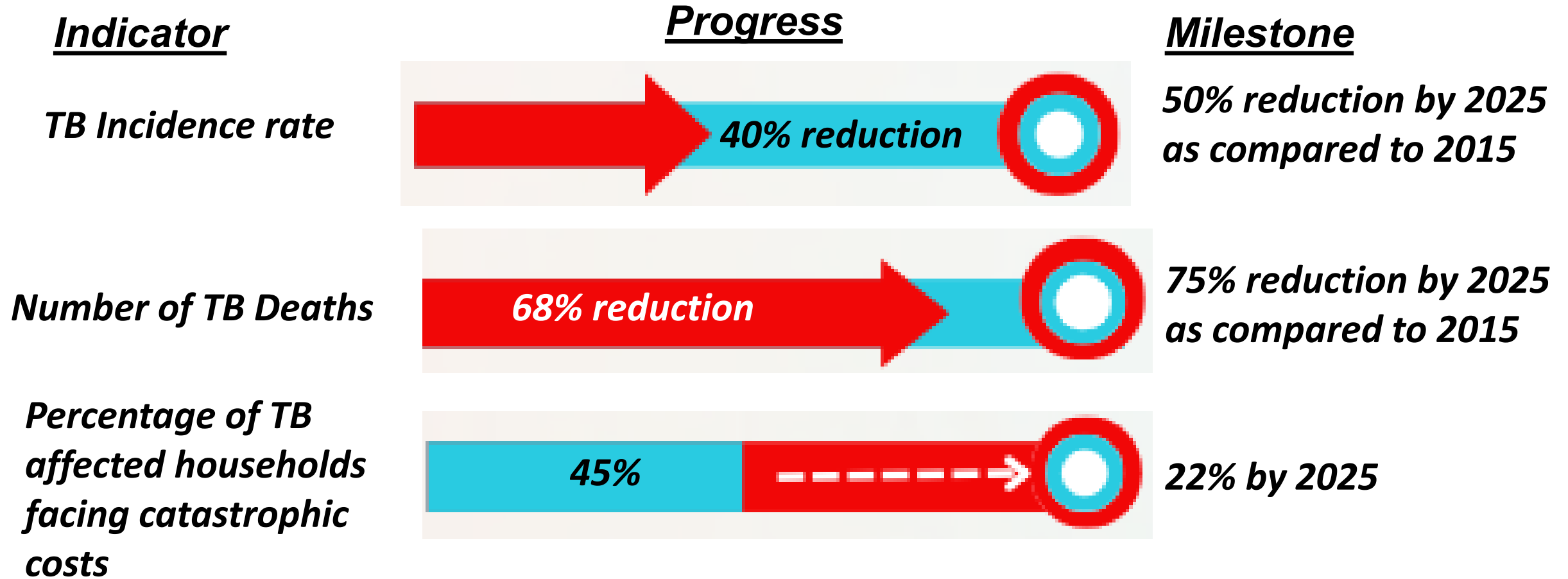
Diagnostic

- 1,859 TB Diagnostic Centres
- 522 mWRDs sites : 372 GeneXpert site, 149 TrueNat site and 1 with both GeneXpert/Truenat
- 6 Zonal Culture laboratories, 1 Reference Laboratory.+ Sample transportation system

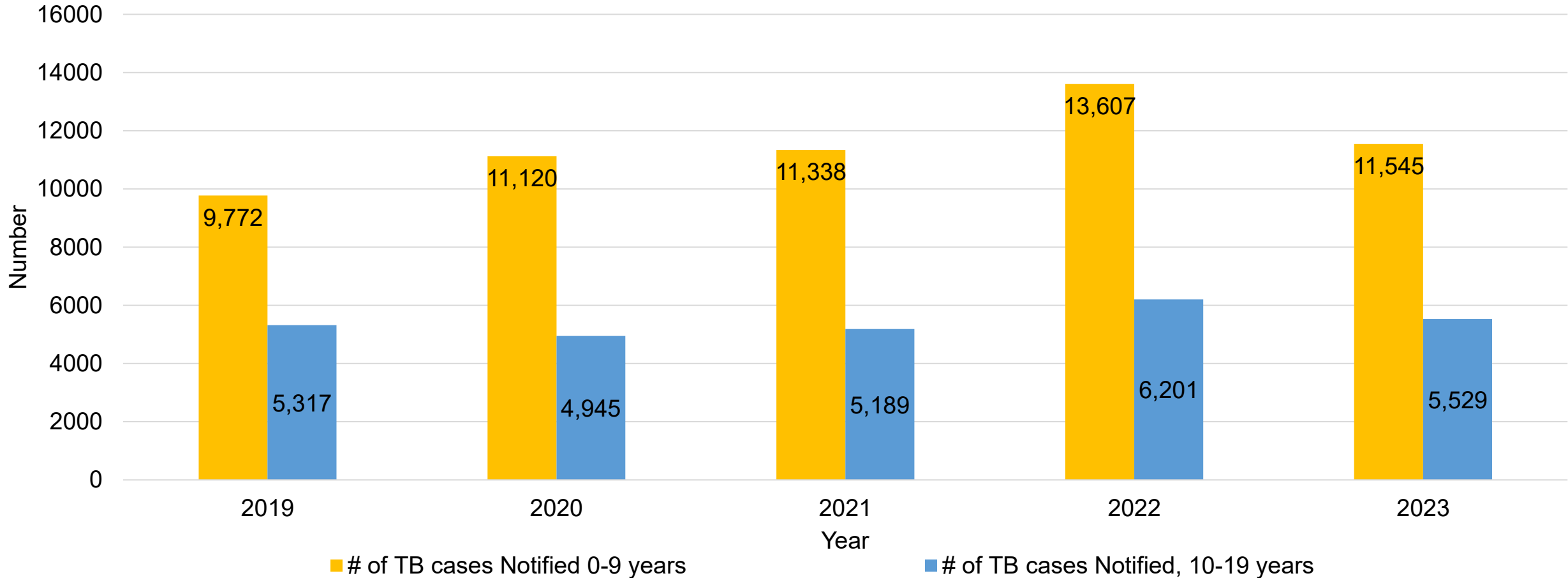
Decentralization & Outreaches

- 305 MDR-TB Treatment Centres
- 5 TB Mobile vans
- 31 CAD4TB (5 in Mobile vans and 26 in District Hospitals)

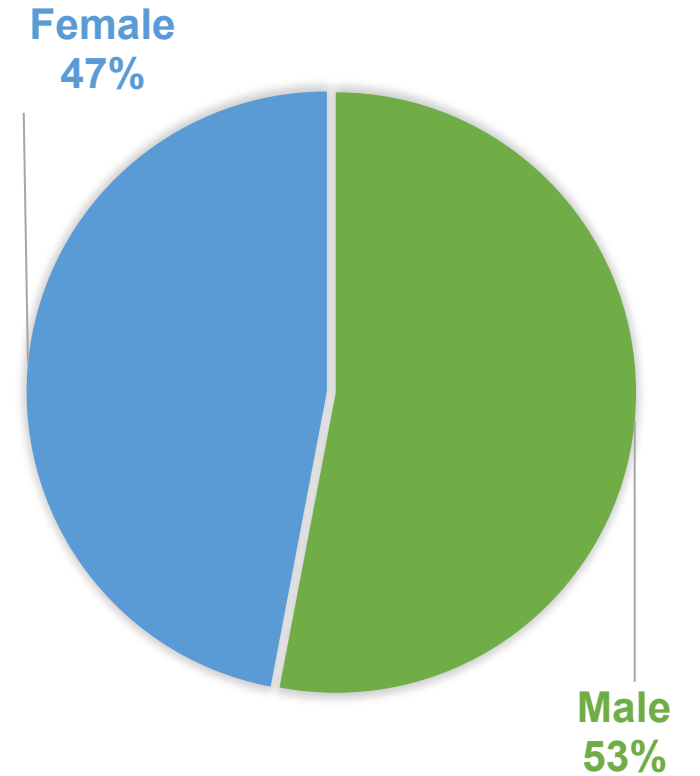
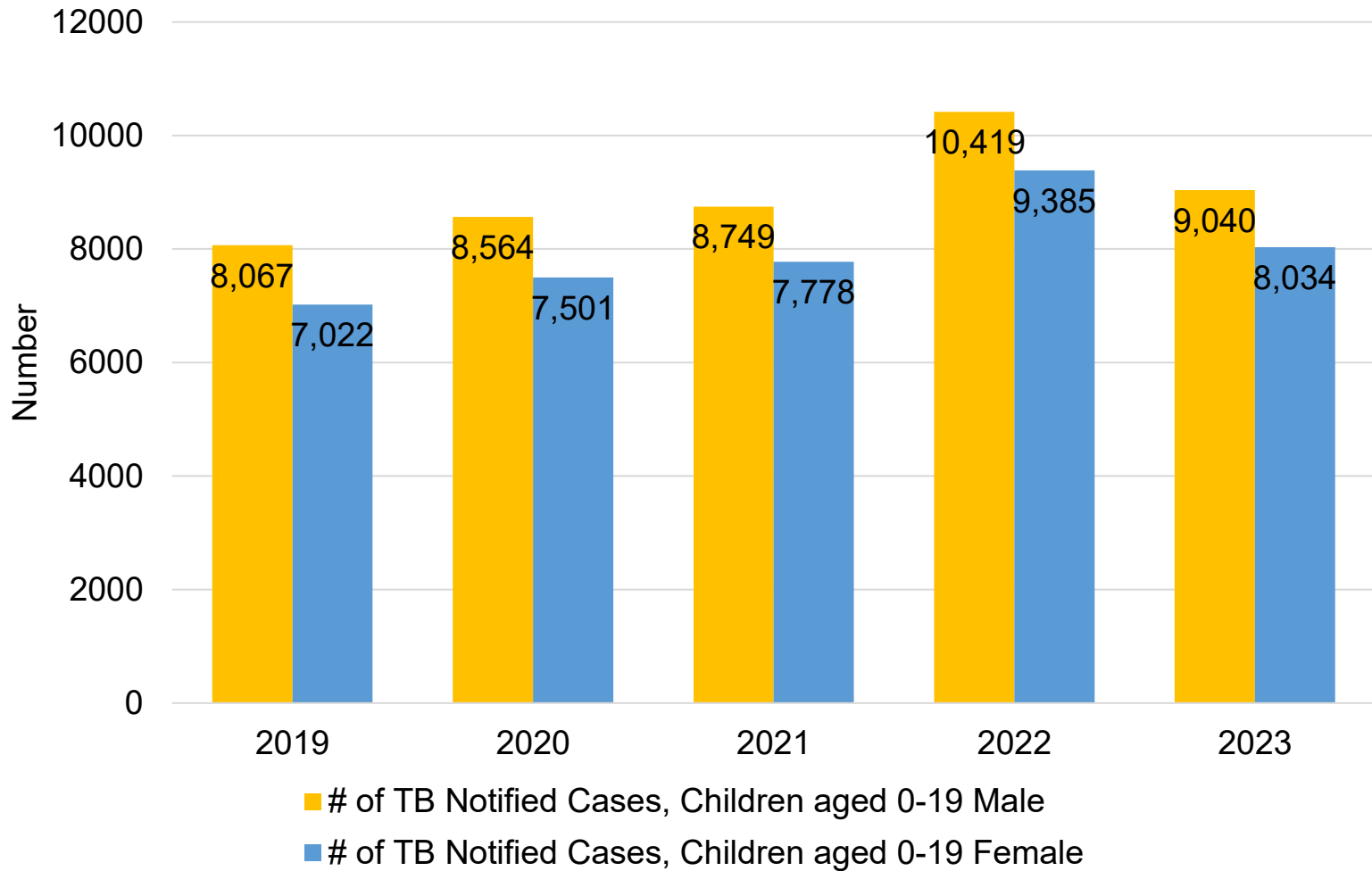
END TB STRATEGY, 2025 MILESTONES



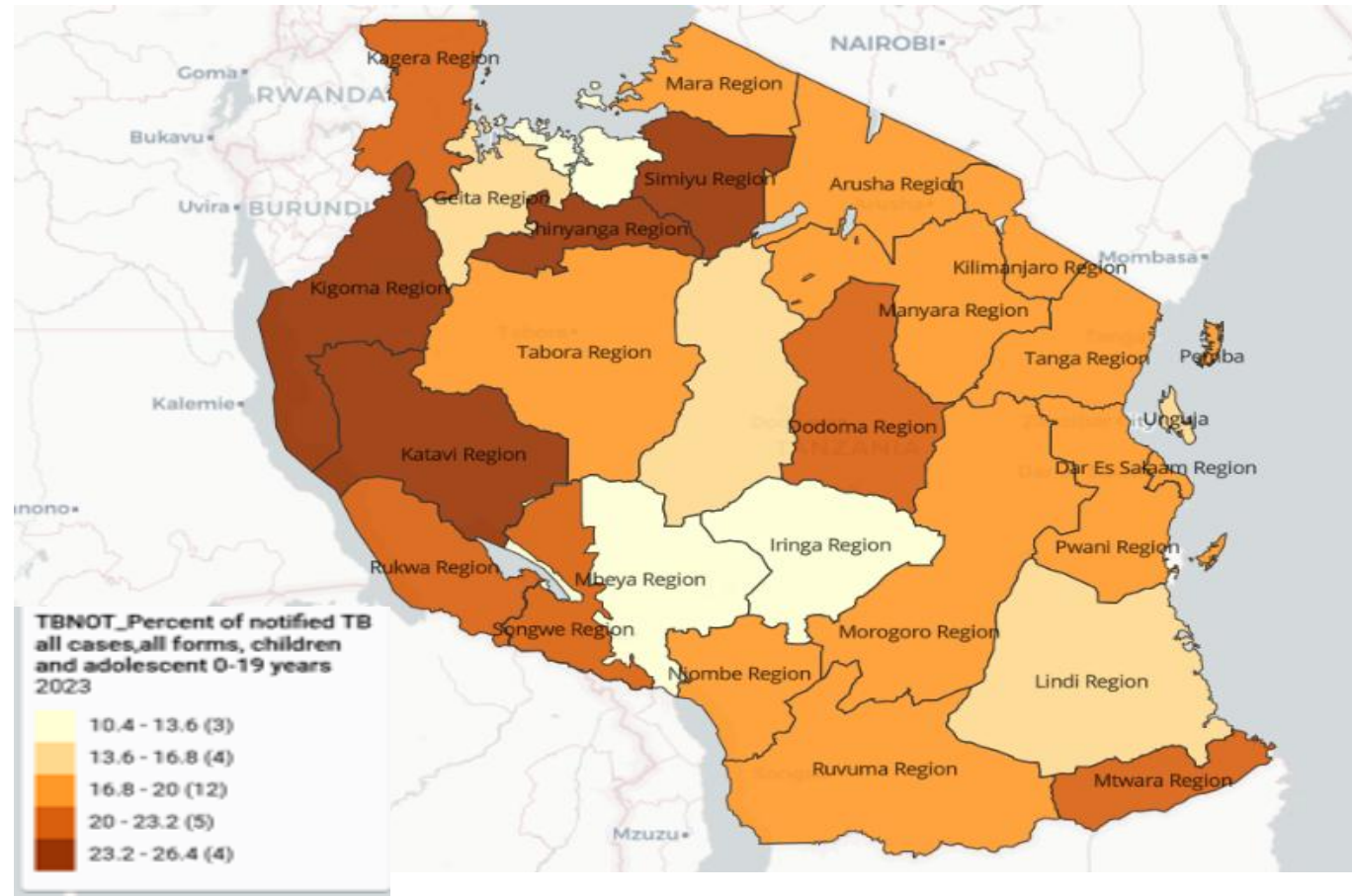
TB NOTIFICATION IN CHILDREN AND ADOLESCENT



TB NOTIFICATION IN CHILDREN AND ADOLESCENT: BY GENDER



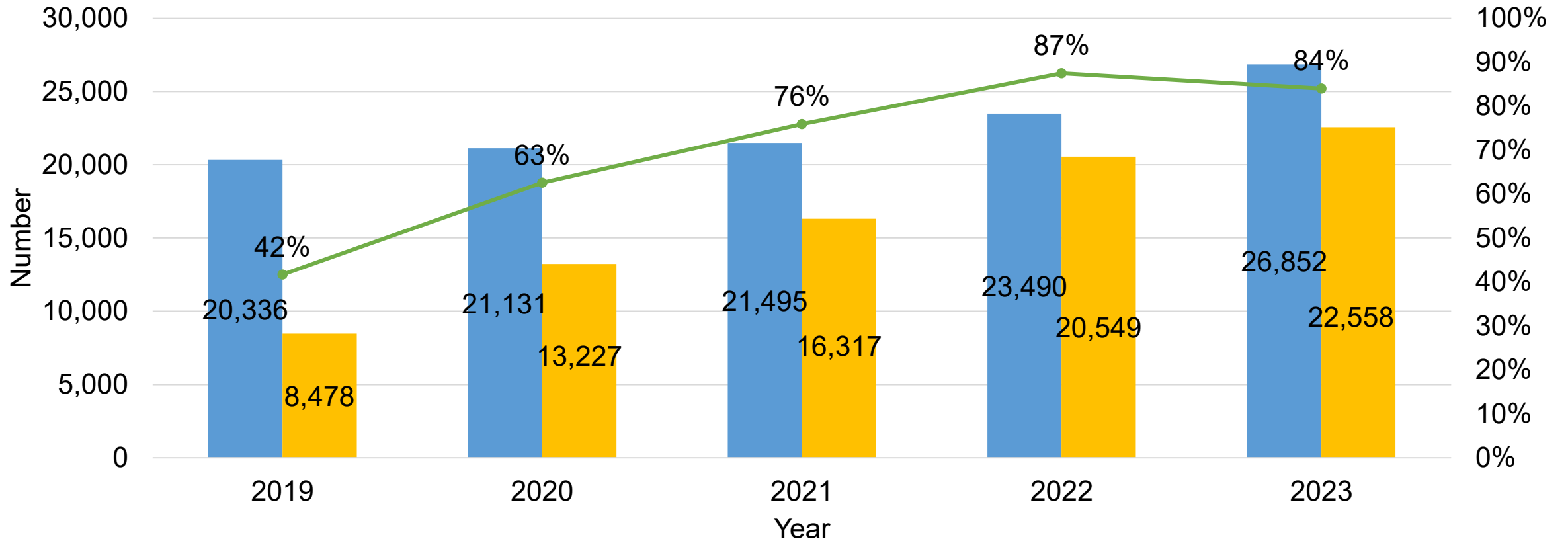
TB NOTIFICATION IN CHILDREN AND ADOLESCENT IN 2023-BY REGION



Distribution of TB notification in children and adolescent in 2023 by regions



TPT INITIATION



- Number of under 5 children household contacts of bacteriologically confirmed TB who were eligible for TPT
- Number of under 5 children household contacts of bacteriologically confirmed TB who were started TPT
- % Started on TPT

DIAGNOSIS OF TB IN CHILDREN AND ADOLESCENT-1



Use of Gene-Xpert
Stool Sample for Diagnosis

AGE- GROUP	Total Result s Report ed	Bacteriologi cal Confirmed	Results								
			T	Ti	TT	RR	N	Invalid	Error	Rejec ted	
<5YRS	1,181	26	14	2	9	1	1,138	8	9	1	
5-14YRS	389	17	14	0	2	1	365	4	3	0	
>14YRS	570	57	48	4	4	1	502	7	4	0	

TB IN CHILDREN AND ADOLESCENT-2023

Indicator	Performance
Incidence of TB in children (0-9 years) (per 100,000)	61
Incidence of TB in adolescents (10-19 year) (per 100,000)	42
BCG vaccination rate	159%
Treatment success rate males (6M regimen) (0-19 year)	97.6%
Treatment success rate Females (6M regimen) (0-19 year)	97.8%
Treatment success rate RR/MDR-TB (0-19 years)	83.3%



Indicator	Performance
Died while on treatment aged 0-19 years	239/19,808(1.2%)
Percentage of children with TB tested for HIV	99.84%
Percentage of adolescents with TB tested for HIV	99.91%
Percentage of children with TB/HIV coinfection	5.50%
Percentage of adolescents with TB/HIV coinfection	10.64%
Percentage of children with TB/HIV coinfection who receive ARVs	99.37%
Percentage of adolescents with TB/HIV coinfection who receive ARVs	99.66%

Background & Rationale

Background

- 10.8M TB cases globally (2023, WHO)
- 1.25m children affected; 191,000 deaths (80% <5 years)
- TB in children = indicator of ongoing community transmission
- WHO 2022 guidelines: new diagnostics & regimens
- UNHLM: commit to treat 3.5m children with tb
- Need for integrated tb care in health systems

Rationale of the study

- Household exposure drives pediatric TB
- Delayed diagnosis & treatment at PHC level
- Slow uptake of who policies (stool testing, shorter regimens, TPT)

KNCV Benchmarking and Planning Tool

- KNCV designed a benchmarking and planning (B&P) tool for the assessment of paediatric and adolescent TB service delivery, AND then decided to conduct a study to ascertain its utility (effectiveness & usefulness).

Study Objectives

Primary objective

- Assess implementation of global TB recommendations in children/adolescents
- Assess integration of TB screening in existing health systems

Secondary Objectives

- Assess national TB policy implementation
- Understand perceptions of B&P tool utility
- Identify challenges & develop solutions
- Document best practices

Methodology-Project Activities and milestones

Preparation and planning	Activities	Timelines
Benchmarking and planning tool	Review and update of benchmarking and planning tool	Jan – Mar 25
Agreements	Agreements with KNCV affiliated offices and consultants	Jan – Mar 25
Desk review and stakeholder mapping	Support NTP in mapping the stakeholders, roles in TB prevention, diagnosis, management, and for in children and adolescents Support NTP, partners and in-country consultants to review the availability and implementation of national policies/guidelines for gap identification	Apr – Jun 25
Stakeholder meeting (in-country workshop) and self-assessment and planning	Organize/support the preparation and planning of stakeholder/dissemination workshop Design roadmaps for the management of TB infection and disease in children and adolescents	Jun – Aug 25
Experience sharing	Discussion platform and experience sharing in collaboration with WHO and CATB	Quarterly
Report/Publications	Contributed to a scientific publication on the use of the updated benchmarking & planning tools Contribute to the end of project report	Sep – Dec 25

Methodology

Study design & Tools/Methods

- Cross-sectional, Multi-country, mixed-method study
- Quantitative: B&P tool self-assessment questions (Policy makers, HCW, & stakeholders) & feedback form.

Health Facilities Visited-HCW interviews

HF Name	Facility Level	Region	Council	Urban/Rural	Ownership
Amana	Regional Referral Hsptl	DSM	Ilala CC	Urban	Gvt
Mbagala	Council Hospital	DSM	Temeke MC	Urban	Gvt
Tumaini	Health Centre	DSM	Temeke MC	Urban	Faithbased
Handali	Health Centre	Dodoma	Chamwino DC	Rural	Gvt

Qualitative: Stakeholders validation workshop:

B&P tool, feedback forms & FGD guide

Stakeholders Validation, Feedback & FGD Participants

Organisation Types	Participants
Government:	MoH-NTLP, PORALG
Development Partners:	WHO Tanzania, DOD
Implementing partners:	THPS, USAID Afya Yangu Northern Zone, MDH, HJFMRI (SZ & TPDF), CIHEB Tanzania, ICAP Tanzania, KNCV Tanzania

Findings –Stakeholders Mapping

Level of Operation	Key Stakeholders	Main Roles / Functions	Geographic Scope
National Level	NIMR, UDSM DHIS2 Lab, UCC, MKUTA, Delft Imaging, ASPIRE Analytics, APOPO	Conduct research and innovation on TB; provide digital and AI technical support (DHIS2, CAD4TB, Delft Light); develop and maintain national TB/HIV data systems; strengthen community advocacy and awareness	Nationwide
Zonal / Regional Level	EGPAF, Deloitte, THPS, AMREF, ICAP, MDH, SHDEPHA+, Baylor, HJFMRI (SHL)	Deliver TB/HIV integrated services; capacity building of HCWs; strengthen TB case detection, diagnostics, and treatment; improve TPT initiation and completion; conduct operational and clinical research	Multiple regions (Northern, Southern, Western, Central, Lake, and Southern Highlands zones)
District / Facility Level	CIHEB, THPS, HJFMRI (TPDF), SHDEPHA+, ICAP	Implement TB/HIV activities at facility level—screening, diagnosis, TPT, ART initiation, mentorship, and IPC; strengthen facility-level reporting and supervision	Health facilities across supported districts and councils
Community Level	MKUTA, SHDEPHA+, APOPO	Provide community TB/HIV prevention and awareness, sample collection and referral, psychosocial and economic support, advocacy, and stigma reduction	Community and household levels nationwide

Findings-Facility (HCWs)

- Availability of TPT regimens]
- screening, diagnostic, and treatment services for TB, including paediatric and adolescent clients.
- screening, diagnostic, and treatment services for TB, including paediatric and adolescent clients.
- screening, diagnostic, and treatment services for TB, including paediatric and adolescent clients.
- Active Implementation of shorter TPT Services/regimens
- Structured Data Recording and Use of DHIS2-ETL
- Structured Data Recording and Use of DHIS2-ETL
- Novel tools introduced: digital xray using CAD tech, TDA, stools, LF-LAM,
- National monitoring of pediatric-specific indicators
- Robust DOT system and weight based dosing

S/N	Challenge	Action Points
1	Low /improper household contact screening/investigation for bacteriologically confirmed index case that led to a low number of pediatric cases assessed and evaluated for TB and TPT	Follow up household or close contact investigation, invite all children, and assess for TB
2	Turnover/retirement of qualified DOT providers who have trained and have good knowledge of TB	▪To train the newly assigned DOT provider ▪If no funds to conduct on-the-job training /mentorship
3	Inadequate knowledge on pediatric diagnosis and use of the new TDA algorithm among health care workers	▪printing and laminating the TDA algorithm and putting it in place
4	Low community engagement on pediatric TB sanitization and a lack of awareness of Pediatric TB among the community as result of fund cut	▪Promote community mobilization and advocacy for TB notification. ▪Use cost sharing ▪Government support funding
5	Lack of job aids for pediatric TB diagnosis and management, eg, diagnosis algorithms, score charts, SOPs on TB diagnosis, and other tools	▪E-learning alternatives use cost-sharing income
6	By reducing clinical diagnosis (following the new algorithm), it affects pediatric notification, as most pediatric cases are clinical diagnoses	Capacity building on TDA use novel screening and diagnostic tools

Findings-Benchmark Standards

Standard	Met/Partially met/Not met
A: 1.1 There is evidence of political commitment for prevention and care of TB in children and adolescents	Met
B: 2.1 There is an active national working group on prevention and care of TB in children and adolescents	partially met
D: 3.1 There is national guidance for the prevention and care of TB in children and adolescents	partially met
E: 3.2 There is effective technical assistance for the prevention and care of TB in children and adolescents	partially met
F: 3.3 The strategy on the management of TB in children and adolescents is fully implemented	Met
G:4.1 National policies provide guidance for all providers of paediatric care are involved in diagnosis, prevention and treatment of TB in children and adolescents	Met
H:4.2 All providers of paediatric care are involved in Prevention, diagnosis and treatment of TB in children and adolescents	Met
I: 5.1 All eligible children receive BCG vaccination	Met
J: 6.1 Investigation of child and adolescent contacts of people with infectious TB is part of the national strategy	Met
K: 6.2 Investigation of child and adolescent contacts of people with infectious TB is fully implemented	Met

Standard	Met/Partially met/Not met
L: 7.1 The national strategy provides for preventive treatment for eligible children and adolescents	partially met
M: 7.2 All eligible children and adolescents have access to preventive treatment	partially met
N: 8.1 Special approaches for diagnosis of TB in children and adolescents are included in the national guidance on TB	partially met
O: 8.2 Special diagnostic approaches for TB in children and adolescents are applied	Met
P: 9.1 The national treatment guidelines for MDR/RR TB have appropriate and specific adjustments for children and adolescents including those living with HIV co-infection	partially met
Q: 9.2 Child friendly formulations are available and used throughout the country	Met
R: 9.3 The national treatment strategy on the management of TB in children and adolescents is universally accessible	Met
S: 10.1 Data on TB in children and adolescents are available and used at the NTP	Met
T: 11.1 There is a plan for human resource capacity building for the prevention and management of TB in children and adolescents	partially met
U: 12.1 The NTP and partners deploy specific initiatives to promote people- and family centred TB care for children and adolescents	partially met



Findings-Benchmarking (Challenges/Actions)

DN Domain	Challenge	•Agreed Actions	DN Domain	Challenge	•Agreed Actions
1 Political Commitment	Guidelines and SOPs outdated; slow adoption of WHO updates.	Finalize and disseminate updated national guidelines; revise tools (ETL, registers); build capacity for new regimens and diagnostic protocols.	7 Preventive Treatment (TPT)		Ensure consistent supply of 3HP/3HR; strengthen TPT data tracking; include older children and special populations.
2 Coordination & Stakeholder Engagement	TWG functionality is irregular due to budget limits, resulting in irregular meetings.	Integrate TWGs across thematic areas; secure funding for quarterly meetings and virtual sessions.	8 Diagnosis	Limited child-friendly TPT formulations; weak monitoring of completion rates.	Ensure consistent supply of 3HP/3HR; strengthen TPT data tracking; include older children and special populations.
3 Technical Strategy	Guidelines and SOPs outdated; slow adoption of WHO updates.	Finalize and disseminate updated national guidelines; revise tools (ETL, registers); build capacity for new regimens and diagnostic protocols.	9 Treatment	4-month regimen not yet implemented; outdated SOPs; inconsistent supply of child-friendly formulations.	Roll out 4-month regimen; update SOPs and job aids; strengthen supply chain for paediatric formulations.
4 Engagement of All Providers	Limited integration with RCH, nutrition; low private sector involvement.	Expand engagement of private and faith-based facilities; integrate TB into RCH and nutrition programs; strengthen supervision and reporting links.	10 Recording & Reporting	Need for better age disaggregation; slow adoption of 2024 surveillance definitions.	Update DHIS2 ETL and paper tools with new age bands; conduct training on new data definitions.
5 Primary Prevention	Need for consistent application of HIV-screening guidance before BCG; quality monitoring gaps.	Ensure adherence to BCG guidelines via training and supportive supervision; strengthen newborn HIV screening and documentation.	11 Human Resources	•Limited training coverage; paediatric/adolescent TB low in supervision checklists.	•Expand training to lower-level facilities; revise Afya SS checklist to include paediatric/adolescent TB indicators.
6 Contact Investigation	Partial implementation; poor sample transport; limited funding for community ACF.	Expand geographic coverage; strengthen CHW-based ACF; improve logistics and courier frequency.	12 Enabling Environment	Stigma, financial barriers to diagnostics; limited outreach in rural areas.	Scale up community awareness and stigma-reduction campaigns; provide transport support for rural patients; enhance outreach/mobile TB services.



Findings-Stakeholders FGD

- to assess the B&P-Tool's relevance, utility, and adaptability.

Strength

- Comprehensive and aligned with the TB cascade.
- Facilitates strategic planning and monitoring.
- Supports decision-making at the national level.
- Flexible for adaptation across thematic areas.
- Promotes data-driven performance assessment.

Area for Improvement

- Need for clearer question descriptions and standardization.
- Limited stakeholder participation.
- Complex sections for subnational levels.
- Gaps in data integration and scoring systems.
- Inconsistent 'Partially Met' category usage.

Best Practice

- Tanzania's innovative domestic financing mechanisms for HIV services
- A broad-based levy collected across multiple economic sectors and channeled to the AIDS Trust Fund (established under the Tanzania Commission for AIDS Act, Cap. 379).
- In response to significant cuts in international donor funding (particularly US aid disruptions), Tanzania introduced innovative domestic financing mechanisms in June 2025 through the Finance Act 2025 to ensure sustainable funding for HIV/AIDS services and universal health coverage.

- Target: Raise TSh 586.4 billion (approximately USD 220 million) from new domestic sources annually.
- Excise duty on alcoholic beverages, HIV Response Levy on minerals, Train ticket charges (70% allocation), Airport service charges (70% allocation), Gaming/betting taxes (70% allocation), Motor vehicle import levy.
- <https://www.thecitizen.co.tz/tanzania/news/national/tanzania-targets-sh586-4-billion-from-new-domestic-taxes-to-bridge-hiv-and-health-funding-gap-5078984>

Conclusion

- **Enhanced visibility and prioritization of paediatric TB gaps:**

The B&P tool has enabled systematic identification of bottlenecks in paediatric TB care by providing quantifiable benchmarks across facilities.

- This has strengthened evidence-based planning and resource allocation by NTLP and implementing partners.

Therefore, we recommend:

- Efforts should be made to publish and disseminate the findings of this assessment
- B&P tools to be adopted in the country
- B&P tools to be applied across all TB interventions

Asante Sana

