FEDERAL REPUBLIC OF NIGERIA

FEDERAL MINISTRY OF HEALTH AND SOCIAL WELFARE

DEPARTMENT OF PUBLIC HEALTH

NATIONAL TUBERCULOSIS, LEPROSY AND BURULI ULCER CONTROL PROGRAMME

Experience from Nigeria on Implementing Stool Testing for the Diagnosis of TB in Children

Annual Meeting of STOP Child and Adolescent TB Working Group

Courtyard by Marriot, Bali, Indonesia

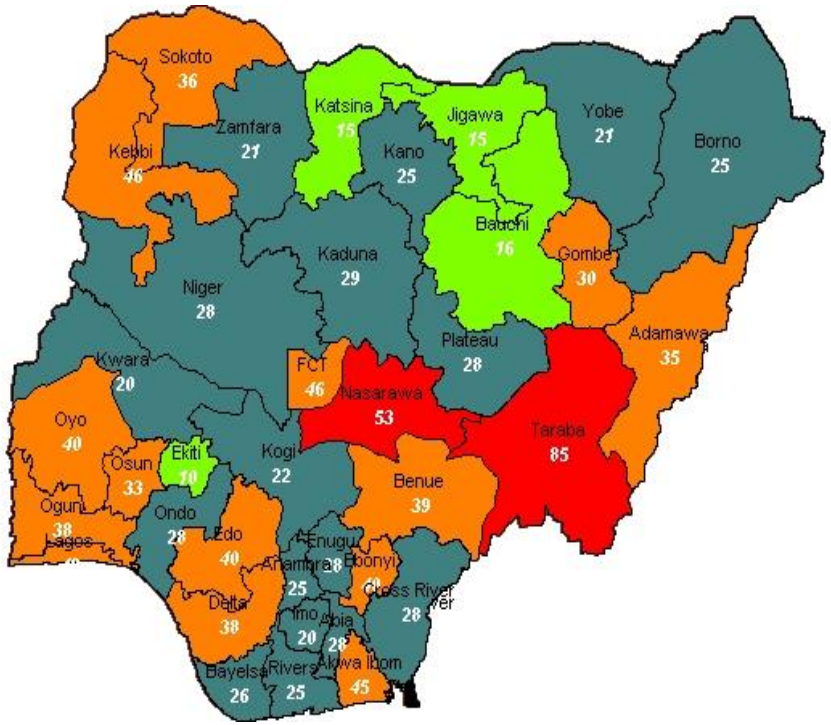
11th November, 2024

Outline

- Background
- Interventions for Stool Testing
- Results from Stool Testing
- Performance Update
- Benefits, Drawbacks and Conclusion

Background

- Nigeria
  - 2023 Projected population - 224,996,743 million
  - Six zones, 36 States and Federal Capital Territory (FCT), 774 Local Government Areas



- The National TB Programme operates along the 3 tiers of Government

- TB National Strategic Plan (NSP) 2021 - 2026

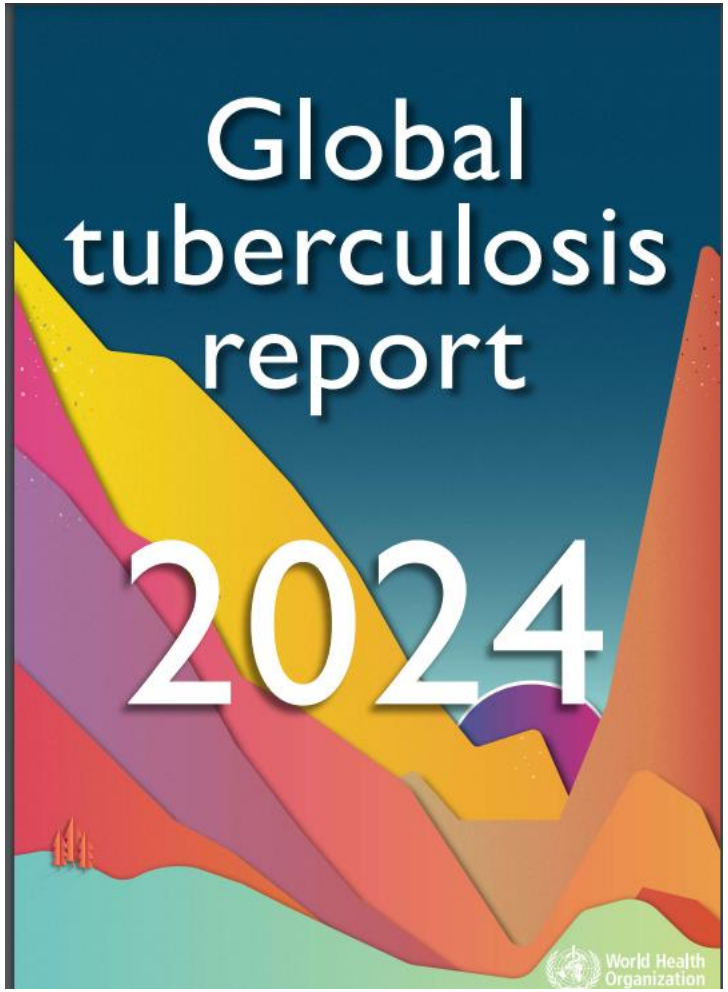
- TB NSP aligned with END TB Strategy

TB Situation in Nigeria

- Nigeria is 6th globally among 30 high TB burden countries and 1st in Africa: high burden of child TB
  - TB incidence rate - 219/100,000 population

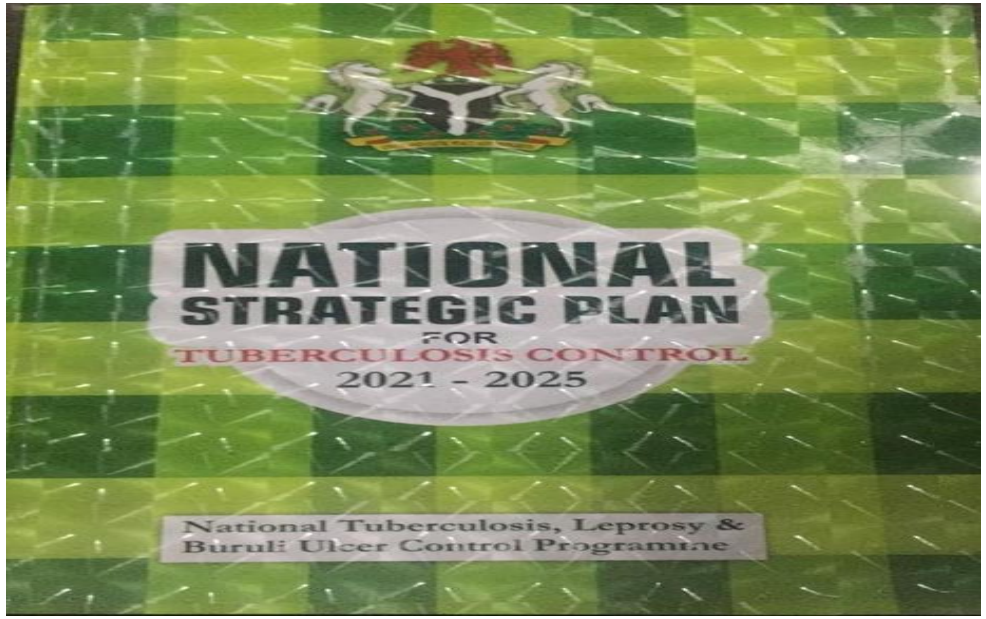
- In 2023
  - 371,019 (74%) notified out of estimated 499,000 TB cases
  - 10% children notified out of reported 371,019 TB cases
  - 63% notified out of estimated 59,000 Child TB cases

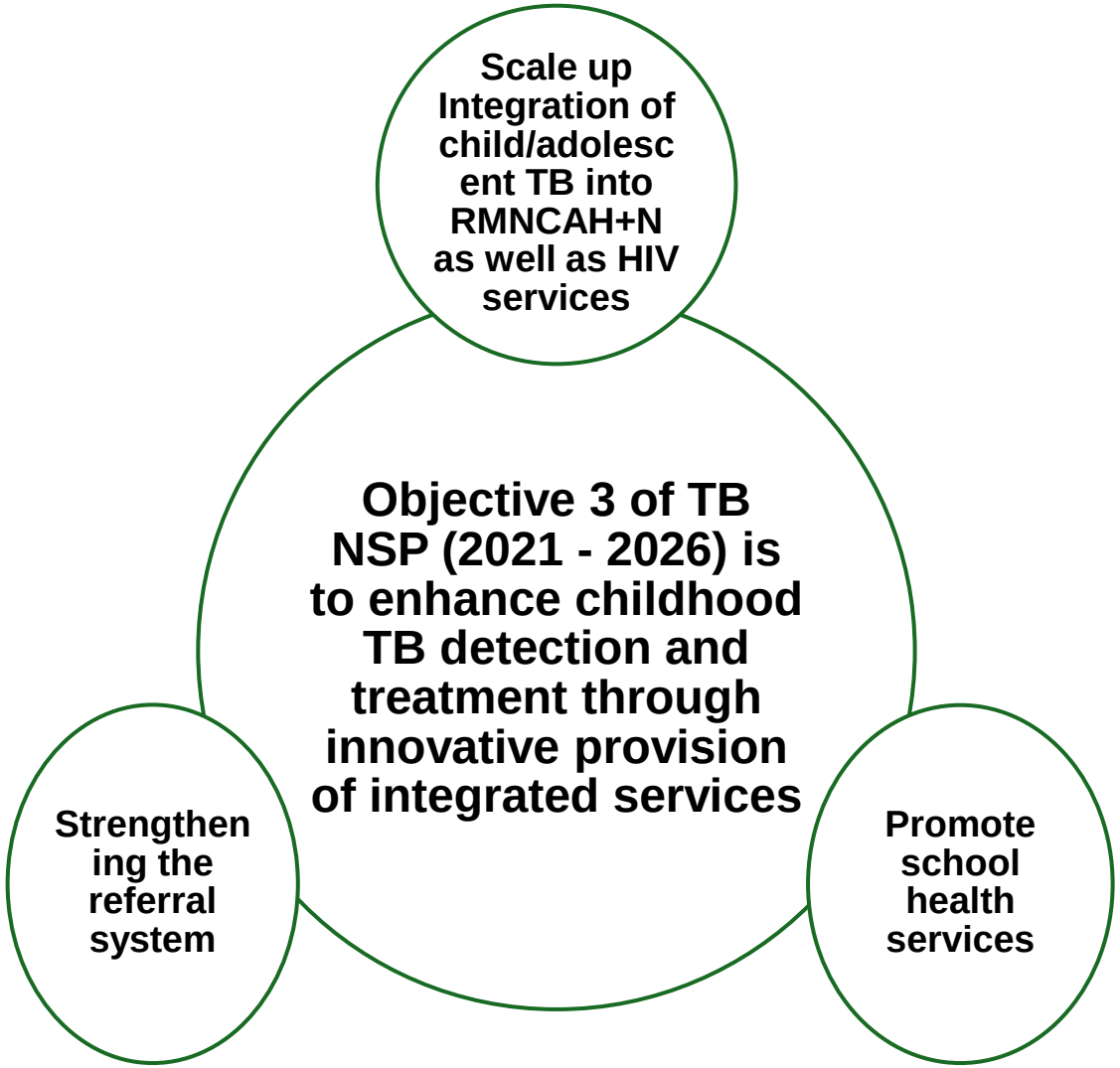
- Undernourishment (45,000) and HIV (21,000) are key risk factors for TB



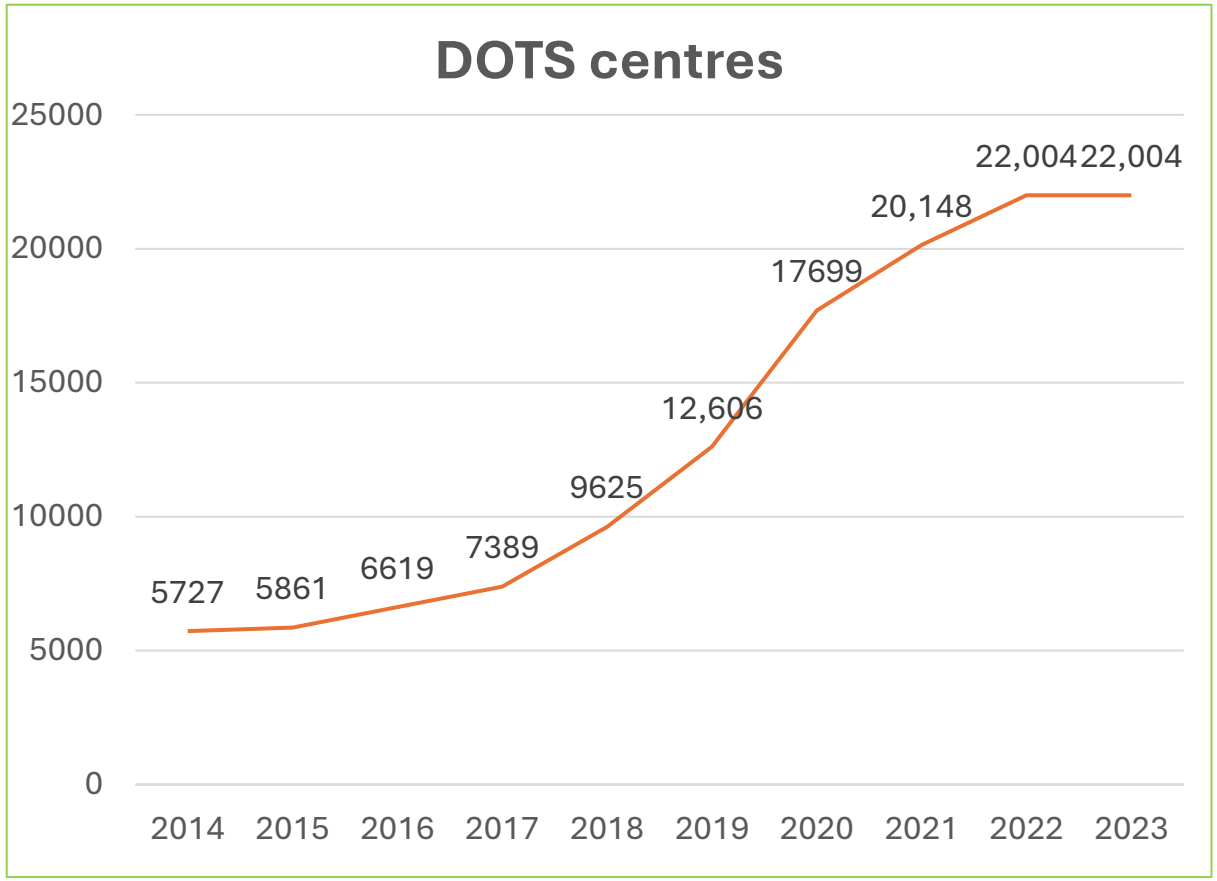
Strategies for Child and Adolescent TB Control

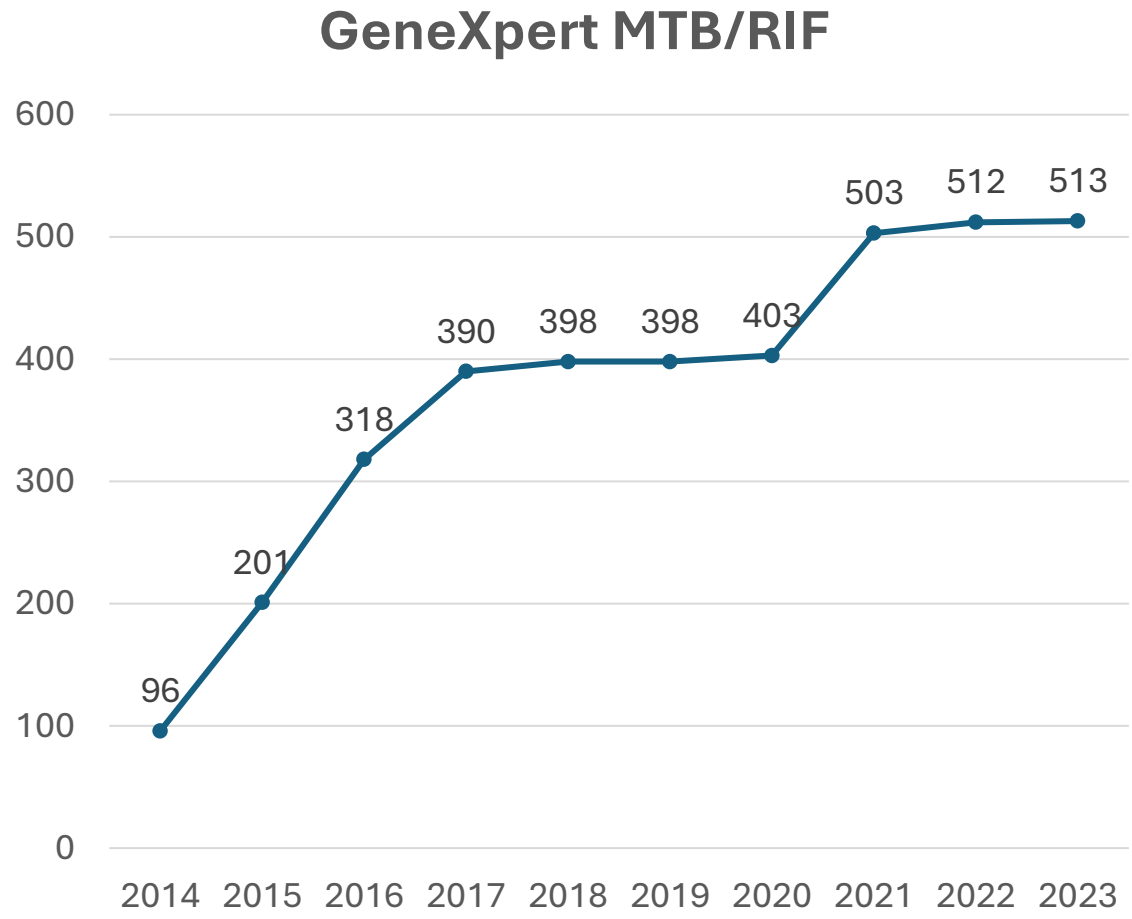
NSP goal - To accelerate efforts at ending TB epidemic in Nigeria by ensuring access to comprehensive and high-quality patient centered and community owned TB services for all Nigerians.





Expansion of DOTS and GeneXpert





Interventions for Stool Testing

Adoption in 2020, development of guidelines/standard operating procedures

Training of doctors, laboratory personne/ and other healthcare workers (HCWs)

Provision of incentives/consumables for laboratory personnel

Awareness creation on use of stool for TB testing

Strengthened specimen referral system/supervision

Active TB case finding: World TB day, National child TB week, National Testing Week, community search

Results from Stool Testing

Geo-political zone	2022			2023		
	No tested	MTB detected	Rif resistance detected	No tested	MTB detected	Rif resistance detected
North - west (NWZ)	2931	273	8	31785	1956	48
North - central (NCZ)	1086	27	0	12282	287	8
North - east (NEZ)	970	27	4	7536	212	14
South - south (SSZ)	535	28	1	9402	470	7
South - west (SWZ)	1477	64	3	5342	343	10
South - east (SEZ)	643	23	0	3942	131	44
National	**7642**	**442**	**16**	**70289**	**3399**	**131**

Results from Stool Testing in 2023…. 2

State	Total Sample tested	MTB Detected	Rif Resistant Detected
Benue	2234	83	0
FCT	1068	71	0
Kogi	272	2	0
Kwara	382	5	0
Nasarawa	3725	95	6
Niger	742	15	0
Plateau	3859	16	2
NCZ	**12282**	**287**	**8**

State	Total sample tested	MTB Detected	Rif Resistant Detected
Adamawa	705	24	7
Bauchi	2472	52	0
Borno	1834	71	0
Gombe	532	17	0
Taraba	1672	28	7
Yobe	321	20	0
NEZ	**7536**	**212**	**14**

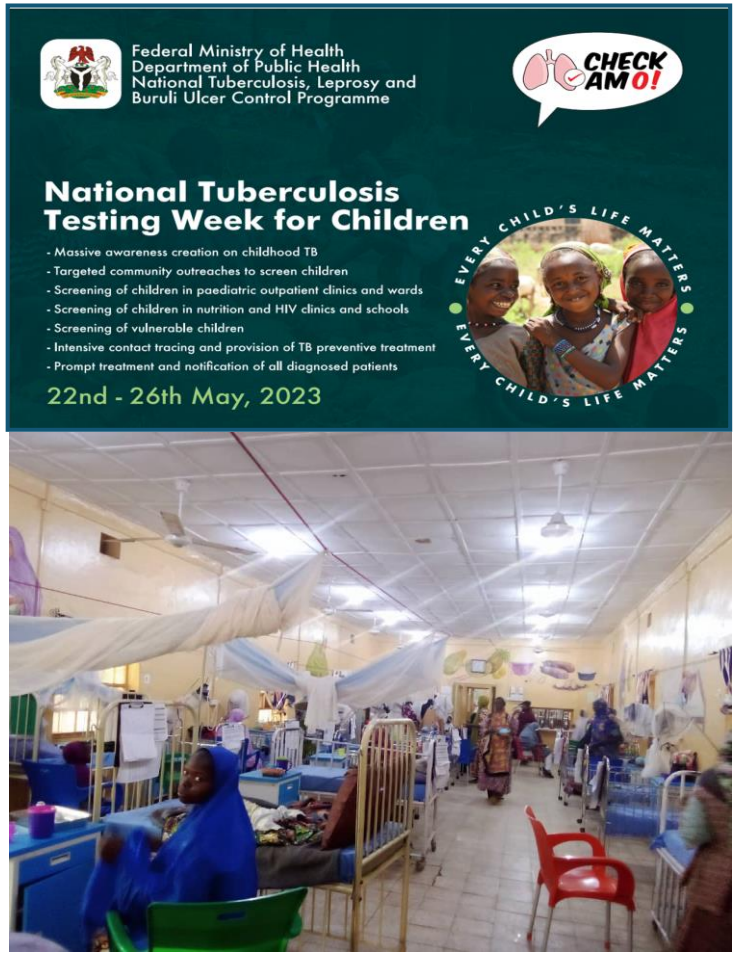
State	Total sample tested	MTB Detected	Rif Resistant Detected
Jigawa	2032	99	2
Kaduna	2942	193	2
Kano	10078	625	22
Katsina	6332	416	10
Kebbi	2953	171	3
Sokoto	4013	346	0
Zamfara	3435	106	9
NWZ	**31785**	**1956**	**48**

State	Total sample tested	MTB Detected	Rif Resistant Detected
Abia	1225	23	0
Anambra	1000	26	2
Ebonyi	665	26	1
Enugu	291	11	39
Imo	761	45	2
SEZ	**3942**	**131**	**44**

State	Total sample tested	MTB Detected	Rif Resistant Detected
Akwa Ibom	5048	228	1
Bayelsa	114	10	0
Cross River	1119	35	0
Delta	718	31	3
Edo	281	20	3
Rivers	2122	146	0
SSZ	**9402**	**470**	**7**

State	Total sample tested	MTB Detected	Rif Resistant Detected
Ekiti	72	0	0
Lagos	2055	130	2
Ogun	704	49	1
Ondo	199	10	0
Osun	700	68	1
Oyo	1612	86	6
SWZ	**5342**	**343**	**10**

Best Practice from Sokoto State



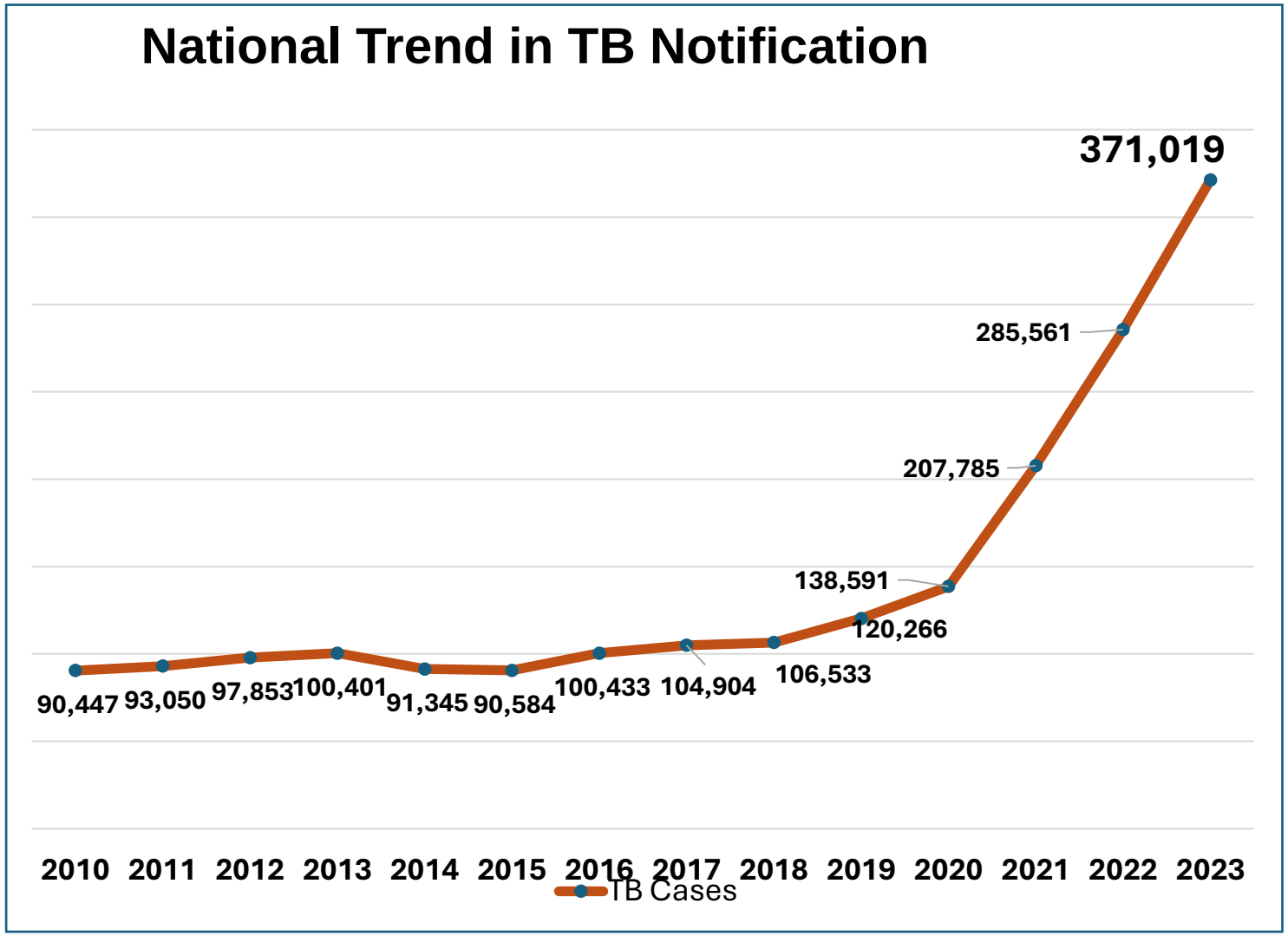
Background: A key innovation from Sokoto was routine stool collection for GeneXpert from hospitalized children with Severe acute Malnutrition

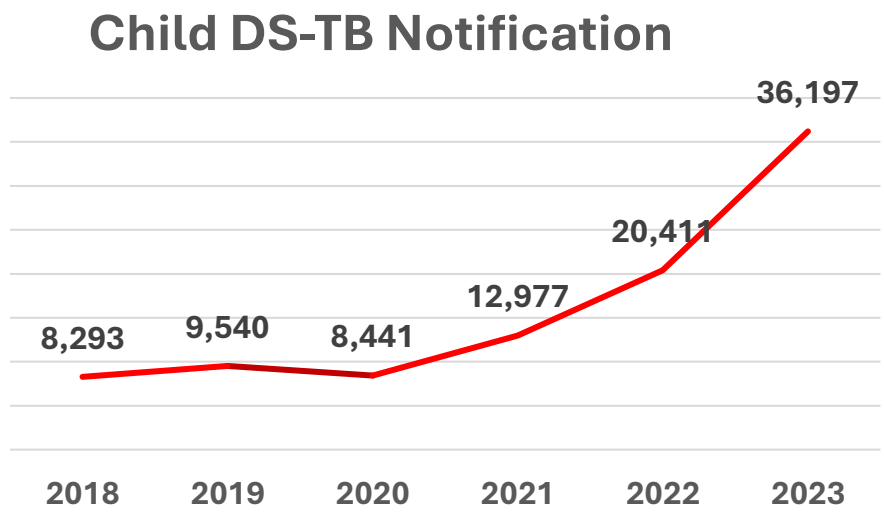
Intervention: Stool for GeneXpert testing routinely collected from all under-5 malnourished children at State Specialist Hospital, Sokoto

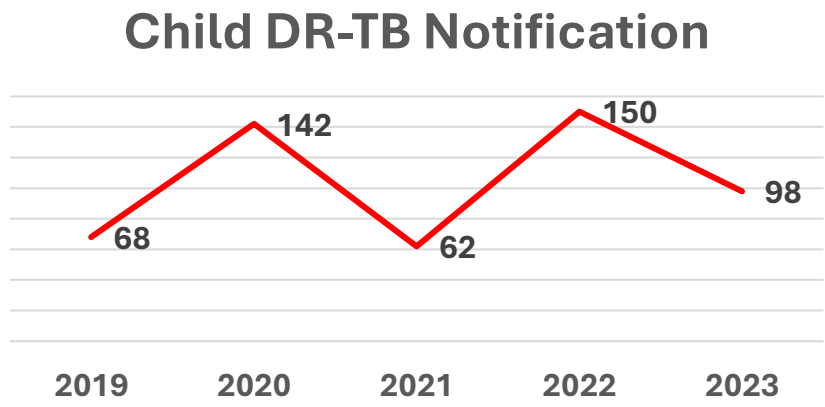
Results: Out of the 28 children tested with GeneXpert, 10 (36%) were MTB detected and were all started on TB treatment. Interestingly, 6 out of 10 MTB detected were infants.

Performance Update

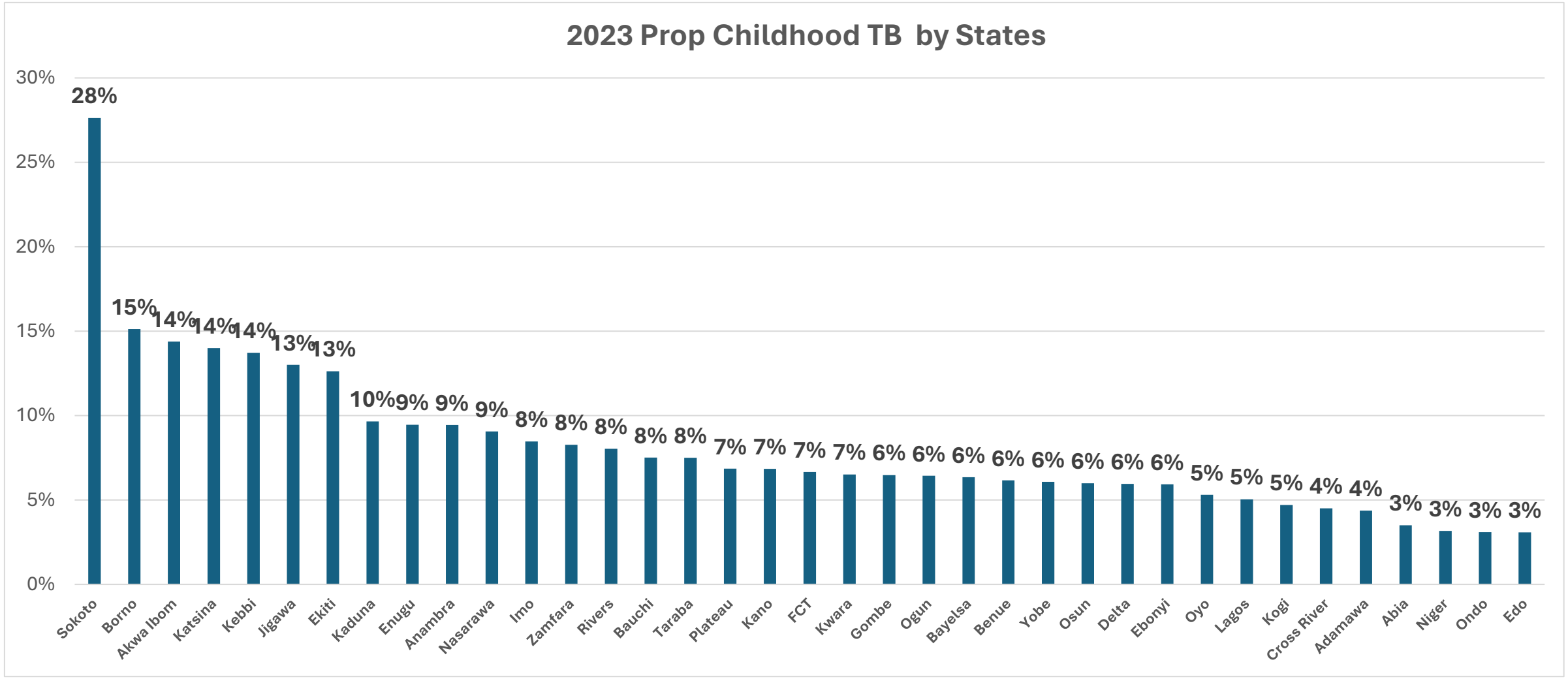
Trend of TB Notification



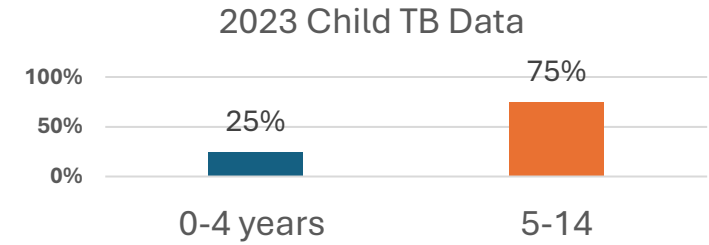


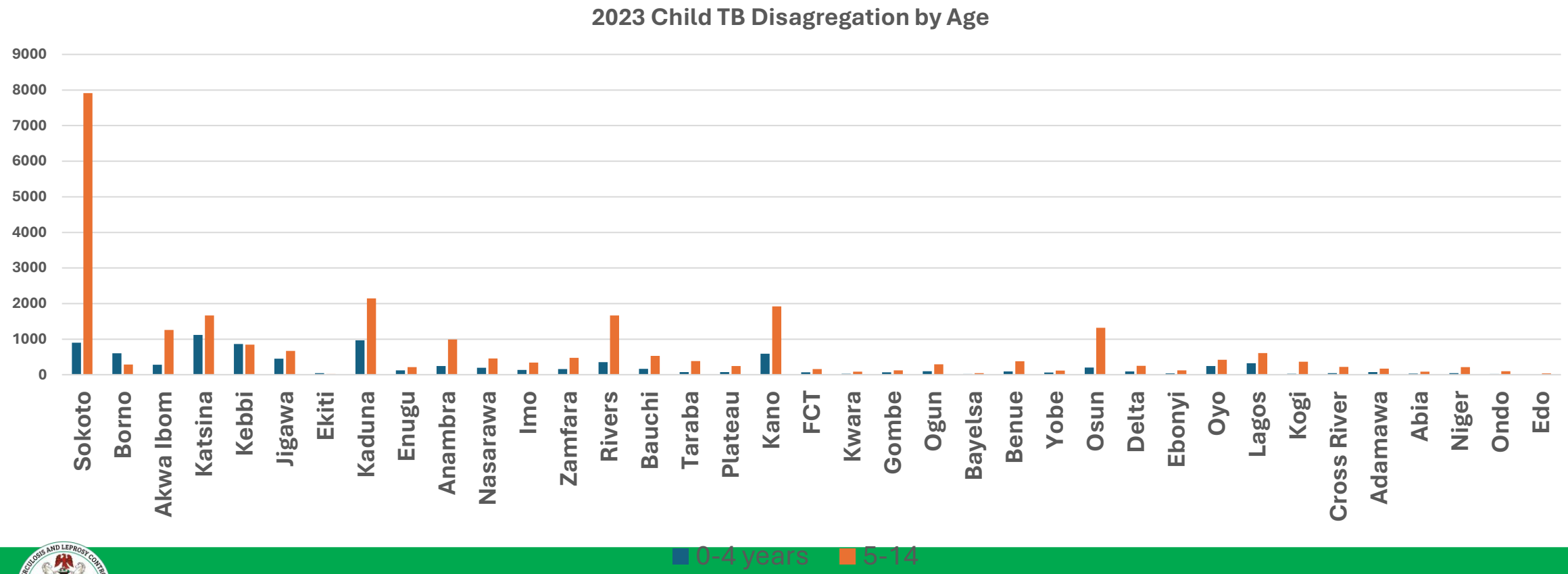


2023 Child TB Proportion



2023 Child TB Disaggregation





Benefits of Stool Testing

- Increased TB diagnostic yield from bacteriological testing/DR-TB detection
- Increased acceptance by parents/caregivers for TB treatment
- Non invasive nature of stool enhances access
- Prompt diagnosis and reduced treatment delays
- Reduces severity and mortality from child TB especially DR-TB

Drawbacks of Stool Testing

- Refusal of parents to agree to stool testing
- Refusal of some laboratory personnel to conduct stool testing
- Absence of cold chain system
- Lack of stool-friendly containers for specimen collection
- Logistics of collecting stool from children

Conclusion

- Utilization of GeneXpert for stool testing has addressed critical gaps in pediatric TB diagnosis
- No doubt, there are challenges with scaling up its implementation to reach more rural and underserved communities
- Refusal of parents/caregivers as well as laboratory personnel to undertake stool testing with GeneXpert is a concern
- Sensitization/training of HCWs, provision of consumables and supervision plays a pivotal role in ensuring optimal benefits from the intervention
- Continued support and collaboration with all stakeholders are vital to maintain momentum and expansion to rural and undeserved communities.

Aknowledgement

Thank you