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Stool testing for diagnosing TB in children in selected provinces in Vietnam

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USAID Support to End TB project

FHI 360 Vietnam

Pediatric TB context in Vietnam

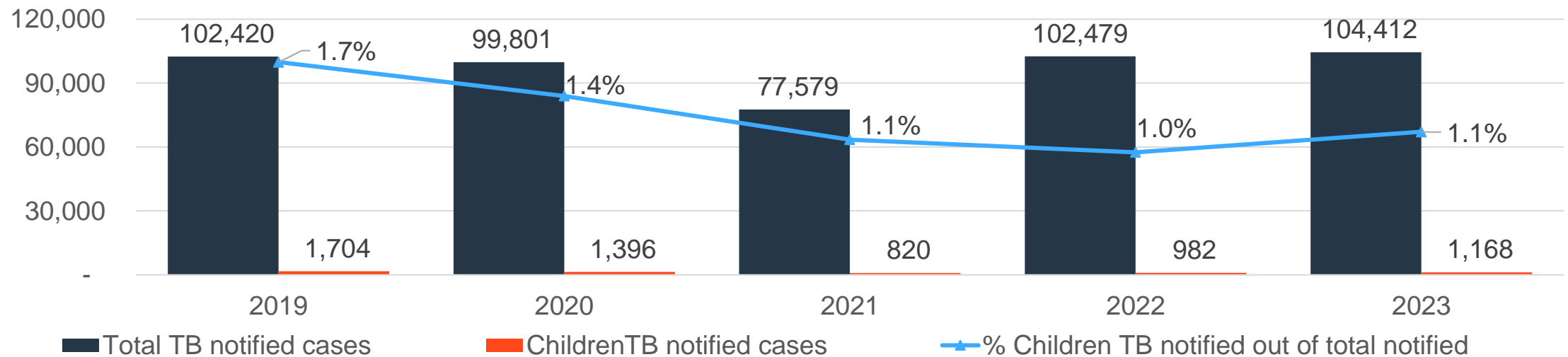


About **25%** of the country's population is between 0-14 years



Pediatric TB in Vietnam (2023)

- WHO estimation: **7,400 cases (4.0% of total incidence)**
- Notified TB: **1,168 cases (1% of total notifications)**
- Detection gap: **84%**



Source: Vietnam NTP report, 2019-2023

Implementation Status

Phase of implementation



- Vietnam NTP piloted stool-based testing in 2020 in 10 health facilities at 5 provinces among children <15 years and PLHIV aged ≥ 15 years.
- National Strategy: nationwide routine scale-up
- USAID Support To End TB project: supporting since July 2022 in 11/63 provinces and 48/705 districts of country

Project- supported Target Groups



0- 4 yrs



5-14 yrs

- Children with TB symptoms
- Children at risk: Household contact (HHC), Previous TB treatment, malnutrition, immunodeficiency diseases

Project-supported stool testing sites



**11 Provincial
General Hospitals
and 4 Provincial
Pediatric Hospitals**



**48 District
Health
Centres**

- Assay used for stool testing: GeneXpert and GeneXpert Ultra
- Monitoring implementation: integrated into routine monitoring of TB diagnostic activities in facilities and communities

Pediatric TB detection under USAID SET project

STEP 1 Identify the setting and target population:

Setting	Health facility <ul style="list-style-type: none">▪ Pediatric hospitals▪ General hospitals Community	Target Population	<ul style="list-style-type: none">• Children with TB symptoms• Children at risk of TB• Children indicated for CXR	Models	<ul style="list-style-type: none">• Intensified case finding• Active case finding
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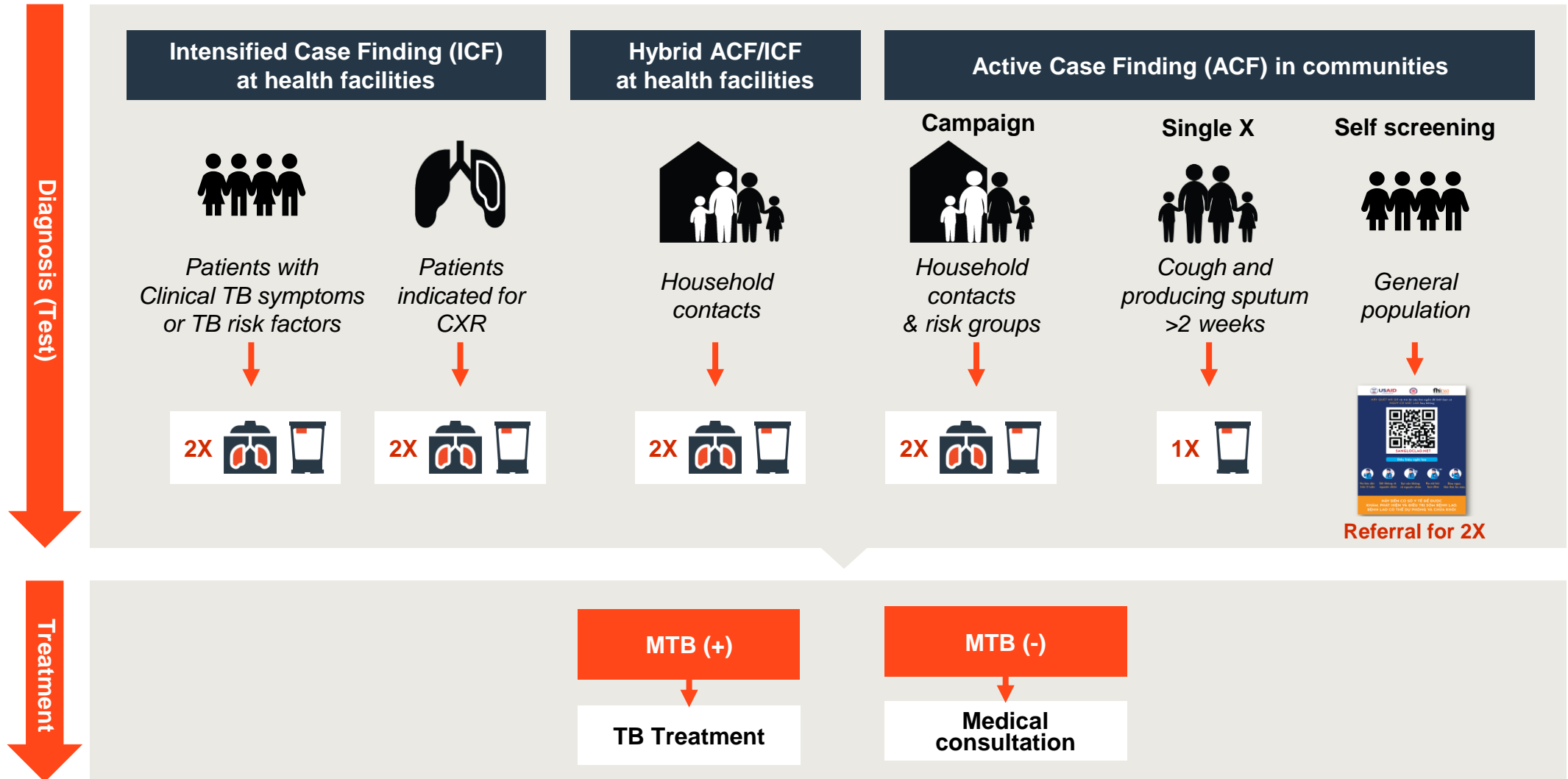
STEP 2 Proceed sequentially and refer to specific algorithms in individual stages:



STEP 3 Pediatric TB: Initiate treatment and support for completion



Diversified models under USAID SET project



Pediatric TB detection

📅 July 2022 - November 2024

Screened with CXR
96,704

5.2%

Abnormal CXR
4,998

126%

Tested with Xpert
6,299

1.5%

Xpert (+)

TB Diagnosed
136

97.1%

Initiated TB Tx
132

<5 years old:

3,324 (52.8%)

Sputum:
1,378
(41.5%)

Stool:
1,792
(53.9%)

Other*:
154
(4.6%)

TB diagnosed:
30 (0.9%)

Sputum Xpert (+): 12 (0.9%) Other Xpert (+): 9 (5.8%)
Stool Xpert (+): 4 (0.2%) Clinically diagnosed: 5



Xpert Testing:
6,299

5-14 years old:

2,975 (47.2%)

Sputum:
2,353
(79.1%)

Stool:
516
(17.4%)

Other*:
106
(3.5%)





TB diagnosed:
106 (3.6%)

Sputum Xpert (+): 59 (2.5%) Other Xpert (+): 1 (0.9%)
Stool Xpert (+): 10 (1.9%) Clinically diagnosed: 36

Other*: gastric aspirate, CSF

Pediatric TB diagnosed with stool testing

 July 2022 - November 2024

	Characteristics	# of stool tests	Stool Xpert(+)		Stool Xpert(-) & clinically diagnosed		No. TB diagnosed
			#	%	#	%	
	Total	2,308	14	0.6%	5	0.2%	19
 Gender	Male	1,327	7	0.5%	4	0.3%	11
	Female	981	7	0.1%	1	0.1%	8
 Age	<5	1,792	4	0.2%	0	0%	4
	5-14	516	10	1.9%	5	1%	15
 Years	July- Dec 2022	363	2	0.6%	2	0.6%	4
	Jan- Dec 2023	1,344	7	0.5%	1	0.1%	8
	Jan- Nov 2024	601	5	0.8%	2	0.3%	7
 Symptoms	Yes	NA	13	92.9%*	3	60%*	16
	No	NA	1	7.1%*	2	40%*	3

* % of diagnosed with TB

Challenges and lesson learnt

CHALLENGES

LESSONS LEARNT

Specimen and Cartridges



- Potential loss to follow-up risk, as children collect stool sample at home, not during the campaign
- Limited stool samples due to collection only when sputum can not be produced
- Xpert/Xpert Ultra cartridge shortages

- Update SOPs, including stool specimen collection and engaging health collaborators for support
- Improve the supply chain

Healthcare System



- Inefficient linkages between Pediatric and TB care systems
- Limited capacity and medical consultations for Pediatric TB

- Establish linkages between TB and Pediatric care systems, including TA mechanism
- Strengthen capacity through different channels

Client Perspectives



- Lack of community awareness on TB in children
- General and pediatric hospitals are often the first point of care for children

- Raise awareness about TB in children
- Integrate pediatric TB detection into existing systems
- Employ diverse approaches to maximize outreach



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