

# Community-Based Active Case Detection and Management of Tuberculosis in Timor-Leste

With funding from Korea International Cooperation Agency (KOICA); IOM with implementing partner Klibur Domin Foundation (KD) in coordination with Ministry of Health (MoH) National Tuberculosis Program (NTP) is conducting community-based active TB screening project aimed to increase TB detection from hard-to-reach areas of Bobonaro, Baucau, Covalima, Dili (Metinaro/Atauro) and Ermera.

The project has successfully installed GeneXpert IV module machines at Ermera, Baucau, Atauro and Bobonaro. The project uses mobile health team equipped with portable digital X-ray machines and aims to identify/trace TB cases particularly from hard-to-reach areas of target municipalities, who would otherwise be missed using conventional methods of TB diagnosis.

Timor-Leste's NTP is an active partner and provides necessary follow up and treatment of the diagnosed cases.



Performance	Year 2020	Year 2021	Year 2022
Total Number of TB cases identified in Timor-Leste (NTP Data)*	NA	3268*	5370*
Number of TB cases identified by KOICA funded TB Project	55	360	806
Project's contribution towards total TB cases per year identified in Timor-Leste	NA	11%	15%

## PROJECT SUMMARY

Since the official launch in September 2020, the project has conducted series of community-based screening activities and has simultaneously trained various health care workers across the project target municipalities.

During this process the project despite all challenges of COVID- 19 in the year 2021, made a successful contribution of 11% of total TB cases identified in Timor-Leste. Similarly, with improvement in screening approach and learning from the pandemic, adjustments were made in 2022 where door-to-door screening activity together with improved advocacy for TB screening, the project made a significant and improved contribution of 15% of all TB cases identified in Timor-Leste.

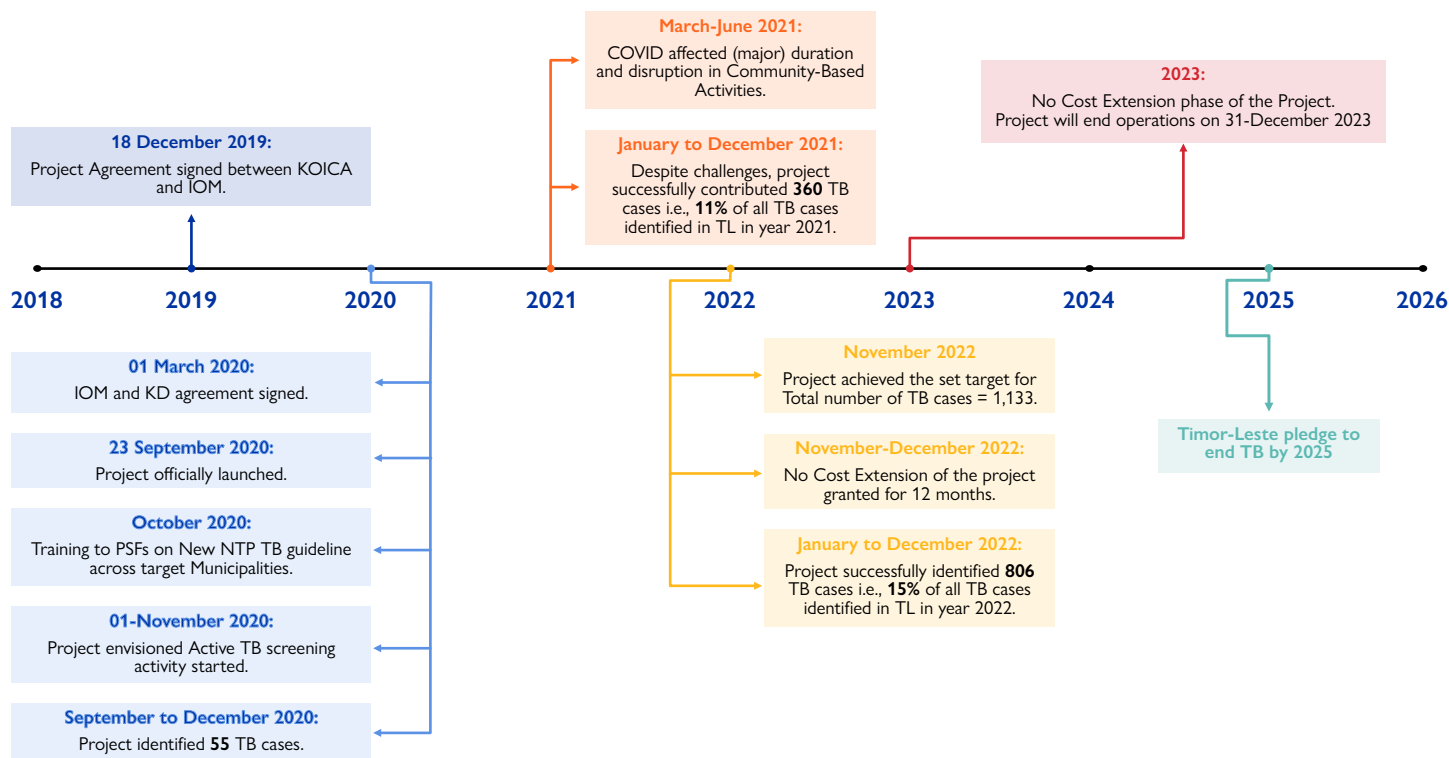
Further the equipment procured through the project namely the portable digital Xray machines and GeneXpert Machines were wisely used for benefit of target population. IOM trained more than 10 radiographers in operating the new technology; 61 medical doctors in digital CXR interpretation and more than 10 laboratory technicians in operating GeneXpert machines. Project also successfully trained 787 PSFs regarding new NTP TB guideline. All trainings were conducted in coordination with NTP and health department of each target municipality. Trained individuals are actively involved in screening activities which further serves as On-the-Job training (OJT).

Throughout the project life, with timely risk analysis and communication, IOM procurement unit made sure of uninterrupted supply of consumables including much needed GeneXpert Cartridges. The project introduced Xpert® MTB/RIF ULTRA cartridges in Timor-Leste in November 2021 and significantly reduced the time required for testing. Apart from the project requirement, the GeneXpert machines installed through this project are also programmed and can be used in diagnosing other diseases like COVID, HIV, Hepatitis etc. Particularly in 2021, the KOICA funded GnX installation of Baucau, Bobonaro and Ermera made a huge contribution in helping MoH in early diagnosis of COVID cases.

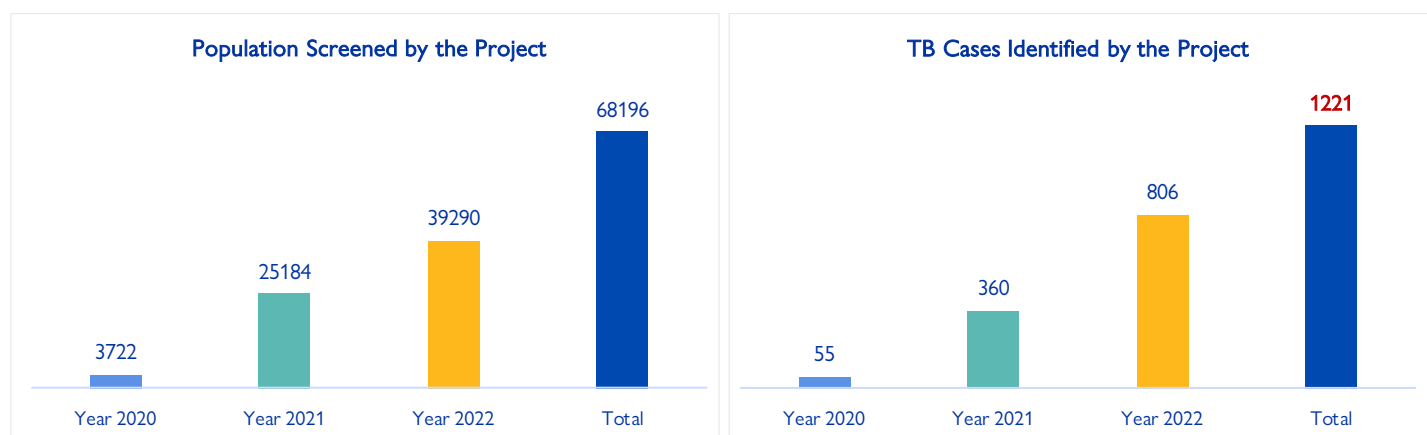
Likewise, IOM in coordination with KOICA, frequently supports the MoH initiated outreach activity by providing portable digital Xray machines to locations not covered by the project.

The project has not only effectively supported MoH in its fight against TB but beyond project goals have supported in fighting other diseases as well. Transforming an idea into reality of mobile health clinic which could reach further into these hard-to- reach communities of Timor-Leste, making a sustainable yet affordable approach.

## PROJECT TIMELINE AND EVENTS



## PROJECT ACHIEVEMENT 2020-2022 (IOM+KD)

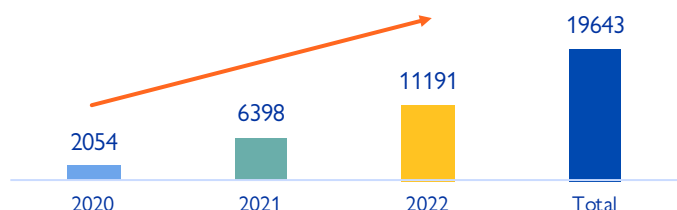


INDICATORS	Year 2020	Year 2021	Year 2022	Total
Total population screened by Project	3722	25184	39290	68196
Total CXR conducted by Project	1906	7161	13733	22800
Total CXR abnormality identified in project using clinician interpretation	657	2633	4997	8287
Total Presumptive cases (excluding KD abnormal CXR)	224	2390	4968	7582
Total GeneXpert conducted by Project	724	2605	7422	10751
Total Bacteriological positive identified by project	55	180	473	708
Total Clinical Diagnosis made in Project	0	180	333	513
Total TB cases identified and referred for treatment by the Project	55	360	806	1221
% Prevalence of Tuberculosis among screened	1%	1%	2%	2%
<b>NNS</b>	<b>68</b>	<b>70</b>	<b>49</b>	<b>56</b>

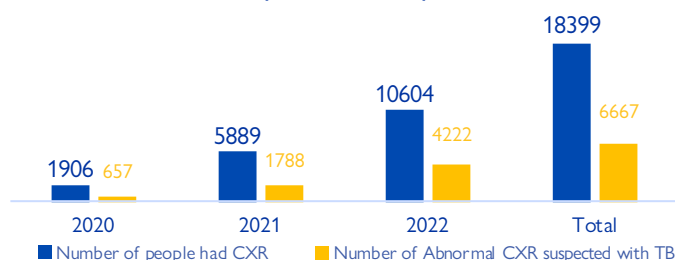
## IOM TIMOR-LESTE MIGRATION HEALTH UNIT: 2020-2022

Indicators	2020			2021			2022			Overall		
	Total	M	F	Total	M	F	Total	M	F	Total	M	F
Number of population screened	2054	998	1056	6398	3058	3340	11191	5191	6000	19643	9247	10396
Number of people had CXR	1906	927	979	5889	927	3050	10604	4951	5653	18399	8717	9682
Number of Abnormal CXR Suspected with TB	657	306	351	1788	306	981	4222	1987	2235	6667	3100	3567
Number of sputum tested in GeneXpert	500	239	261	1372	239	748	3054	1442	1612	4926	2305	2621
Number of Bacteriologically confirmed TB	37	19	18	92	19	37	255	131	124	384	205	179
Number TB cases clinically diagnosed	0	0	0	34	0	20	142	67	75	176	81	95
Total TB cases identified	37	19	18	126	19	57	397	194	203	560	282	278
<b>NNS</b>	<b>56</b>			<b>51</b>			<b>28</b>			<b>56</b>		

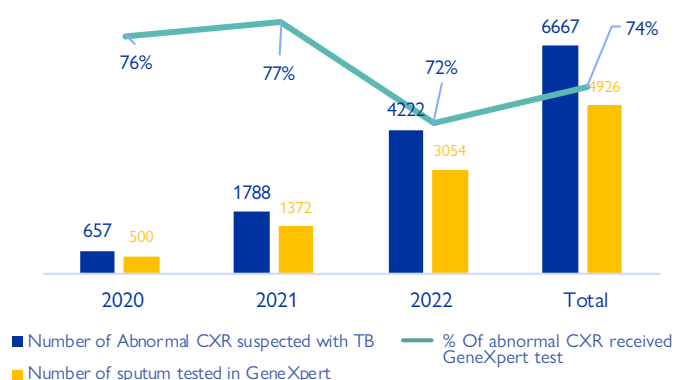
Number of people screened using IOM Questionnaire



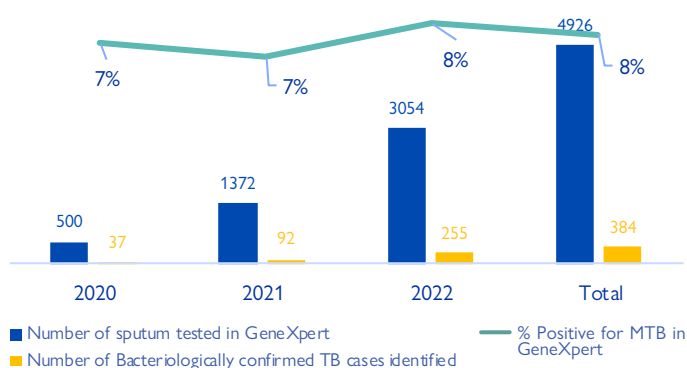
IOM: Chest Xray and Abnormality Consistent with TB



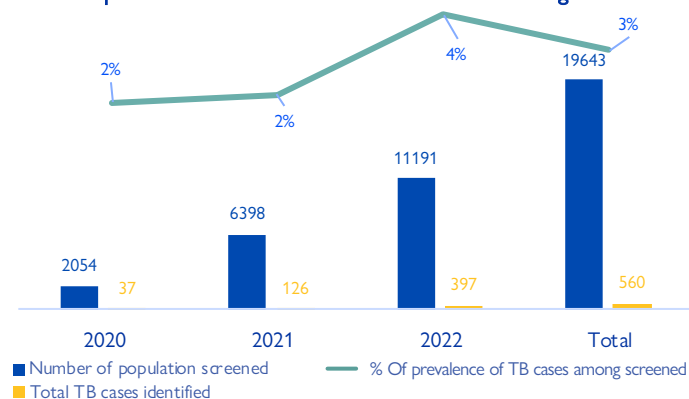
IOM: GeneXpert Coverage among Suspected



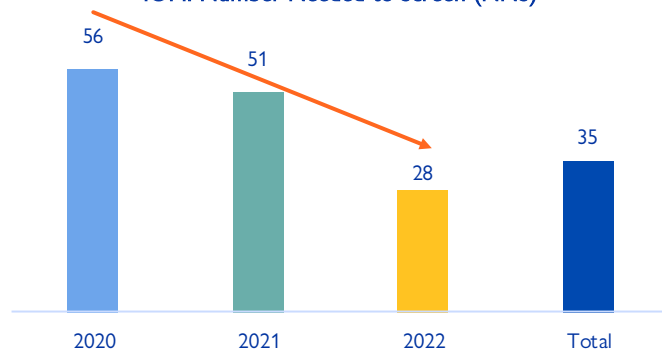
IOM: GeneXpert Test and % Positive for MTB among tested



IOM: Population Screened and Prevalence of TB among screened



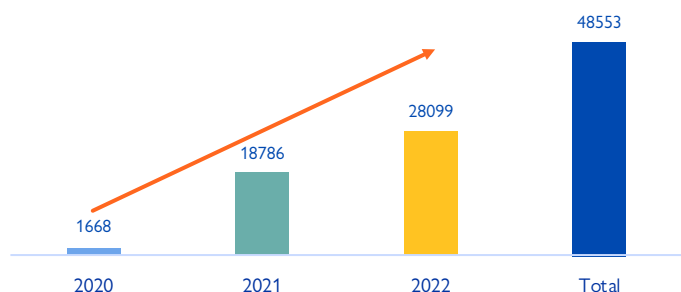
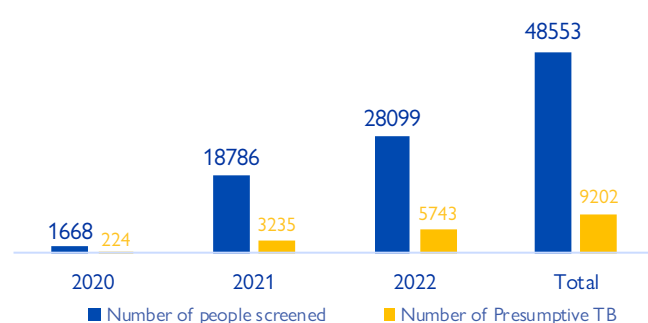
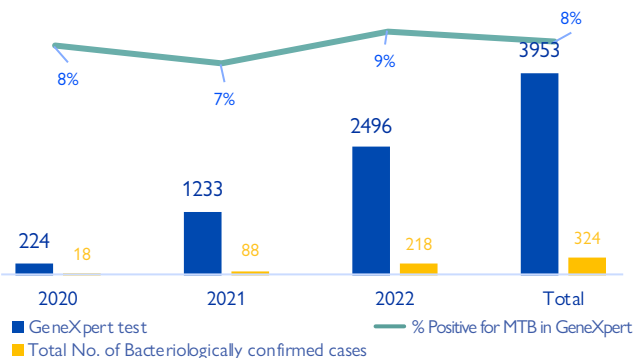
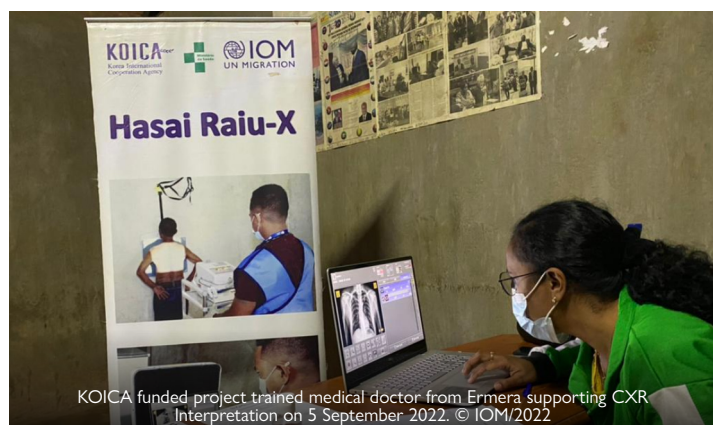
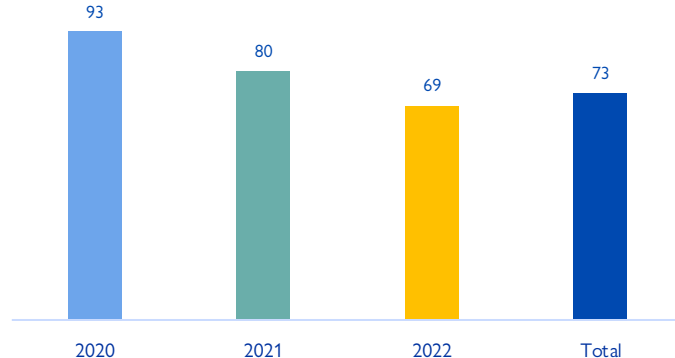
IOM: Number Needed to Screen (NNS)



INDICATORS	Year 2020	Year 2021	Year 2022	Overall
% of population screened that received CXR	93%	92%	95%	94%
% of abnormal CXR among population that received CXR	34%	30%	40%	36%
% of abnormal CXR received GeneXpert Test	76%	77%	72%	74%
% Positive for MTB in GeneXpert	7%	7%	8%	8%
% Bacteriological positive from total TB case identified	100%	73%	64%	69%
% Clinical Diagnosis from total TB case identified	0%	27%	36%	31%
% prevalence of TB cases among screened	2%	2%	4%	3%

**KD TB Screening Report**

INDICATORS	Year 2020	Year 2021	Year 2022	Total
Number of people screened	1668	18786	28099	48553
Number of Presumptive TB	224	3235	5743	9202
Total no. undergone chest X-ray	0	1272	3129	4401
Total Abnormal CXR suspected for TB identified *	0	845	775	1620
GeneXpert test	224	1233	2496	3953
Total No. of Bacteriologically confirmed cases	18	88	218	324
Total No of clinical diagnosis	0	146	191	337
Total TB cases Identified	18	234	409	661
NNS	93	80	69	73

**Population Screened 2020-2022 by KD**

**KD: Population Screened vs Presumptive TB**

**KD: GeneXpert Test and % positive for MTB among tested**

**KD: Number Needed to Screen**


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\*Klibur Domin Foundation is the IOM Timor-Leste's implementing partner in conducting community-based active TB screening project.