Annual Report

2080/81

Japan-Nepal Health and Tuberculosis Research Association

(JANTRA)

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Background

Japan-Nepal Health and Tuberculosis Research Association (JANTRA) is a non-profitable, result-based and non-government organization. JANTRA is affiliated with Research Institute of Tuberculosis / Japan Anti-Tuberculosis Association, Japan as a sister organization in Nepal. JANTRA has a track record (15 years) of working at grass-root levels with the poorest and marginalized people including slum and semi-slum population. From the establishment, it has highlighted importance of Urban TB Control and started providing service in slum and semi-slum areas in Kathmandu city. It has a clear vision community free of TB, every person has the right and access to TB care and support, stigma, and discrimination have no place; and all have a better quality of life.

JANTRA has been working in the field through gap analysis, designing effective models and mobilizing frontline health work forces (Female Community Health Volunteers) in the Kathmandu Metropolitan City. It believes community participation is key to the success of any public health intervention. The organization work in close coordination and collaboration with the National Tuberculosis Program (NTP), concerning stakeholders and partners.

Mission, Vision, and Goals of JANTRA

Our mission is to strive to end TB, promote health and prevent public health problems through the application of evidence-based public health practices, quality health services and research in Nepal. JANTRA is committed to improving the quality of life of all people by providing effective and need-based services and information to all people; especially the poor, marginalized and vulnerable people in underserved areas. It defends the right to be free from Tuberculosis. The objectives of the organization are :

- To improve community health condition through TB related activities
- To contribute to achieving goals and objectives of NTP and SDGs
- To establish networking and partnership with national & international agencies to strengthen the local health system

JANTRA is leading and pioneer in terms of a TB control program and implementing a multi-faced program and project in Nepal. It has more than decayed of experience working in the public health field, community system strengthening including research. It has operational relationships with its stakeholders and partners belonging to important networks such as Urban Health Clinics, NGO Clinics, and health volunteers. It has achieved notable successes in the areas of the Urban TB Control Programme. It has been advocating for health rights as well as the rights of TB patients. It has developed good governance with clear frameworks for roles of Executive Board Members, Advisors and Volunteers with well-defined processes for decision-making. It has well-defined budgets, reports, audited financial statements. It is a learning organization devoted to developing innovative approaches, implementing them as well as sharing evidence-based practices with other organizations and partners.

The major approaches of JANTRA are partnership and networking at all levels, community system strengthening, research for generation of evidence, knowledge management and policy and advocacy.

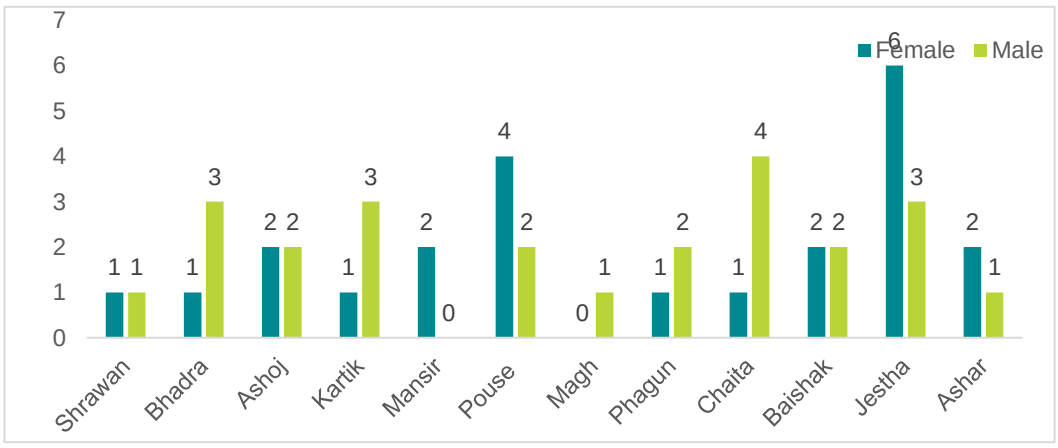
Figure 1: Approaches of JANTRA

A. Urban TB Control Programme

1. JANTRA DOTS Clinic

The DOTS clinic is providing quality, patient-centeredTB treatment services since its establishment in 2008.The clinic opens at 8:00 am and closes at 5:00 pm. The time is very much convenient for the TB patients as it opens early in the morning as most of the DOTS center in Nepal opens at 10:00 am and closes at 5:00 pm which is not much convenient for the TB patients especially for school and college students, employees, etc. The catchment area of the clinic is Koteshwor -32, Baneshwor -10. The average number of TB patients per month in the clinic is 30 to 40, including DR TB patients.

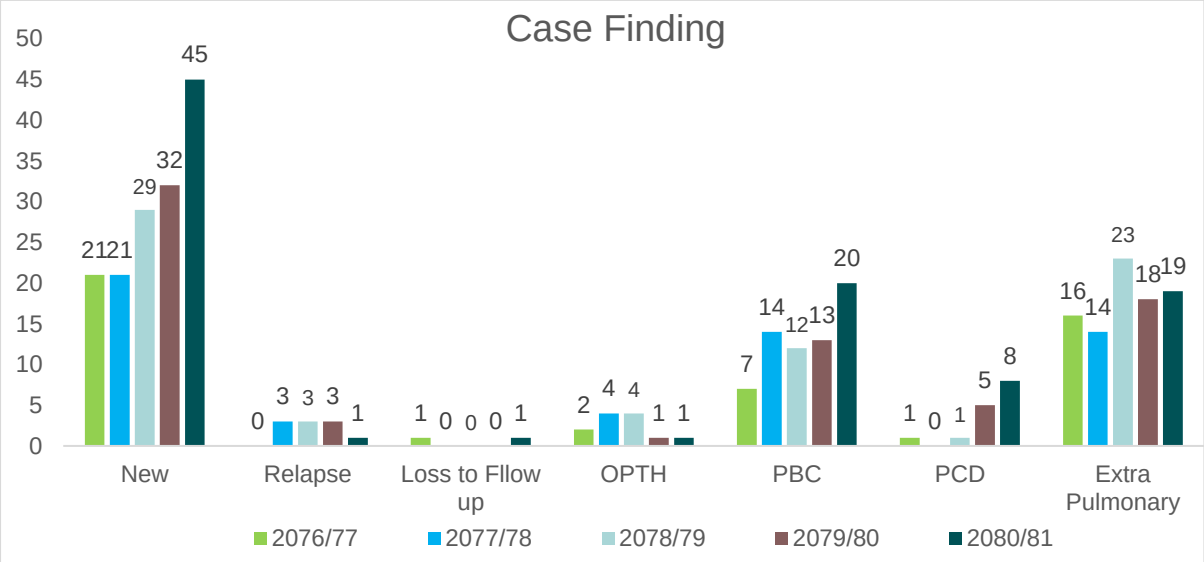
Figure 1: Month-wise case registration in JANTRA DOTS Clinic in Fiscal year 79/80



2. Trend of TB case finding in the DOTS Clinic

The five year trend of TB case finding in the DOTS clinic illustrated in below figure 2, the new cases was remained constant in year 76/77 and 77/78 but by 78/79 it has been in increasing trend. On the other hand, the relapse cases are constant throughtout three years from 77/78. There are only a few cases that have been loss to follow up. Likewise, the pulmonary bacteriologically confirmed cases are at 12, 13 and20 in 77/78, 79/80 and 80/81 where as 7 in 76/77 fiscal year.

Figure 2: Trend of TB case finding in the DOTS clinis



3. Trend of TB treatment Outcome

The five year trend of TB treatment outcome reveals, the stationary treatment success rate around 90%. Although in the fiscal year 2076/77 and 2079/80, the treatment success rate has reduced to 86%.The rise in not evaluated cases is due to the rise in transferred out TB patients. As the results, including their reports, are not timely reported from the designated DOTS center. The rise in not-evaluated cases has resulted in a decreased treatment success rate since there is no significant changes in other indicators. In the fiscal year 2080/81, the treatment success rate has high than other year i.e. 90%.

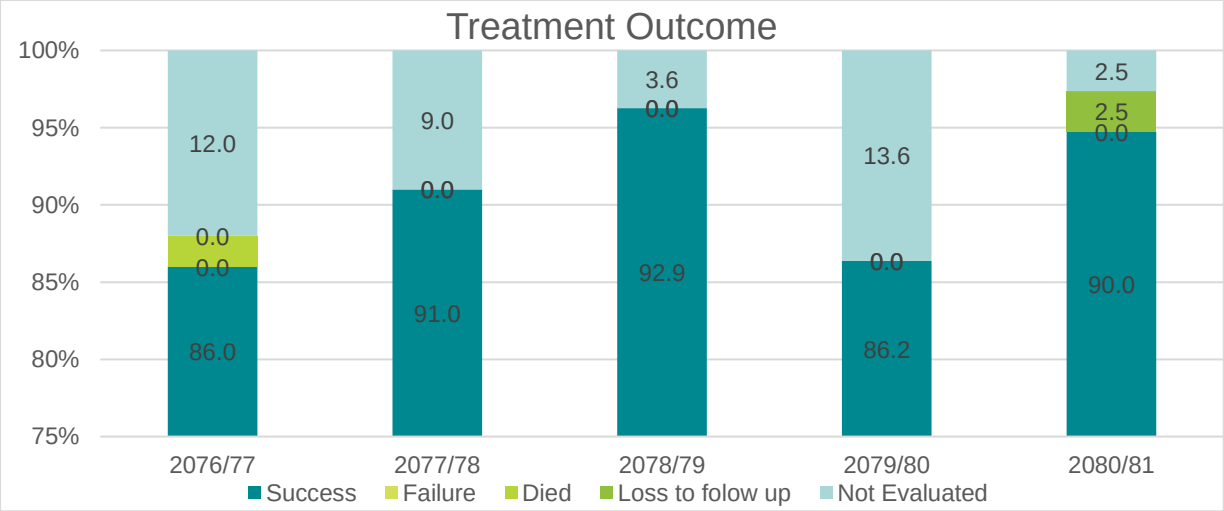


Figure 3: Trend of TB treatment outcome

4. Sputum Smear examination result by microscopy

In the fiscal year, a total of 2,447 people's sputum samples were tested in the microscopic lab. Among the total 2,352 sputum samples were of presumptive TB cases in which 23 positive cases. Among the total of 92 follow up sputum samples 3 of the patient had the sputum conversion. The catchment area for the Microscopic Center is ward 32 and 10 respectively as there is limited Microscopic Center in these catchment areas.

Figure 4: Month-wise laboratary Examination in the Microscopy

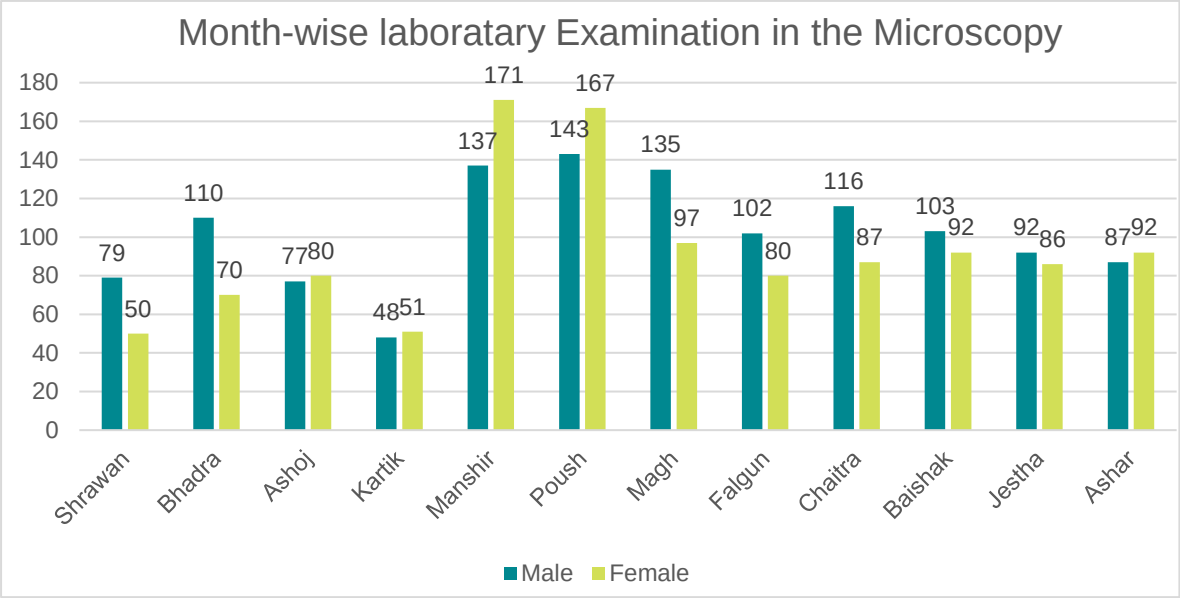


Table 1: Sputum Smear examination in the Microscopic Laboratory

Sex	Presumtive TB		Smear Examination				Follow Up		Total	
			Slide A		Slide B					
	Positive	Negative	Positive	Negative	positive	Negative	Positive	Negative	Positive	Negative
F	7	1116	7	1116	7	1005	1	45	2	850
M	16	1213	16	1213	16	1145	2	47	2	683

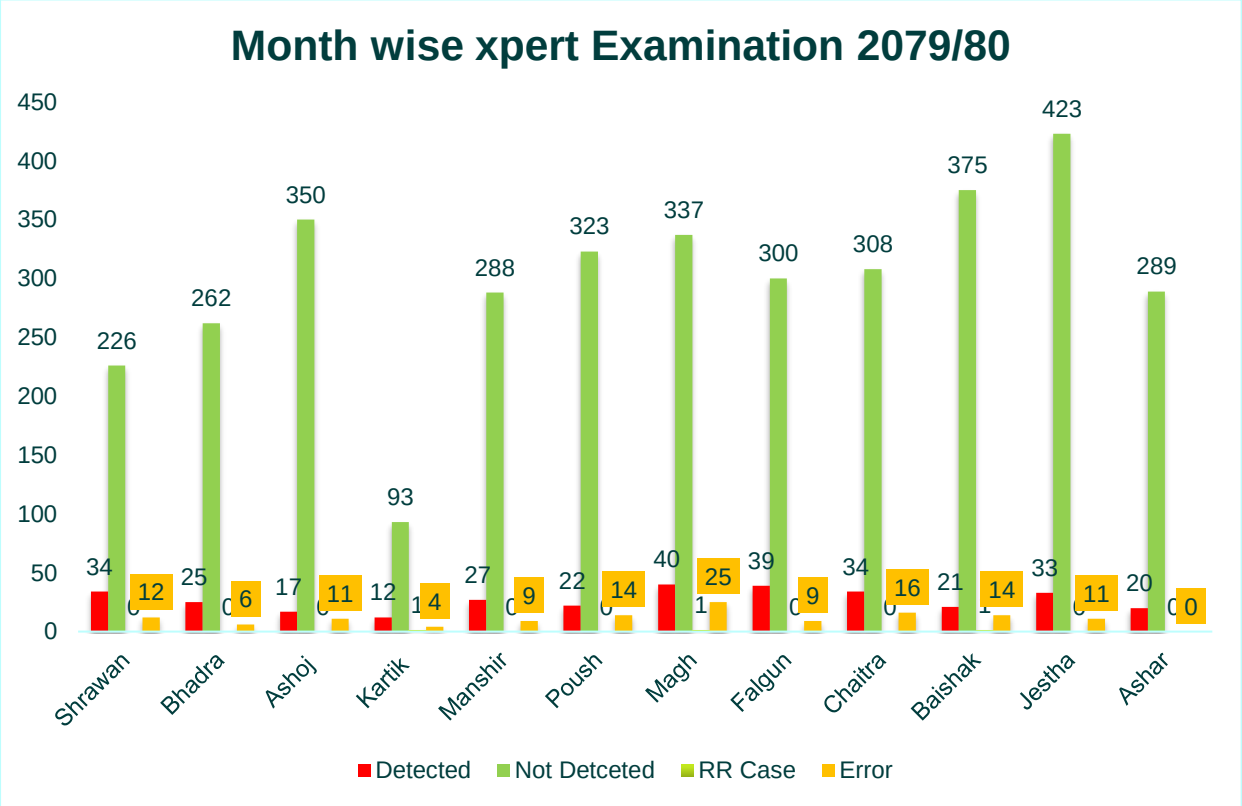
5. Sputum examination result by Gene-xpert

In the fiscal year, a total 4029 of people's sputum samples were tested in the Gene-Xpert lab. Among the total, 8 % of TB suspected are positive and total 131 tested sample are Error.The catchment area for the Gene-Xpert center is Kathmandu, Bhaktapur and Lalitpur districts respectively. Generally, there is a decrease in the sputum sample in microscopic test of the presumptive TB cases due to the referral of presumptive TB cases sputum sample directly to the Gene Xpert center by Female Community Health Volunteers, Outreach workers under Global Fund program.

Table 2: Sputum examination in the Gene-Xpert

Detected		Not detected		Error	
Male	Female	Male	Female	male	Female
187	137	1875	1699	73	58

Figure 5: Month wise Laboratory examination in the Gene-Xpert



6. DR Sub Centre

The JANTRA DOTS clinic is also a DR Sub Centre for the National Tuberculosis Centre since 2016. The table below shows the total number of DR cases treated in the clinic.

Table 3: Under treatment DR TB patient in the clinic

Year	MDR	Pre-xdr	XDR
2016	2	0	0
2017	6	2	0
2018	8	2	0
2019	0	1	0
2020	6	4	1
2021	2	2	1
2022	2	3	2
2023	2	1	0
2024	2	1	1

7. Commemoration of World TB Day 2024

This year we commemorate World Tuberculosis (TB) Day on March 24 to raise public awareness about the devastating health, social and economic consequences of TB. We provided nutritional/supplementary food support to the TB patients basically who are from outside of Kathmandu. The criteria for the TB patient support are ultra-poor, including single women, daily wage labor, old aged people with no economically active family members. Furthermore, we participated in the activities carried out by the National Tuberculosis Control Centre.

The theme of World TB Day 2024 – "**YES! We Can Stop TB!"** conveys the sense that the world is running out of time to act on the commitments to end TB made by global leaders. This is especially critical in the context of the COVID-19 pandemic that has put End TB progress at risk, and to ensure equitable access to prevention and care in line with WHO's drive towards achieving Universal Health Coverage.

B. Strengthening Urban Tuberculosis Programme in Kathmandu Metropolitan City, Kathmandu

The project aims to strengthen active TB case finding using more sensitive screening and diagnostic tools in the local context among the risk and vulnerable population in the urban areas of Kathmandu. The project introduced ultra-light digital X-ray and TB-LAMP (Loop-mediated isothermal amplification) as a new diagnostic tool. The project is supported by the Japan Anti-Tuberculosis Association (JATA), which is based in Tokyo, and is a public corporation to promote national health by control-ling tuberculosis (TB) and other respiratory diseases.

Kathmandu district alone holds around 43% (3813/8849) of TB cases notified from Bagmati province, while its national contribution is around 10% (3813/37447). Among the total reported only 57% are reported as PBC cases (FY 2079/80). The TB case notification rate trend shows that Kathmandu has a higher number of TB cases notified than the national data. Out of 32 KMC wards, eight (6, 7, 10, 15, 16, 18, 26 and 32) were selected as project sites.

The objective of the project is to strengthen the urban TB program in Kathmandu Metropolitan City. The impact, outcome, and output, including its indicators, are listed below.

Impact of the project: To accelerate the reduction in TB incidence rate and TB deaths Outcome of the project: The TB control program in Kathmandu Metropolitan is strengthened. The impacts of the project are "TB incidence is reduced by 50% by 2025, compared to 2015" and "TB deaths are reduced by 75% by 2025, compared to 2015".

As an Outcome, the number of notified TB patients is increased, compared to baseline 2019.

The output of the project is

Output 1: TB case finding is strengthened

Output 2: Patient-centered care and support is strengthened

Output 3: Monitoring and Supervision are improved

Output 1 (TB case finding is strengthened), the following activities were con-ducted.

1-1 The monthly FCHV interactive meeting

FCHV meeting was conducted with the coordination of UHC. The venue and date of the meeting were finalized after the discussion. The respective UHC in charge and the volunteers were informed accordingly. The meeting agenda was previously given to respective UHCs during the coordination. The meeting includes representatives from JANTRA, UHC staff, and FCHVs. UHC In charge started the meeting by clarifying the objectives and agenda. The meeting lasted for 2 hrs. The meeting gave ideas on different possible campsites and risk populations. The clinic in charge and FCHV will explore more risk populations and will discuss them in the next meeting.

Table 4: Monthly FCHHVs meeting in March 2023- March 2024

Venue	FCHV	Ward members	Health workers	Total Meeting
UHC-Building meeting hall	2400	42	288	96

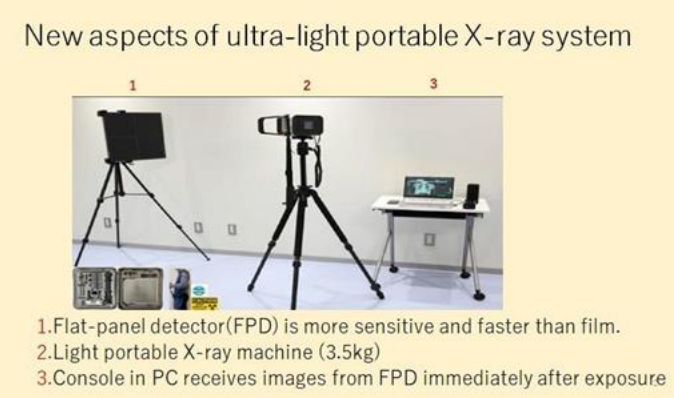
1-2 A meeting with the Nepal Chemist and Druggist Association (NCDA)

The NCDA meeting was organized to define the role and responsibilities of NCDA in strengthening the private Mix Implementation Modality to find TB patients and provide quality service. During the meeting, all the participants discussed and concluded by commencement of TB elimination by working together with JANTRA/JATA and NTCC. NCDA can significantly contribute to TB management as it did during the COVID-19 pan-demic crisis.

Table 5: Meeting with Nepal Chemists and Drugs Association

Venue	Participants from NCDA/NTCC	Participants from JANTRA/JATA	Date
Siddhartha Cot-tage, Koteshwor	34	9	December 24, 2023

1-3 TB screening was conducted by the JATA mobile team and local volunteers

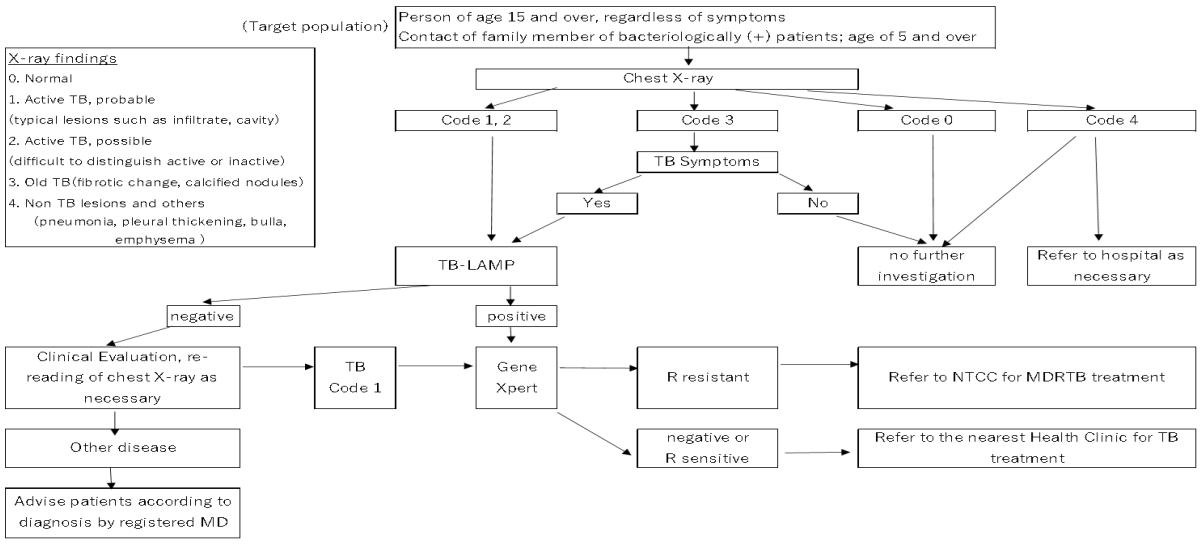


The major intervention for strengthening active TB case finding is systematic TB screening. It is a process of the Systematic identification of people at risk for TB disease, in a predetermined target group, by assessing symptoms and using tests, examinations, or other procedures that can be applied rapidly. The screening tests, examinations, and other procedures should efficiently distinguish people with high Probability of having TB disease from those who are unlikely to have TB disease. Among those whose screening is positive, the diagnosis needs to be established by diagnostic evaluation, consisting of one or more diagnostic tests, and clinical assessment, which together have high accuracy. The use of chest radiography (chest X-ray, or CXR) as a screening tool for detecting TB disease in several populations was reviewed, including the general public, people living with HIV, people younger than 15 years who are contacts of TB patients and other high-risk groups. Across all populations considered, CXR was found to be a sensitive screening tool that, while lacking sufficient specificity to confirm a TB diagnosis, has an important role in the early detection of TB in children and adults who are at higher risk of TB, as well as the potential to reduce the population burden of TB dis-ease when combined with early treatment. In recent years computer-aided detection (CAD) software packages have been developed and introduced to automate the interpretation of digital CXR images and produce a numerical score indicating the likelihood of TB. Three independent evaluations of CAD were reviewed to develop recommendations for both screening and triage for TB. X-ray system.

From March 2023 to March 2024, 44 “TB screening Camp”, was conducted. 17057 participants were screened, 1106 of them examined sputum with TB-LAMP, followed by GeneXpert. As a result, 149 TB patients were diagnosed. Out of them, 41 were bacteriologically positive pulmonary TB. Usually, TB screening was held for 2 days in one place from 9 am to 4:30 pm. Immediately after the chest X-ray image appeared, the medical doctor explained to the participant to take sputum for the presumptive case. If a TB diagnosis was made, the patient started treatment within a few days of the screening.

Total TB screening solutions in support of finding the millions of missing people with TB. The strength of the given X-ray system is that all X-ray machines, FDP, and Console (incorporated in PC) can be run by batteries. Therefore, X-ray examination can continue without interruption in the actual setting where electric power failure often occurs. As stated below, we are now able to examine 40-50 persons per hour by this X-ray system. Then it enables us to screen on average 250, and up to 350 from 9:30 a.m. to 4:00 p.m. per day.

Algorithm of community based active case finding of TB disease



Use of TB-LAMP

When we took chest X-rays for participants, 6-10% of participants showed abnormal findings, presumptive TB. We take sputum samples from those persons with presumptive TB. Thus, usually, more than 10 sputum samples were taken. We can test 14 samples together with TB-LAMP but only 4 samples with GeneXpert. Therefore TB-LAMP is more efficient to use for TB screening for our project.

Table 6:The yield rate of TB patients by occupation

Table Yield rate of TB by ACF with chest X-ray by risk group/occupation Kathmandu City, Nepal, July 2022-Feb.2024

Risk group/Occupation	Participant	TB patient	Yield rate(%)
Risk group			
Household contact	95	7	7.4
Senior citizen (> 60 y.o.)	2151	56	2.6
Occupation			
Boarding school student	1038	25	2.4
Unemployed > 18 y.o.	434	6	1.4
Daily labourer e.g. construction	956	12	1.3
Self employee e.g. shop for groceries	1903	12	0.6
Monk/Aani live in monastery	3381	19	0.6
Factory worker	2761	15	0.5
Housewife/ Homemaker	2536	10	0.4
High school student	1065	3	0.3
Employee of government, private institutions	3317	8	0.2
Others (house painter, tailor, mechanics, plumber,etc.)	2604	33	1.3
Total	22241	206	0.9

ACF: active case finding

1-6 Standard Operational Procedure of TB

A standard operational procedure of active TB case finding using the chest X-ray has been developed by the technical team with support from the field team. It has been already drafted which is aligned with the NTP protocol. It would be updated as necessary. A meeting of Standard Operating Procedure for Active TB Case Finding was held to get a guideline for the Active Case Finding in the community involving NTCC, partners, and KMC in March 2024 at the hotel air-port. This meeting's recommendations were addressed to make it more applicable in the field.

Output 2 (Patient-centered care and support is strengthened)

2-1 IEC materials developed and distributed in the community

A variety of IEC materials like flashcards, pamphlets, and flex copies were printed and distributed in the communities to increase TB awareness and reduce TB-related stigma and discrimination. Besides, advocacy tools like miking and information sharing during the door-to-door visit by the female communities were also carried out at the community level. Community volunteers supported 10 patients who could not attend UHC for home-based treatment. This is the baseline of the project.

1. Unfavorable treatment outcomes (LFU & Failure) are not deteriorated in 8UHCs and JANTRA Clinic. Unfavorable treatment outcomes did not deteriorate from 4.6% in 2018 to 4.0% in 2021.
2. Treatment outcomes of bacteriologically positive patients are improved in 8UHCs and JANTRA Clinic.

Output 3 (Monitoring and Supervision is improved)

3-1 Conduct supervision and monitoring

A total of 95% of monitoring and supervision was achieved as planned but joint monitoring and supervision (NTP, Metropolitan Public Health division team, District health office, and Project team) was not conducted. However, the project team continued monitoring and supervision and reported to the review meeting and KMC Health Office. There was no stock of TB drugs etc. was not noted in all 22 UHCs.

3-2 Review meeting for DOTS centres

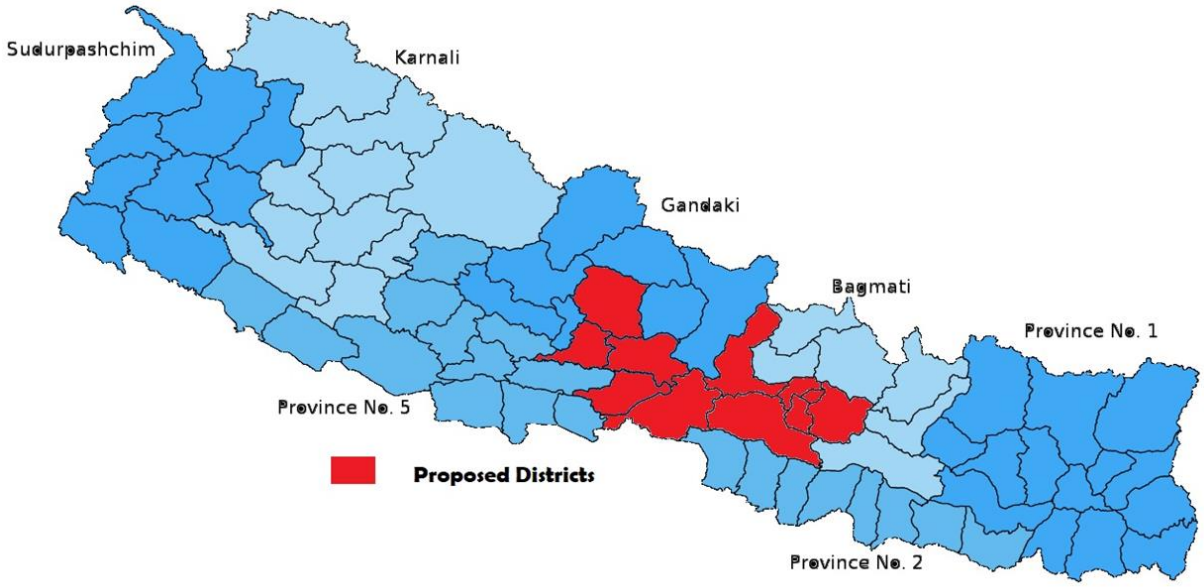
The review meeting with DOTS centers working in KMC was held twice to discuss and improve patient support and recording/reporting. In addition, the importance of TB screening was emphasized. JATA and JANTRA supported in organizing bi-yearly review meetings of DOTS centers in the Kathmandu metropolitan city. Through the review meeting the recording reporting on the national notified data, including in the E-tb register and DHIS 2 was ensured.

Table 7: Regular Review Meeting for Health Care Providers

Venue	No. of participants	Date
SAPFALCHA, Babarmahal	82	25-26 July, 2023
SAPFALCHA, Babarmahal	58	14-15 March, 2024

C. To Support in implement of National Tuberculosis Programme

As a Sub-recepient, JANTRA working on 11 districts i.e. Bhaktapur, Chitwan, Dhading, Kathmandu, Kavrepalanchowk, Lalitpur and Makwanpur of Bagmati Provience and Kaski, Syangja, Tanahu and Nawalparasi-East of Gandaki Province.

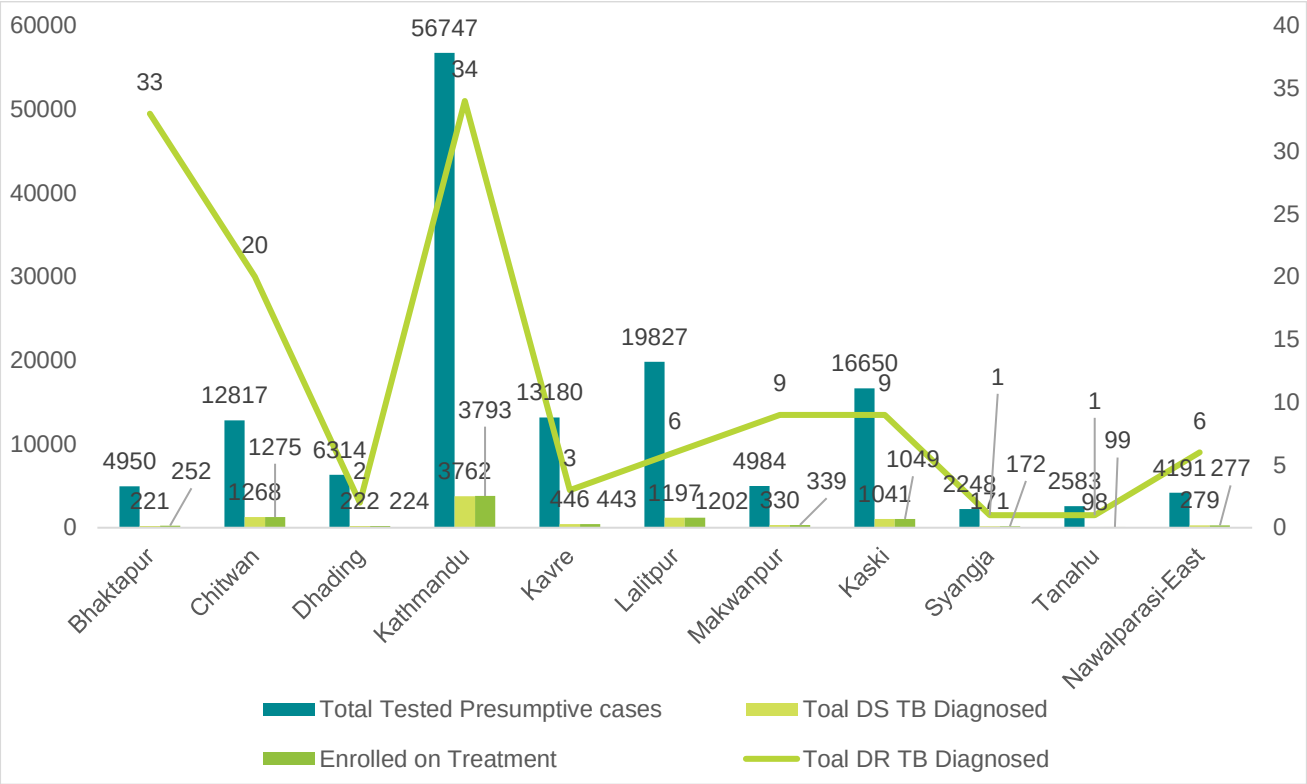


We have 12 intervention to support in implementation of National Tuberculosis programme which are as follows:

1. Sputum transportation at Hard to Reach Areas
2. Mandatory contact tracing to family members of DS TB (all PBC and Child TB)
3. TB screening in malnourished children in health facility
4. TB screening in malnourished children in major hospitals
5. Screening and testing of all DR TB suspects (all PBC and PCD, presumptive retreatment TB and sputum non conversion)
6. Screening and testing of family members of DR TB Cases
7. TB Case notification from Private Sector (Pay for Performance)
8. TB case finding from referral of pharmacy
9. FAST strategy
10. ACF in vulnurable / marginalized group
11. ACF in prison population
12. Initiation of TBPT

During Shrawan 2080 to Ashar 2081, from all 11 districts under the JANTRA to support in implementation of National TB program, 147,782 total presumptive cases were notified in which 9035 Drug Sensitive TB cases were diagnosed and 124 Drug Resistant TB cases were diagnosed as shown in figure 6 below.

Figure 6: Presumtive and TB Diagnosis on the basis of all intervention

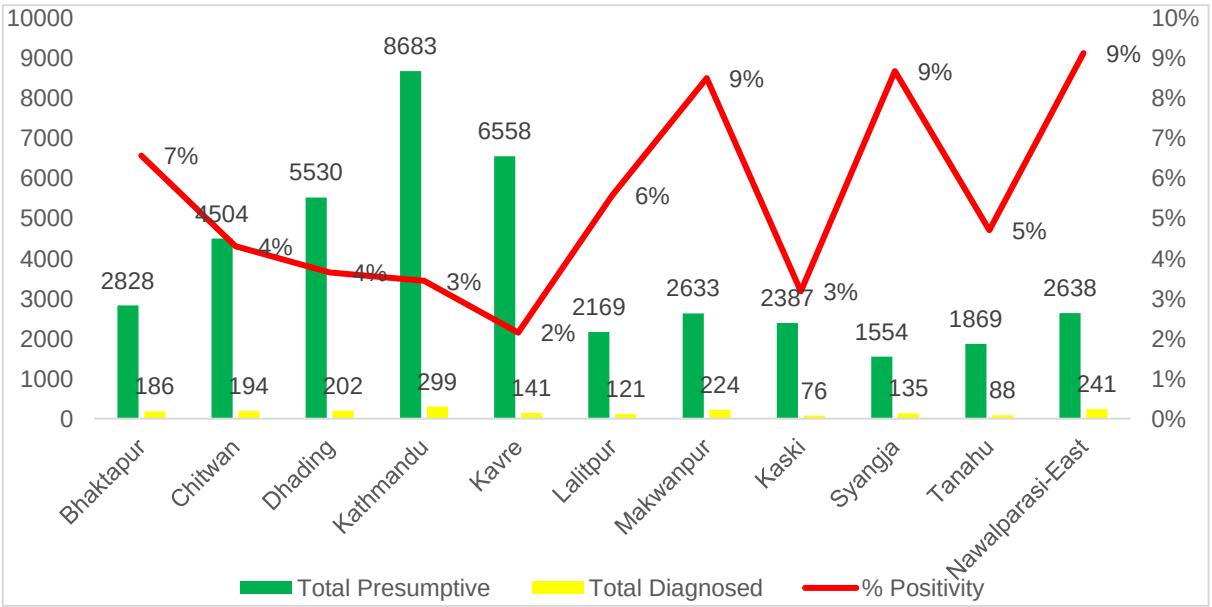


The following are the activities / interventions wise this years achievements:

1. Sputum Transportation at Hard to Reach Areas

In this intervention, 41,353 presumptive TB cases were notified of which 1,894 DS TB cases and 13 DR TB cases were diagnosed from all 11 districts in which Makwanpur, Syangja and Nawalparasi-East has highest positivity rate i.e. 9% followed by Bhaktapur with 7%. Kathmandu has reported highest presumptive cases but has only 3% of positivitity rate which is shown in figure 7 below.

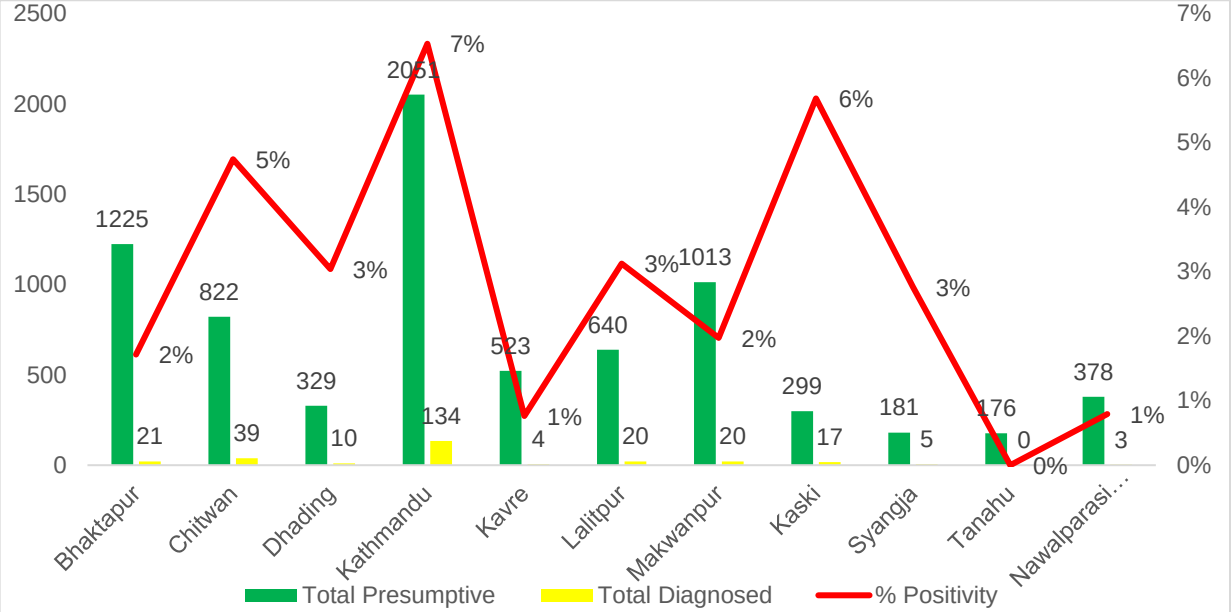
Figure 7: Sputum Transportation at Hard to Reach Areas



2. Mandatory contact tracing to family members of DS TB (all PBC and Child TB)

In this intervention, total 7,637 presumptive TB cases were notified of which 273 TB cases were diagnosed from 11 districts. Kathmandu and Kaski districts have high positive rate i.e. 7% and 6% respectively, rest of the districts have achieved 5% and less, which is shown in figure 8 below.

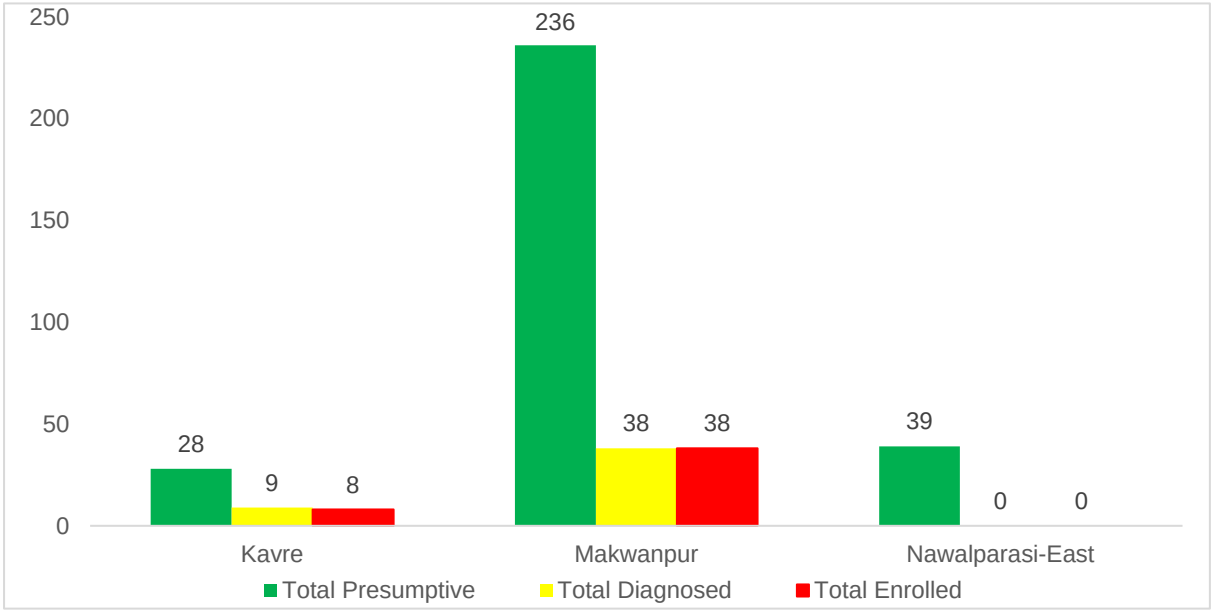
Figure 8: Contract tracing to family members of DS TB



3. TB screening in malnourished children in Health facility

In this intervention, There is 303 presumptive cases in 3 district (Kavre, Makwanpur and Nawalparasi – East). Makwanpur district have High presumptive and TB diagnosis than other two as shown in figure 9 below.

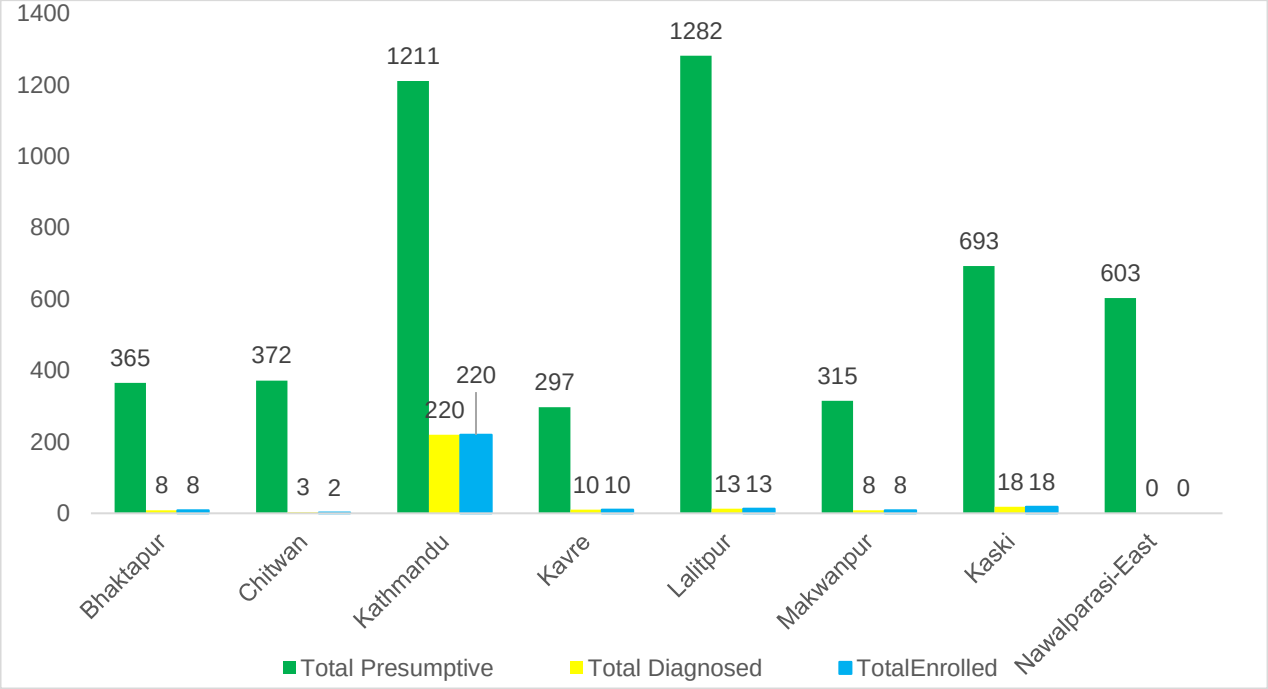
Figure 9: TB screeninig in malnourished children in Heallth facility



4. TB screening in malnourished children in major hospitals

This intervention is implemented in 8 districts i.e. Bhaktapur, Chitwan, Kathmandu, Kavre, Lalitpur, Makwanpur, Kaski and Nawalparasi-East. From 8 districts, 5138 presumptive child TB cases were identified from which 280 child TB cases were diagnosed and 279 cases were enrolled in the treatment. Lalitpur has highest presumptive cases, but Kathmandu has high diagnosis and treatment enrollment whearas Kavre has less presumptive and Nawalparasi-East with Zero cases which is shown in figure 10 below.

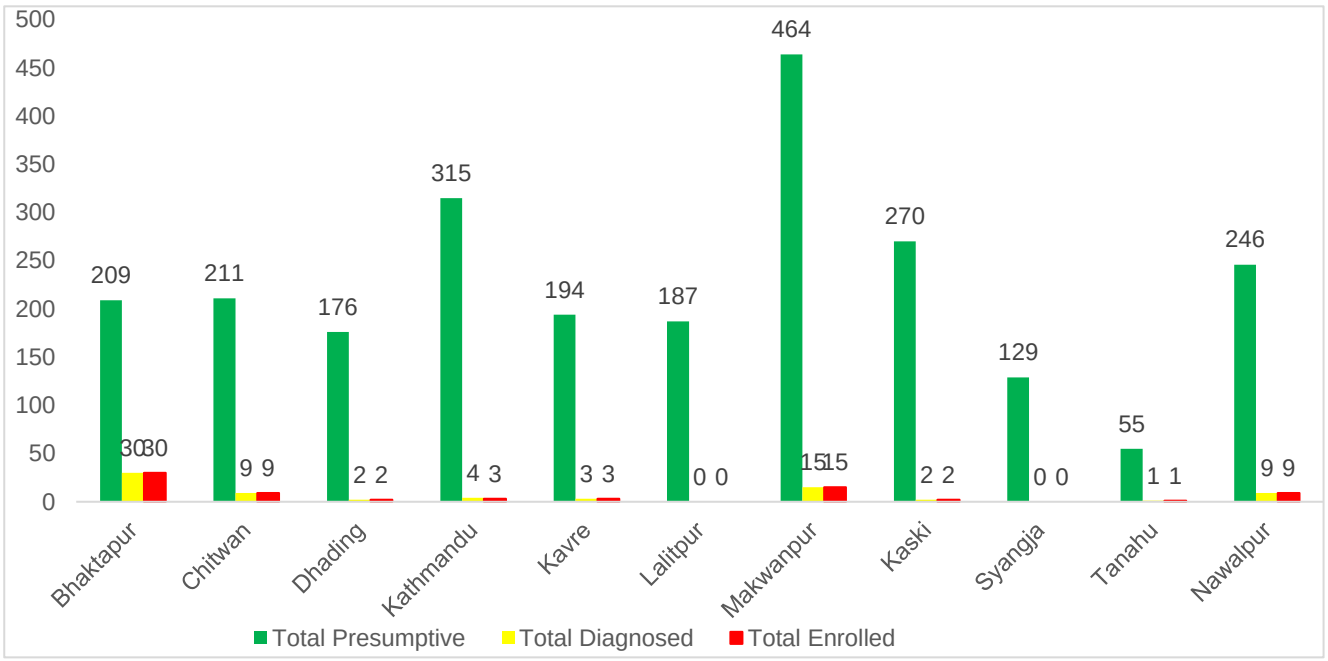
Figure 10: TB screening in malnourished children in major hospitals



5. Screening and testing of all DR TB suspects (all PBC and PCD, presumptive retreatment TB and sputum non conversion)

In this intervention, 1609 presumptive RR MTB cases were suspected from which 75 RR MTB cases were diagnosed and 74 were enrolled for the treatment. Bhaktapur, Chitwan, Makwanpur & Nawalparasi-East has high DR suspected cases which is then followed by Kathmandu, Dhading & Kavre. Lalitpur and Syangia did not diagnose a single RR MTB case. Total 49 DR case were diagnosed by other interventions. Overall DR TB cases was 124 diagnosed and 121 DR TB cases were enrolled in treatment.

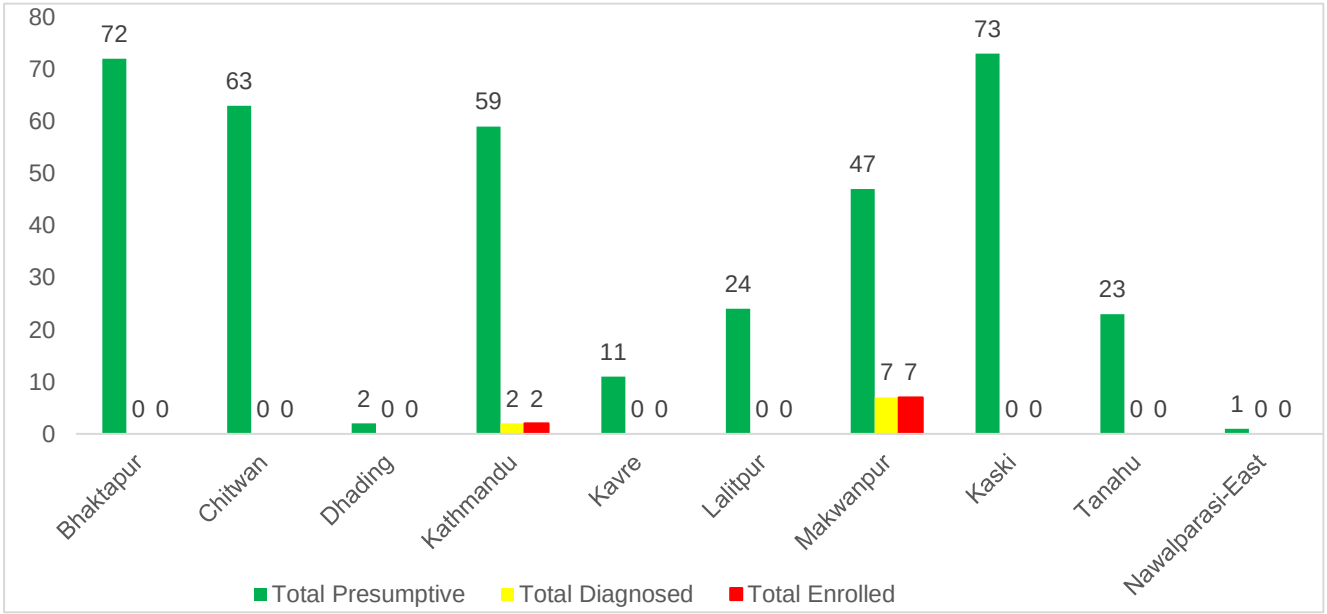
Figure 11: Screening and test of DR TB suspects



6. Screening and testing of family members of DR TB Cases

In this intervention, total 375 presumptive case has been notified in which Kaski has high presumptive. In cases of TB cases detection, Only Kathmandu and Makwanpur has detected the TB cases i.e, 2 and 7 respectively. And Syangja has no presumptive as shown in figure 12 below.

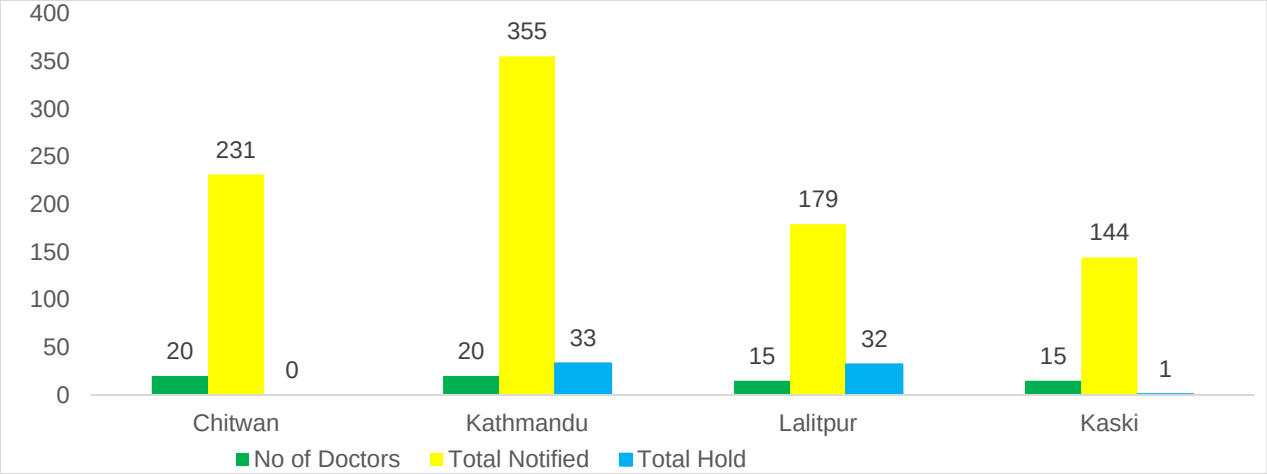
Figure 12: Screening and testing of family members of DR TB Cases



7. TB Case notification from Private Sector (Pay for Performance)

This intervention is implemented in four major Metropolitan Cities of 4 Districts i.e. Bharatpur Metropolitan of Chitwan, Kathmandu Metropolitan of Kathmandu, Lalitpur Metropolitan of Lalitpur and Pokhara-Lekhnath Metropolitan of Kaski Distirct. 70 doctors notified 909 TB cases and 66 TB cases were hold by doctors. TB case notification is very high in Kathmandu i.e. 355, followed by Chitwan i.e. 231 which is shown in figure 13 below.

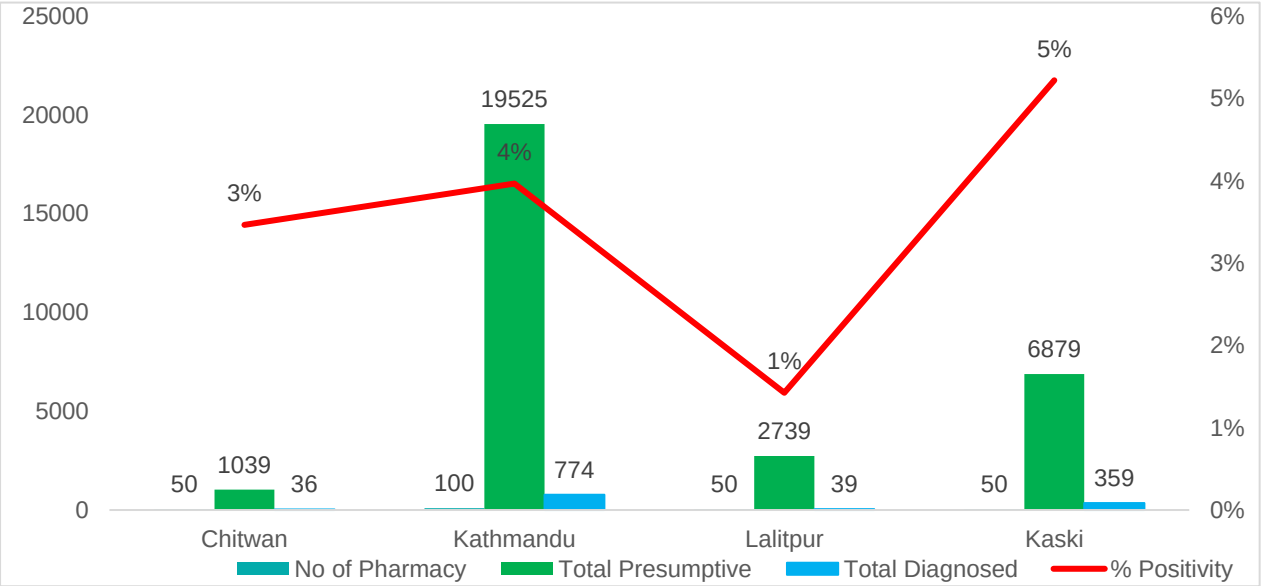
Figure 13: TB case notification from Private Sector (Pay for Performance)



8. TB case finding from referral of Pharmacy

This intervention is also implemented only in four major Metropolitan Cities of 4 Districts (Chitwan, Kathmandu, Lalitpur and Kaski Distirct). Overall, 250 pharmacy notified TB cases in which 30182 presumptive cases notified from which 1208 positive TB cases were detected. Kaski has high positive rate i.e. 5% which declines to 1% in Lalitpur.

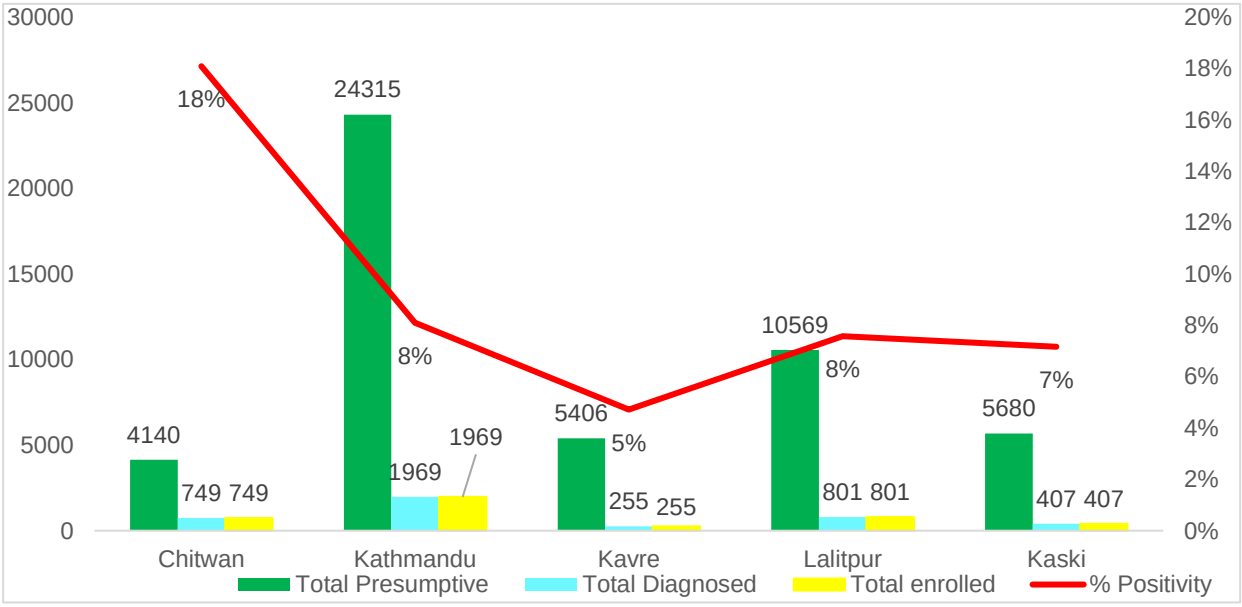
Figure 14: TB case finding from referral of Pharmacy



9. FAST strategy

This intervention is also implemented only in five Districts (Chitwan, Kathmandu, Lalitpur, Kavre and Kaski Distirct). 50110 presumptive TB cases from which 4181 TB cases were diagnosed and enrolled in the treatment. Kathmandu district has high presumptive case, diagnosed case and treatment enrolled case, followed by Lalitpur. Similarly Kavre district has low cases detection as shown in figure 15 below.

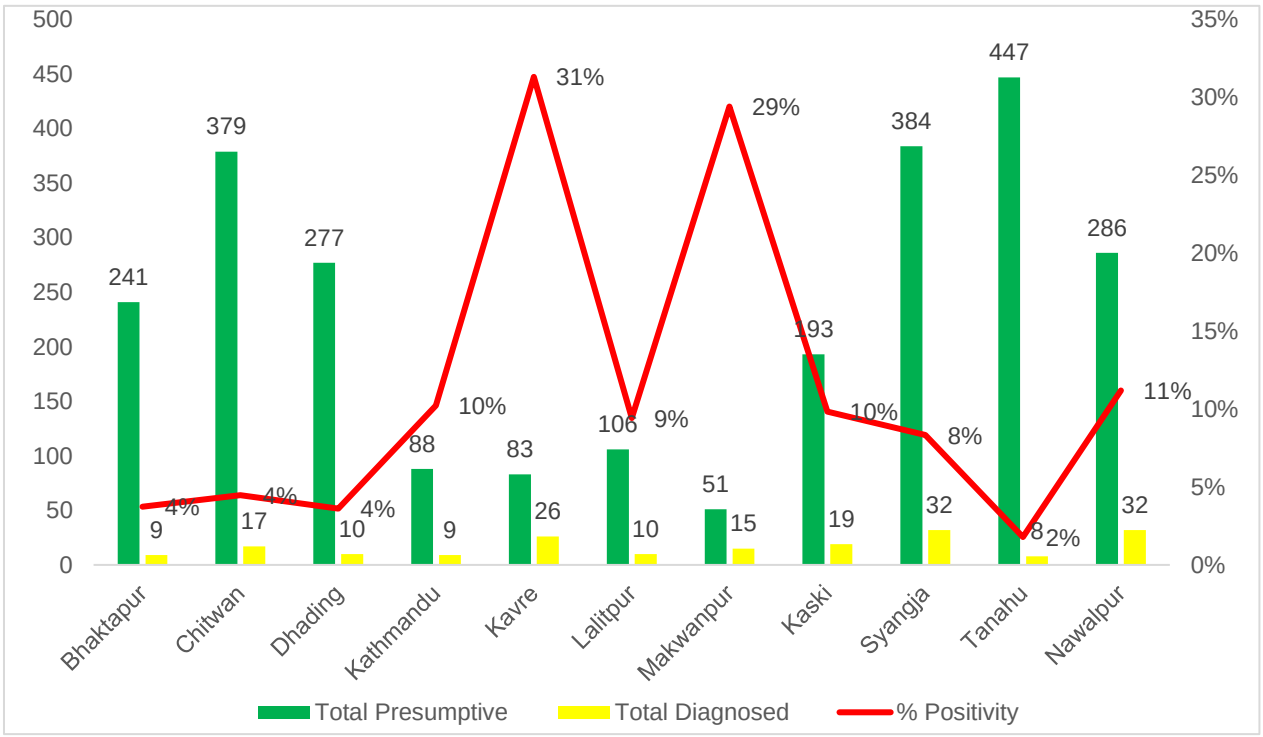
Figure 15: FAST Strategy



10. ACF in Vulnurable/marginalized group

In 11districts, 44 ACF camp (4 in each districts) was implemented in which total 2535 presumptive cases were notified and 187 positive TB cases were detected. Tanahu has highest presumptive cases followed by Syangja and Chitwan. Syangja and Nawalparasi-East has highest positive case detected followed by Kavre and Kaski district shown in figure 16 below.

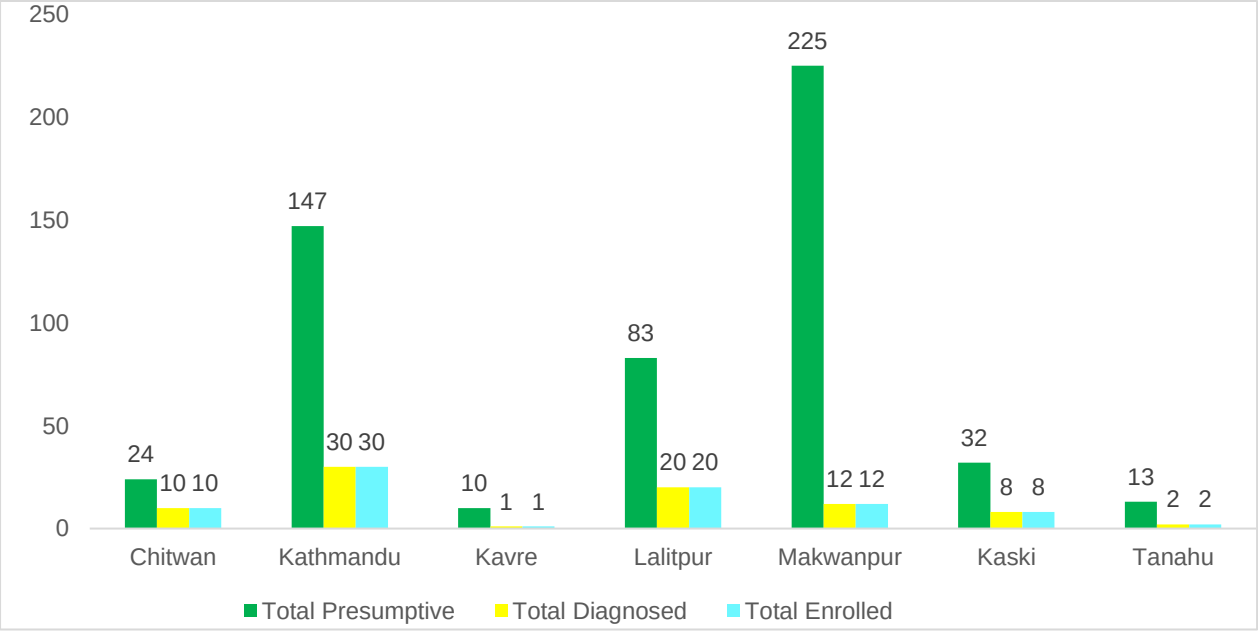
Figure 16: ACF in Vulnurable / marginalized group



11. ACF in prison population

This year we carried out 10 ACF camp in Prison of Chitwan, Kathmandu, Kavre, Lalitpur, Makwanpur, Kaski and Tanahu distrct. In total 534 presumptive cases were notified in which 83 positive TB cases were detected.

Figure 17: ACF in Prison population



12. Initiation of TBPT

This year, 822 children <5 were identified from 11 districts of which 792 were eligible for TBPT, 731 were enrolled for TBPT, 549 completed the treatment and 22 discontinued treatment.

Figure 18: Initiation of TBPT