

Speaker's Profile

Dr. Thet Naing Maung

Program Manager (MMA TB)



- Over 10-year experience in GP/Family Medicine training /Teaching program under Post graduate Diploma (Family Medicine) course & Family Medicine CME package course under CME program , MMA.
- Experience in Primary Health Care (Community Cost Sharing Drug Scheme) for 2 years and RH, STI, HIV/AIDS in collaboration with UNDP, UNFPA , UNICEF for 3 years.
- 15-year experience in TB clinical & program management, PPM, Private hospital involvement in PPM, TB/HIV, TB/DM , TPT,MDR TB support ,TB related operational/implementation researches.
- 3- year experience in engagement of CXR CAD/AI for TB screening process in PPM settings

Speaking Topic – Implementation Update on Screen for All and CXR CAD



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HIV/TB Agency, Information and Services Activity

Implementation updates of Screen For All Approach and CXR-CAD

CoP (28-2-2023)

28.02.2023





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HIV/TB Agency, Information and Services Activity

Screen For All Approach (SFA):

- Process Flow
- Implementing township
- Template (Checklist to be used at facility, Presumptive TB Referral Form: CBTBC, SFA Register)
- Achievement
- Challenges



Symptom Screening



Walk in patients & Attendants

Facility based

Specific GP Clinic will ask all patients and attendants visiting the health facility including persons referral from **CBTBC** about any symptoms of TB.

CBTBC

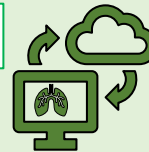
Referral patients by volunteers



Invite them to take CXR at the same time if there were clients with symptom screening positive.

All presumptive cases with > 6yrs of age referred for CXR screening at CXR center deployed with CXR CAD software.

Screening with CXR CAD software



If CXR shows any abnormality (suggestive of TB), that person will be asked for sputum examination.



Specific GP Clinic will interpret the CXR film with AI result +/- radiologist's opinion.

CXR CAD Volunteers will assist the clients in screening with CXR CAD software as needed.



Management of TB disease



CXR CAD Volunteers will assist in sputum transportation as needed.



GeneXpert testing

If the sputum result shows MTB + detected (and/or) CXR findings show suggestive of TB,



Specific GP Clinic will provide treatment to TB patients after radiological, bacteriological, clinical evaluation as per NTP guideline.



If the sputum result shows Rif resistance (RR),



Refer to NTP (MDR DC site)



SFA Activity Implementing township: One Clinic in one township

1. Dagon Myothit (North)
2. Dagon Myothit (South)
3. Dawbon
4. Insein
5. Mingalartaungnyunt
6. North Oakkala
7. Shwepyithar
8. Tamwe
9. Thaketa
10. Thanlyin
11. Thingangyun

MMA' SFA implementation started on late November,2022 in TB Corner and on December in 11 clinics.



MMA TB/AIS ကျန်းမာရေးဆေးခန်းများမှ စေတနာ့ဝန်ထမ်းများသို့ ပြန်ကြားလွှာပုံစံ

လူနာအမည် :

အသက် :

ကျား

မ

ရက်စွဲ :

Client ID:

ရင်ဘတ်ခါတ်မှန်စစ်ဆေးခြင်း: ရှိ မရှိ

ရင်ဘတ်ခါတ်မှန်စစ်ဆေးခြင်းရလဒ် :

သလိပ်စစ်ဆေးခြင်း: ရှိ မရှိ

သလိပ်စစ်ဆေးခြင်းရလဒ် :

တီဘီရောဂါ ရှိ မရှိ

ကုထုံးအမျိုးအစား : ရိုးရိုးတီဘီကုထုံး ဆေးယဉ်ပါးတီဘီကုထုံး

ကုသပေးသူ/ဆရာဝန်၏လက်မှတ် :

ကုသပေးသူ/ဆရာဝန်၏အမည် :

ဆေးခန်းအမည် :

Activate
Go to Settings

Myanmar
M
တီဘီရောဂါ ရှာဖွေ

Facility Name -

နေ့စွဲ :
လူနာအမည် :
အသက် :
ကျား/မ :
နေရပ်လိပ်စာ :

ပုန်းနံပါတ် :

Community-Based

အသက် (၁၅) နှစ် နှင့် အထက်
တီဘီရောဂါ သံသယလက္ခဏာများ
ချောင်းဆိုးခြင်း
ဖျားခြင်း နှင့် ညဘက် ချွေးထွက်ခြင်း
အစားအသောက်ပျက်ခြင်း နှင့်
ကိုယ်အလေးချိန်ကျဆင်းခြင်း
ချောင်းဆိုးသွေးပါခြင်း
ရင်ဘတ်အောင့်ခြင်း
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လည်ပင်းအကျိတ်အဖုများထွက်ခြင်း

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တီဘီလူနာ (သို့) တီဘီသံသယရှိသူများနှင့်အနေနီးသည့်
ရာဇဝင်ရှိခြင်း
ကိုယ်အလေးချိန်ကျဆင်းခြင်း (သို့) မတိုးတက်ခြင်း

အခြားရောဂါ လက္ခဏာများ
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.....

Risk Factors : DM HIV Smk

TB Contact : Yes No

MDR TB Contact : Yes No

TB Treatment History : Yes No Dat

CXR CAD Referral : Yes No Dat

CXR Result :

Sputum Examination Request : Yes No

Sputum Microscopy Result :

Gene X'pert Result :

Diagnosis

DS-TB DR-TB

TB Reg. No: :

Tx Started Date :

Done by:

Name Designation

Operating procedure at local and international NGO and GP clinics



- All the clients/attendants, including children, will be checked for presumptive TB symptoms using a symptom checker/chatbot/paper-based screening checklist, etc., to reduce staff burden or for GPs/clinics where there are no additional HR resources to support this activity.
- If client who has any presumptive TB symptoms or household contacts of diagnosed TB patients or two out of three presumptive symptoms present in children less than for age < 15 years (mentioned above), they will be referred for chest X-rays (CXR) with or without CAD and sputum microscopy. The CXR will be free of charge or services will be outsourced at a subsidized price.
- If the CXR shows any abnormality (suggestive of TB) or the sputum microscopy tests positive, that person will be asked for sputum samples for further diagnostic evaluation with mWRDs (e.g., GeneXpert, TrueNat).
- If the mWRD detects Mycobacterium Tuberculosis (MTB), the person will be treated as a bacteriologically confirmed TB patient according to the National Tuberculosis Programme (NTP) guidelines. If MTB is not detected by mWRDs, they must be treated according to the sputum and CXR test results. If the mWRD result shows Rif resistance (RR), refer them to NTP and facilitate to initiate DR-TB treatment.

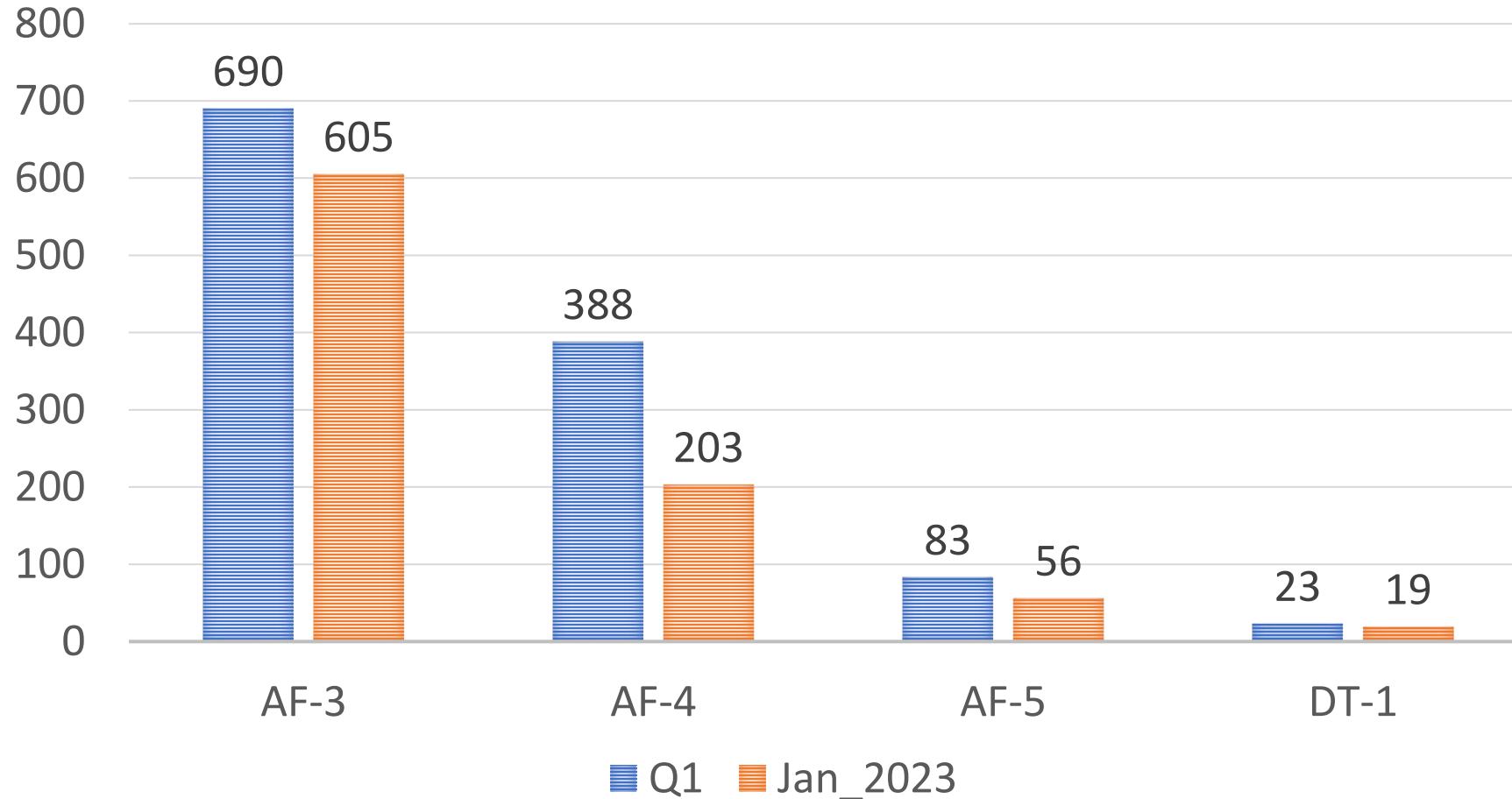
Reference: SCREEN FOR ALL: IMPLEMENTATION GUIDE (PATH/CPI/USAID)

No.	Date	Client ID	Client Name	Age	Sex	Signs and Symptoms of TB	CXR CAD Referral	Sputum Microscopy	GeneXpert	Result			Remark
										Non-TB	DS-TB	DR-TB	
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													

SFA: Target Indicator

- AF-3 Number of Client who received Symptom Screening
- AF-4 Number of Presumptive TB cases identified
- AF-5 Number of Presumptive TB cases tested for TB
- DT-1 Total number of TB cases (all forms) notified during the reporting period - all ages

SFA Achievement



SFA activity started on late November 2022

SFA: Challenges

Incompleteness in recording/reporting form

- esp: in Sputum Result, Gene result, Diagnosis included in SFA checklist (As routine process flow, GP have to fill those in follow up visit/ mostly they missed to fill those results due to their workload/work nature)

Unable to screen all work-in patient/ to test (except TB Corners)

- GP's decision to conduct TB screening will vary upon the workload, time commitment, patient' condition and patient' willingness to get screening.

One SFA clinic in one township

CXR CAD:

- List of CXR CAD related activities under MMA TB/AIS Project.
- Township Mapping
- Process flow and template
- Achievement
- Challenges



CXR CAD Activities

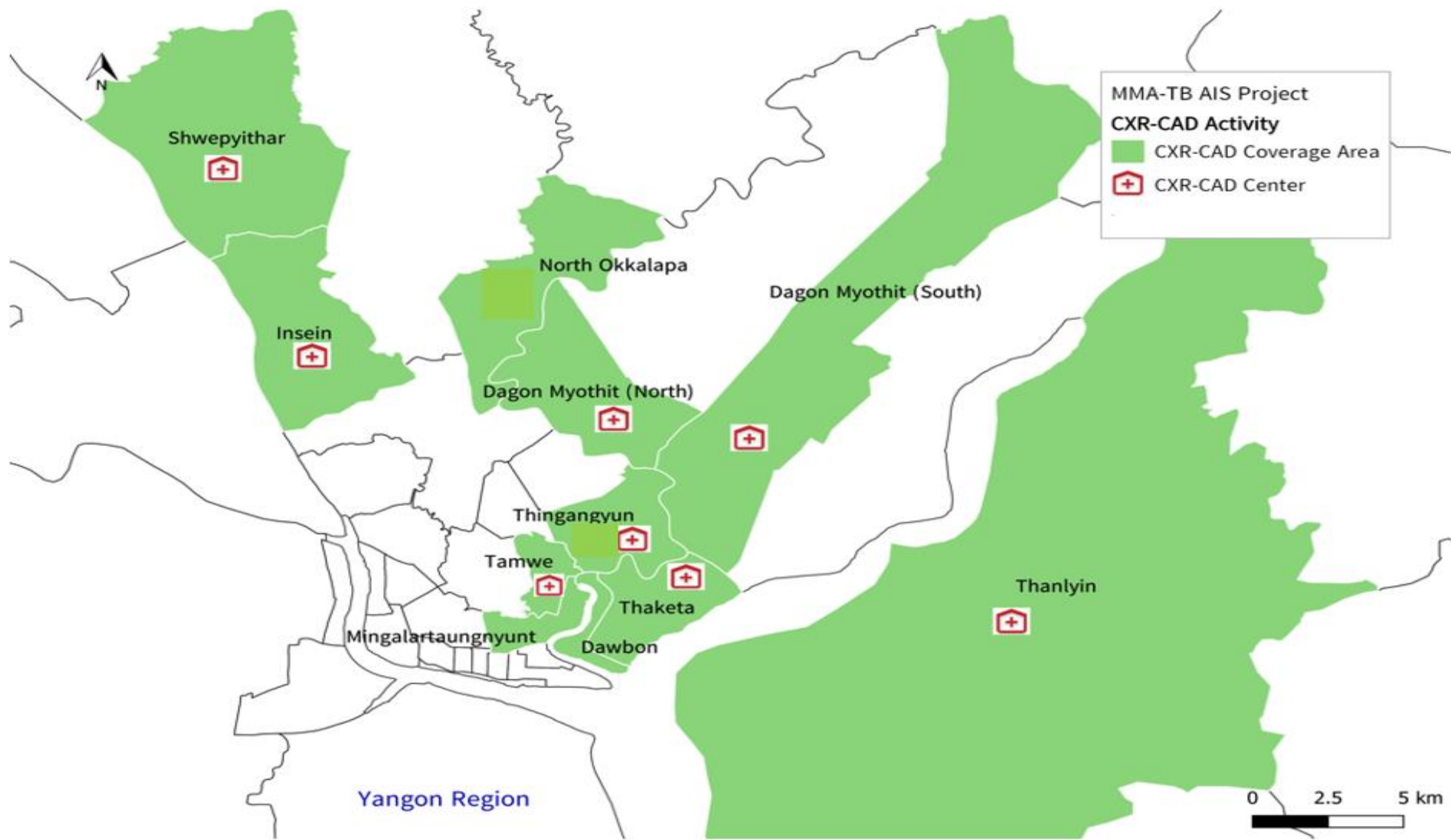
FY22

- 1) Contact Investigation by Volunteers
- 2) Presumptive TB Referral by GPs

Expansion of one CXR CAD Site in FY23

FY23

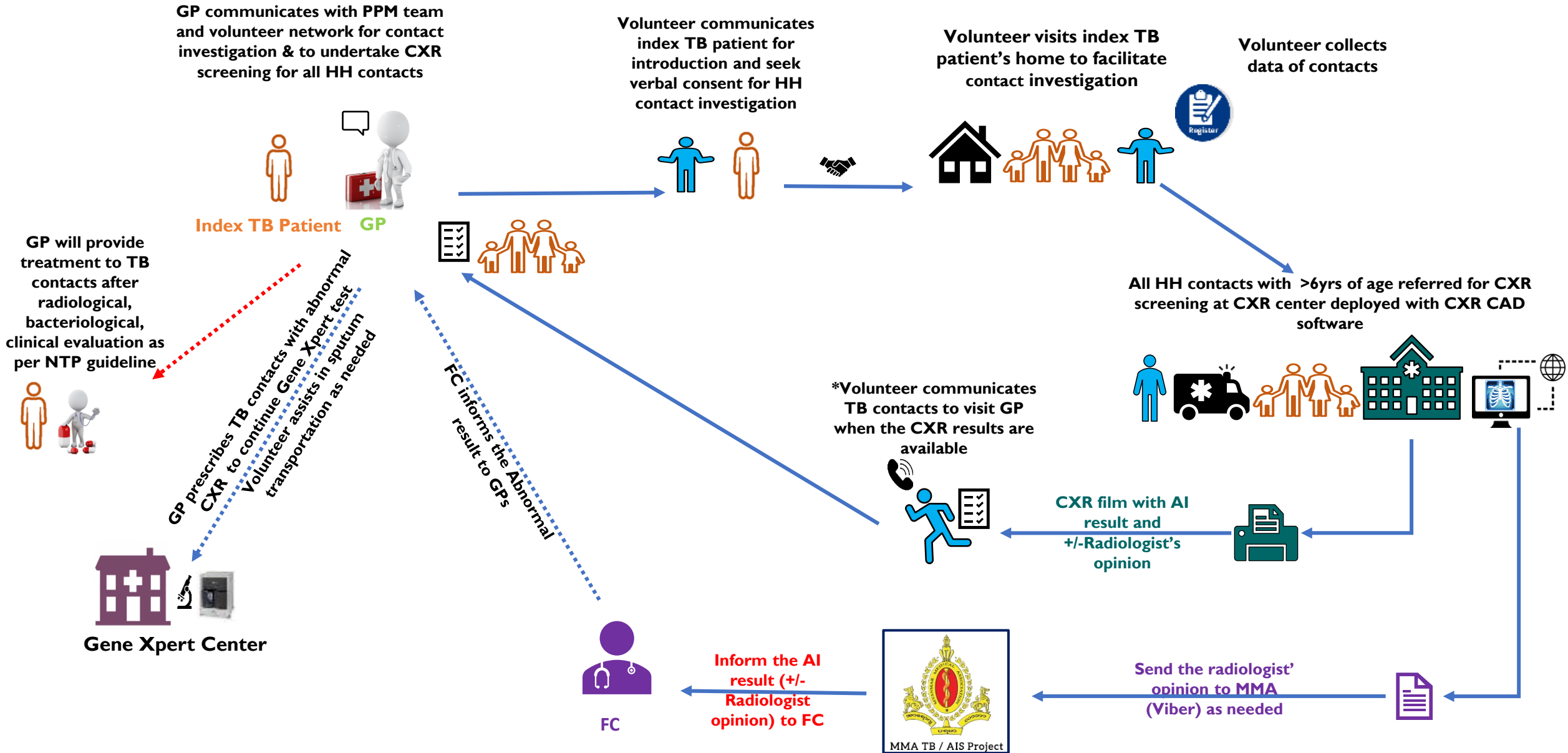
- 3) Screen for All
 - Facility-based
 - Community-based
- 4) Presumptive TB referral Activities by MMPS → CXR CAD will be deployed.
- 5) Childhood TB evaluation with application of CXR CAD in collaboration with PATH



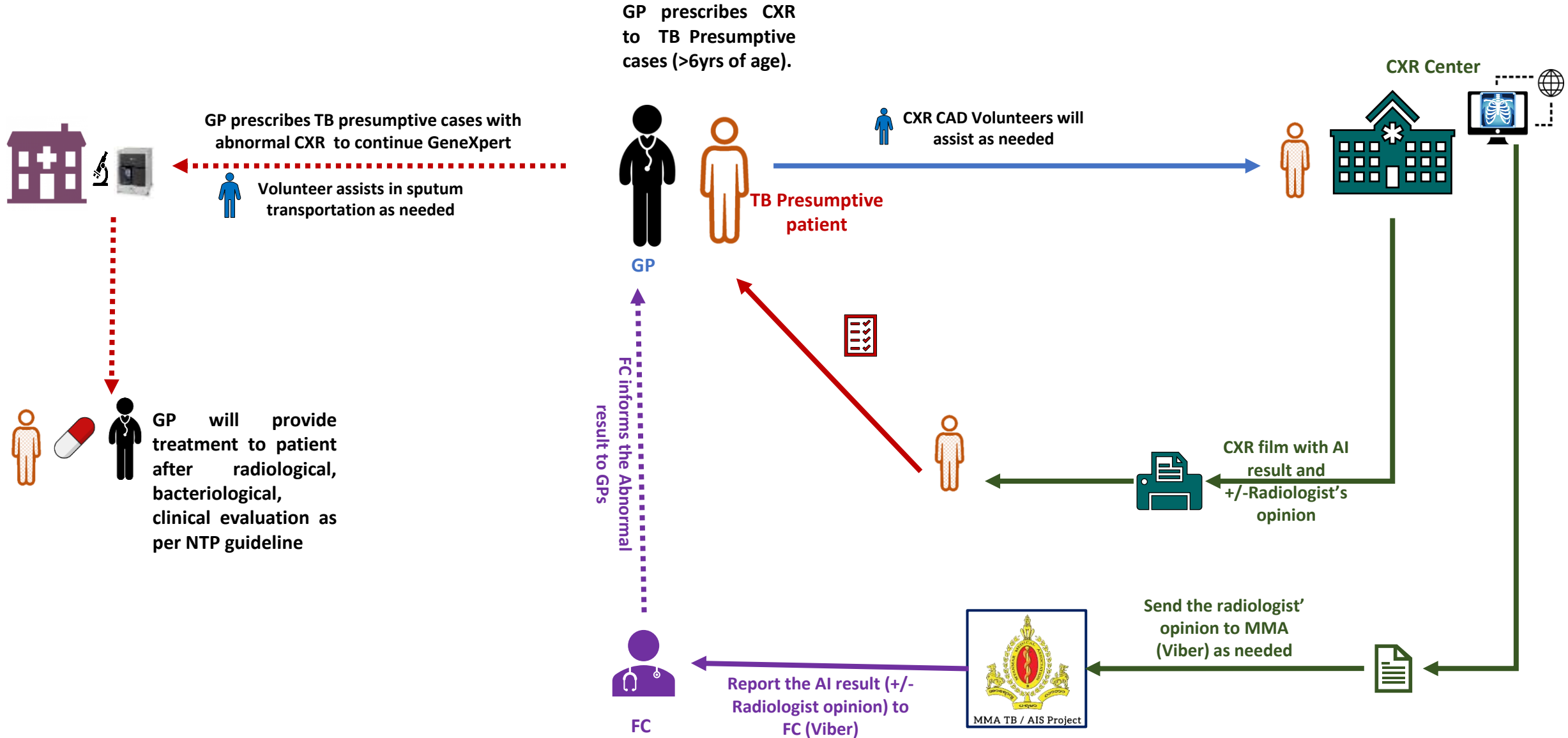
Township	CXR Center	X-ray modification	Deployment Date	Activities Started Date
Shwe Pyi Thar	Kaung Su Aung Hospital	DR	2022-08-18	2022-08-26
Thingangyun	Ar Yone Oo Specialist Clinic	CR	2022-08-26	2022-09-02
Thanlyin	Nway Moe Saung Clinic	DR	2022-09-01	2022-09-03
Insein	Right Lab	CR	2022-09-02	2022-09-04
Tarmwe	Kyaw Mahar Specialist Clinic	CR	2022-09-06	2022-09-11
South Dagon	Kyal Sin Thit Specialist Clinic	DR	2022-09-07	2022-09-10
Tharketa	Thoon Htake Htar San	CR	2022-09-08	2022-09-09
Dagon Myothit (North)	Family General Hospital	DR	2022-09-09	2022-09-10
Hlaing	Mya Diagnostic and Specialist Clinic	DR	2023-02-13	>2023-02-21
Botahaung	Myint Myat Phyu Sin (Charity) Sepcialist Clinic	DR	Planning	Planning

Township	No: of Volunteer (CXR CAD)
Dagon Myothit (North)	4
Dagon Myothit (South)	4
Dawbon	1
Hlaing	2
Insein	5
Mingalartaungnyunt	1
North Okkalapa	2
Shwepyithar	4
Tamwe	1
Thaketa	3
Thanlyin	6
Thingangyun	2
Grand Total	35

Optimized process flow for household (HH) contact screening and investigation of TB patients receiving treatment at general practitioner (GP)



Process Flow for Walk-in TB Presumptive cases from GP



CXR CAD Referral Form



Myanmar Medical Association
MMA TB/AIS Project
Chest X-ray CAD Referral Form

အမည် အသက် ကျား မ ရက်စွဲ
 နေရပ်လိပ်စာ ဖုန်း
 GP အမည် ညွှန်ပို့မည့်ဌာန.....
 ညွှန်ပို့သည့်လူနာအမျိုးအစား ပြည်သူလူထုထဲမှတီဘီသံသယရှိသူ တီဘီလူနာနှင့်တစ်အိမ်တည်းအတူနေသူ တီဘီလူနာနှင့်အနေနီးသူ

တီဘီရောဂါသံသယလက္ခဏာများ

အသက် (၁၅) နှစ် နှင့် အထက်

ချောင်းဆိုးခြင်း	<input type="checkbox"/>
ဖျားခြင်း နှင့် ညဘက် ချွေးထွက်ခြင်း	<input type="checkbox"/>
အစားအသောက်ပျက်ခြင်း နှင့် ကိုယ်အလေးချိန်ကျဆင်းခြင်း	<input type="checkbox"/>
ချောင်းဆိုးသွေးပါခြင်း	<input type="checkbox"/>
ရင်ဘတ်အောင့်ခြင်း	<input type="checkbox"/>
မကြာခဏ မောပန်းနွမ်းနယ်ခြင်း	<input type="checkbox"/>
လည်ပင်းအကျိတ်အဖုများထွက်ခြင်း	<input type="checkbox"/>

အသက် (၁၅) နှစ် အောက်

နှစ်ပတ်ထက်ပို၍ ချောင်းဆိုးခြင်း နှင့်/(သို့) ဖျားခြင်း	<input type="checkbox"/>
တီဘီလူနာ (သို့) တီဘီသံသယရှိသူများနှင့်အနေနီးသည့် ရာဇဝင်ရှိခြင်း	<input type="checkbox"/>
ကိုယ်အလေးချိန်ကျဆင်းခြင်း (သို့) မတိုးတက်ခြင်း	<input type="checkbox"/>

တီဘီရောဂါရာဇဝင်- ရှိ မရှိ
 တီဘီရောဂါကုသခဲ့သည့်ရက်စွဲ (/ /)

Prepared by

Approved by (FC/GP)

Received by (CXR Center)

Name & Sign:

Name & Sign:

Name & Sign:

(CXR CAD Report တွင် Abnormal ဖြစ်လျှင် Radiologist Opinion ယူပါမည်။)

CXR CAD Report

1- Normal

2-Abnormal & TB Presumptive

3-Abnormal & TB Negative

Date	Name	AI Results
2023-01-31	NAW ESTER 65 Client ID : 23SPT0192	X-RAY ABNORMAL TB PRESUMPTIVE / 0.9
2023-01-31	SAYAR LAY WUNNA HTAYYI 73 Client ID : 23SPT0191	X-RAY ABNORMAL TB PRESUMPTIVE / 0.98
2023-01-30	U KYI WIN Client ID : 23SPT0190	X-RAY ABNORMAL TB PRESUMPTIVE / 0.99
2023-01-30	U THAN KYAW Client ID : 23SPT0189	X-RAY ABNORMAL TB PRESUMPTIVE / 0.78
2023-01-30	HSU MIN SHIN Client ID : 23SPT0186	X-RAY ABNORMAL TB NEGATIVE / 0.03
2023-01-30	DAW AYE AYE THIN Client ID : 23SPT0185	X-RAY NORMAL TB NEGATIVE / 0.1
2023-01-30	DAW MYA MYA Client ID : 23SPT0184	X-RAY ABNORMAL TB PRESUMPTIVE / 0.94
2023-01-30	KO PHOE KAE32 Client ID : 23SPT0183	X-RAY NORMAL TB NEGATIVE / 0.02
2023-01-30	MA PHOO THIT HAN 49	X-RAY NORMAL TB NEGATIVE / 0.02

CHEST X-RAY FINDINGS AND SCORING

IMPRESSION

No significant abnormality detected

FINDINGS	PRESENCE	LOCALIZATION
Tuberculosis		
Abnormal		
Lungs		
Opacity		
Consolidation		
Fibrosis		
Nodule		
Cavity		
Pleura		
Blunted Costophrenic Angle		
Pleural Effusion		
Pneumothorax		
Mediastinum		
Hilar Prominence		
Heart		
Cardiomegaly		

Acti

IMPRESSION

Abnormal study

FINDINGS	PRESENCE	LOCALIZATION
Tuberculosis	<input checked="" type="checkbox"/>	
Abnormal	<input checked="" type="checkbox"/>	
Lungs		
Opacity	<input checked="" type="checkbox"/>	Upper Lung
Consolidation		
Fibrosis		
Nodule	<input checked="" type="checkbox"/>	Upper Lung
Cavity		
Pleura		
Blunted Costophrenic Angle		
Pleural Effusion		
Pneumothorax		
Mediastinum		
Hilar Prominence		
Heart		
Cardiomegaly		

Activate W
Go to Settings

CXR CAD Report: Abnormal & TB Negative

quire.ai



CHEST X-RAY REPORT
 Patient Name
 Patient ID
 X-RAY VIEW
 Date of Image Acquisition
 Date of Analysis
 Software version

CHEST X-RAY FINDINGS AND SCORING

IMPRESSION

No significant abnormality detected

FINDINGS	PRESENCE
Tuberculosis	
Abnormal	<input checked="" type="checkbox"/>
Lungs	
Opacity	
Consolidation	
Fibrosis	
Nodule	
Cavity	
Pleura	
Blunted Costophrenic Angle	
Pleural Effusion	
Pneumothorax	<input checked="" type="checkbox"/>
Mediastinum	
Hilar Prominence	
Heart	
Cardiomegaly	

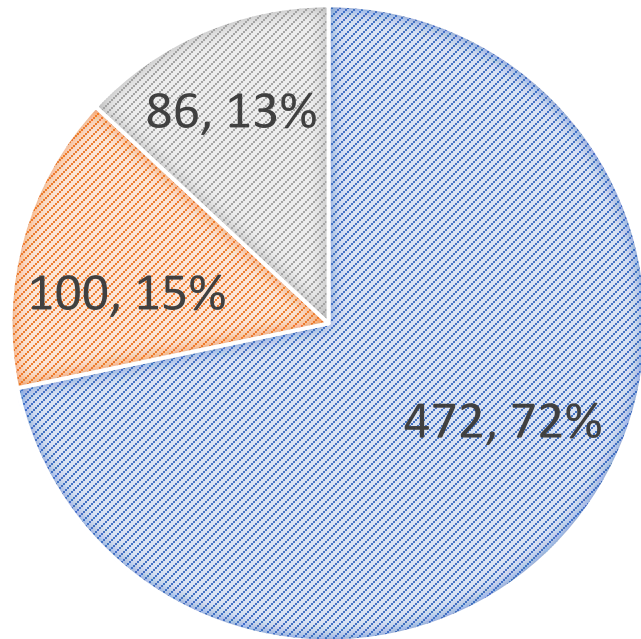
CHEST X-RAY FINDINGS AND SCORING

IMPRESSION

No significant abnormality detected

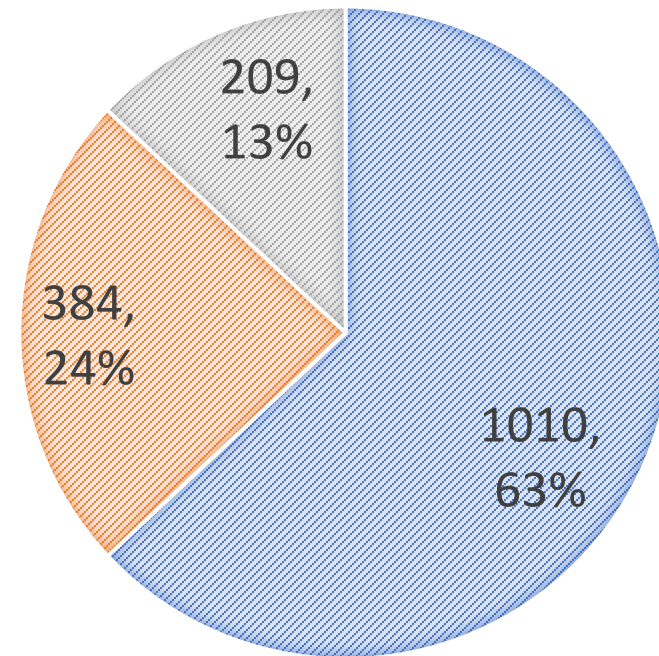
FINDINGS	PRESENCE	LOCALIZATION
Tuberculosis		
Abnormal	<input checked="" type="checkbox"/>	
Lungs		
Opacity		
Consolidation		
Fibrosis		
Nodule		
Cavity		
Pleura		
Blunted Costophrenic Angle		
Pleural Effusion		
Pneumothorax	<input checked="" type="checkbox"/>	LU
Mediastinum		
Hilar Prominence		
Heart		
Cardiomegaly		

FY22 Total Scan (n=658)



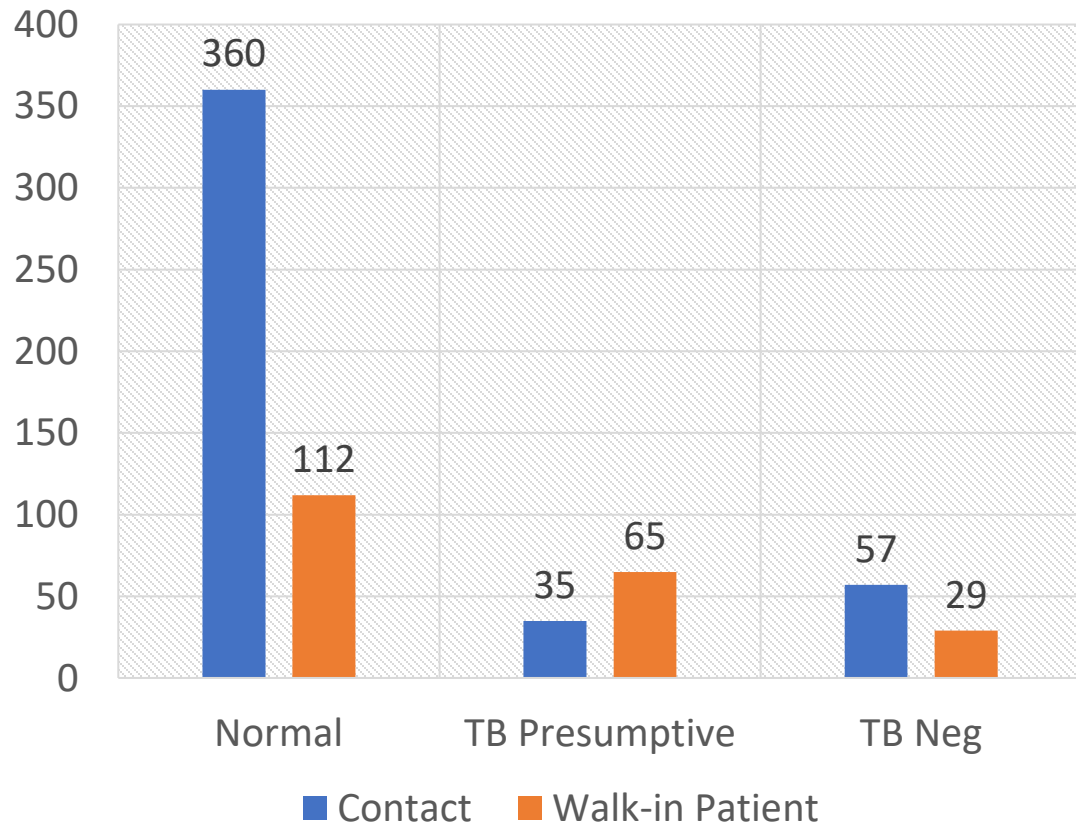
■ Normal ■ TB Presumptive ■ TB Neg

Q1, FY23 Total Scan (n=1603)

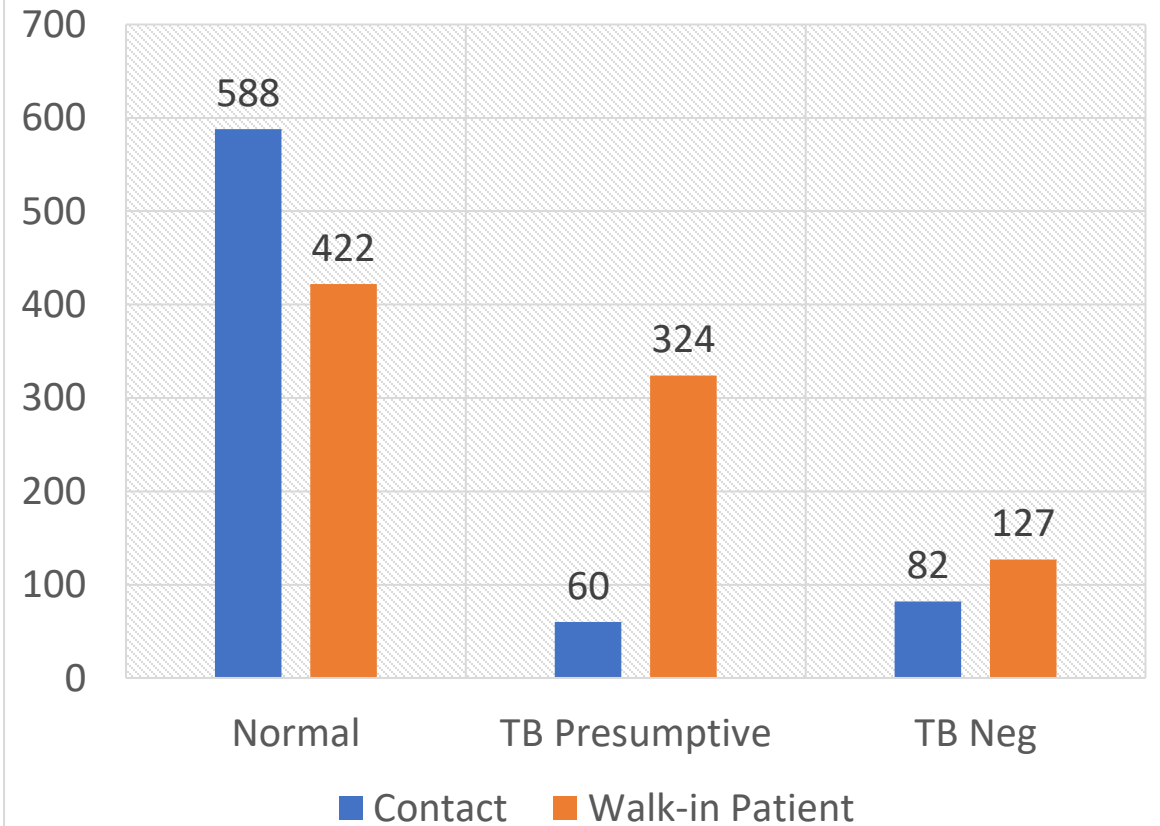


■ Normal ■ TB Presumptive ■ TB Neg

CXR CAD Result among Contact and Walk-in Patient (FY22)(n=659)

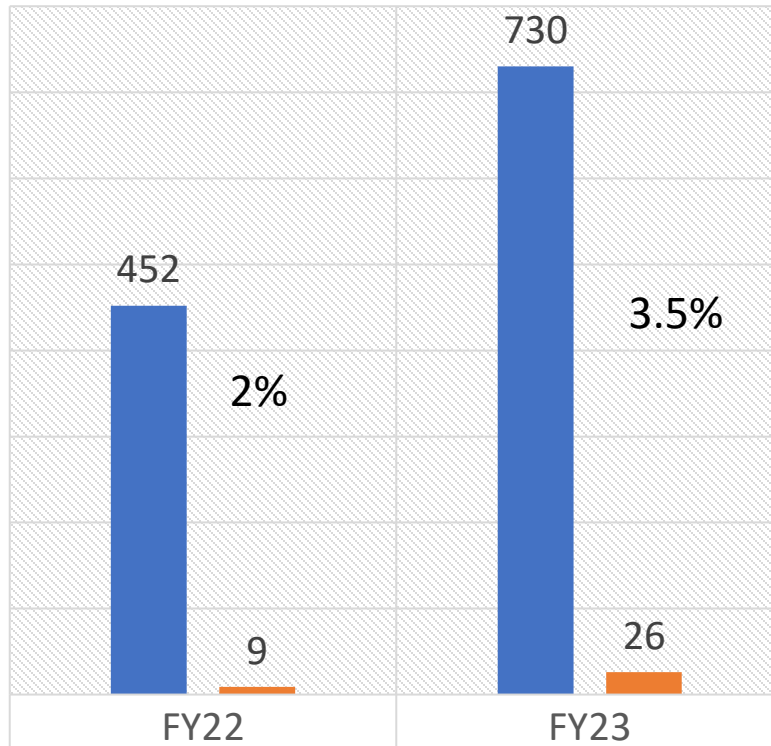


CXR CAD Result among Contact and Walk-in Patient (FY23) (n=1603)



DSTB Notification Among Contacts

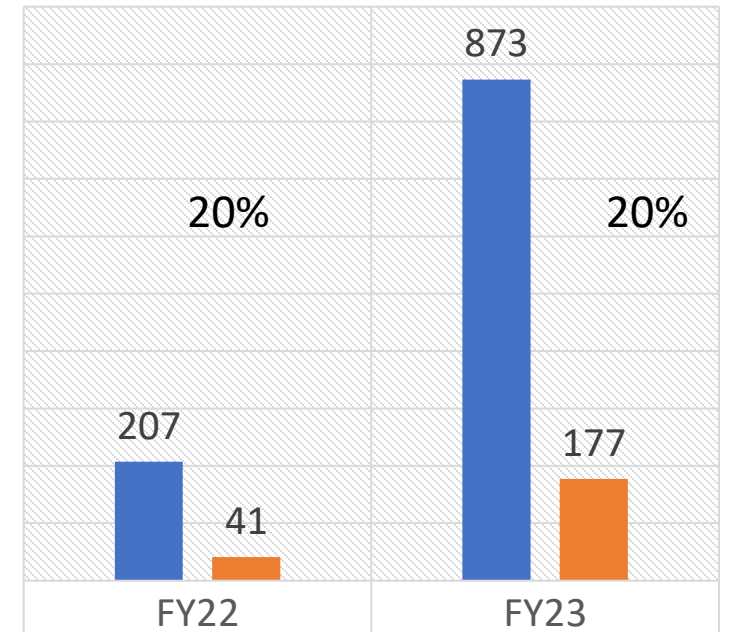
■ Total Scan(Contact) ■ DSTB



■ Total Scan(Contact)	452	730
■ DSTB	9	26

DSTB Notification Among Walk-in Patients

■ Total Scan(Walk-in client) ■ DSTB



■ Total Scan(Walk-in client)	207	873
■ DSTB	41	177

Challenges

- Some index patients' concern over stigmatization & working status.
- Incomplete information in Referral Form referred from GP/Volunteer (At the beginning of implementation)
- Some GPs incidentally requested CXR-CAD to children under the age of six
- GP's weak interest in facilitation of contact investigation by volunteer
- Some technical issues in CAD processing (Initial phase)
- Delayed or limited follow up of reporting process in regular manner.



21- 7-2022 CXR CAD Kick off Meeting



Volunteer Training (CXR CAD) on 11-8-2022



HIV/TB Agency, Information and Services Activity

THANK YOU.