

Prevention and Control of Tuberculosis



National Programme for Tuberculosis Control and Chest Diseases 2022



NPTCCD

Role of MOOH in TB control

- Give priority for TB control in your area – shared responsibility; use opportunities during routine activities
- Supporting paediatric TB case finding through MCH clinics
- Supporting contract screening activities
- Supporting tracing of patients who interrupted treatment
- Community Awareness/empowerment
- Improve community/civil society/NGO engagement in TB case finding in your area
- Monitoring of TB notification and case investigation carried out by the field public health staff
- Health education on tuberculosis control activities for health staff during monthly conferences/ in-service training activities.
- Enable District Chest Clinic participation / improved coordination for Tuberculosis control activities



Outline

- Tuberculosis infection/disease
- Epidemiology of TB
- National Programme for Tuberculosis Control and Chest Diseases
- Facts to know on TB control as MOOH / AMOH/Medical Officer



Tuberculosis infection and disease

- Tuberculosis develops in two stages.
- First stage - when the tubercle bacilli enter the body of an individual but remain dormant without causing disease. This is called tuberculous infection. Not infectious.
- Second stage - tuberculosis or tuberculous disease where the infected individual actually develops the disease.
 - ❖ Usually displays symptoms.
 - ❖ Infectious to others.
- Approximately **10% of people infected with bacillus but not suffering from any other concomitant immunosuppressive condition will develop the active disease during their lifetime.**



Risk of progression of infection to disease

- The majority (90%) will not develop the disease but the only evidence of infection in these people may be a **positive tuberculin skin test**.
- The organisms may remain dormant within the body and the disease can develop at any time.
- The **chance of developing the disease is greatest within the first two years of diagnosis of TB** and lessens as time goes by, but the risk probably remains for the lifetime.
- **Weakening of the immune system can cause rapid progress** of the infection to the disease status.
 - Examples are HIV infection, diabetes, malnutrition, prolonged steroid therapy, chronic alcoholism, smoking, malignancies and other immunosuppressive illnesses



Common symptoms of pulmonary tuberculosis

Respiratory symptoms:

- **Cough** - usually more than two weeks. However in immunosuppressed and in the presence of any other risk factor, cough of any duration should lead to screening for TB.
- Shortness of breath
- Chest pain
- Haemoptysis (usually blood stained sputum)

Constitutional symptoms:

- Fever and night sweats
- Loss of appetite
- Loss of weight or failure to gain weight in case of children
- Tiredness (fatigue)
- Night sweats



High risk groups

1. Close contacts of TB patients (Household & other close contacts)
2. PLHIV (People Living with HIV)
3. Elderly >60years
4. Malnourished (**poor weight gain/ weight loss in children**)
5. Patients with DM
6. Immune - compromised individuals (CKD patients, patients on steroids/immune - suppressive drugs, cancer patients on anti - cancer treatment, patients undergone transplant surgery such as patients with renal transplant)
7. People living in risk environments – slums, estates, internally displaced, migrants etc.
8. Prison inmates and those who are institutionalized (elders' homes, rehabilitation centres etc.)
9. Drug addicts
10. Health care workers
11. People working in mines -Silica exposure

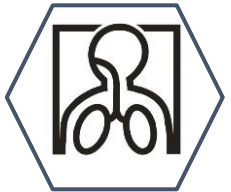


High risk groups/pockets in the district/MOH area

- Discussion.....



Global Trend



TB is still a major public health problem in the globe

- About 1.7 bil. (23%) – infected
- 10.0 mln- with active disease
 - 1.1mln(11%) Children
 - 5.6 mln(56%) –Men
 - 3.3mln(33 %) women
- Only 58% (5.8mln) detected by NTP globally.
- 2/3 of the case load in 8 countries - live in India, China, Indonesia Philippines ,Pakistan, Nigeria, Bangladesh , South Africa.
- SEAR nearly 1/4th of population, but 44% of TB caseload (Africa -24% , Western Pacific – 18%)
- One of the top 10 causes of death and the second leading cause from a single infectious agent (other than COVID 19).
- TB is one of the leading causes of deaths among people with HIV
- major cause of antimicrobial resistance related deaths
- 1.5mln. Global deaths were reported in 2020 (1.3 mil among non PLHIV, 0.2 among PLHIV) (WHO-TB Global report, 2021)

Sri Lanka - country situation

- Low Burden country for TB
- Second lowest in the region

Estimates (WHO Global Report 2020)

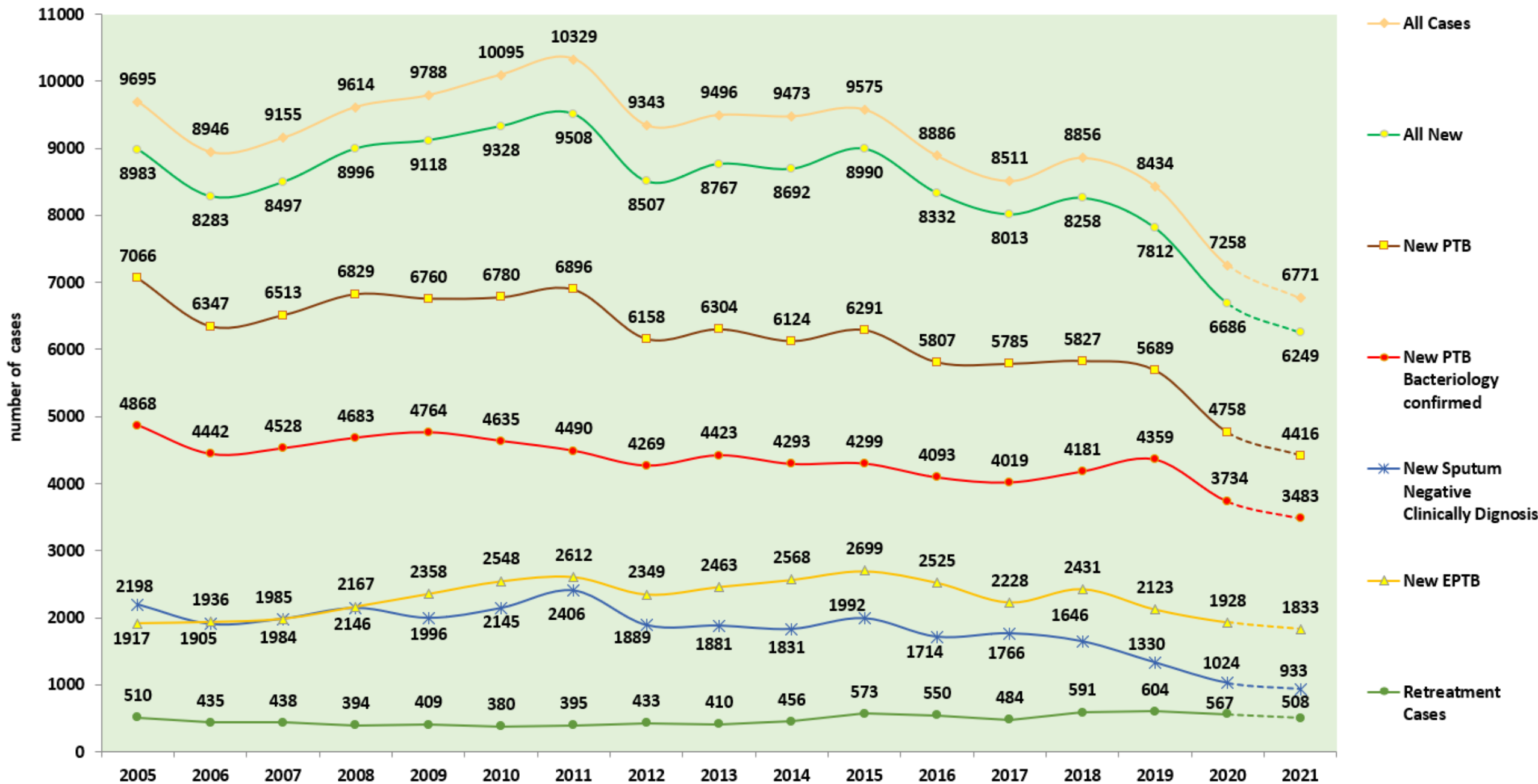
- Estimated Incidence – 14,000
64/100,000
(2020)
- Estimated Prevalence -
99/100,000 (2020)
- Estimated Mortality-3.5 per
100,000 population (2020)

Reported rates -2021 (NPTCCD)

- Notification rate –30.7/ 100,000
- Incidence rate- 29.7/100,000
- Case Detection Rate – 46.4%
- Mortality Rate – 7.6%

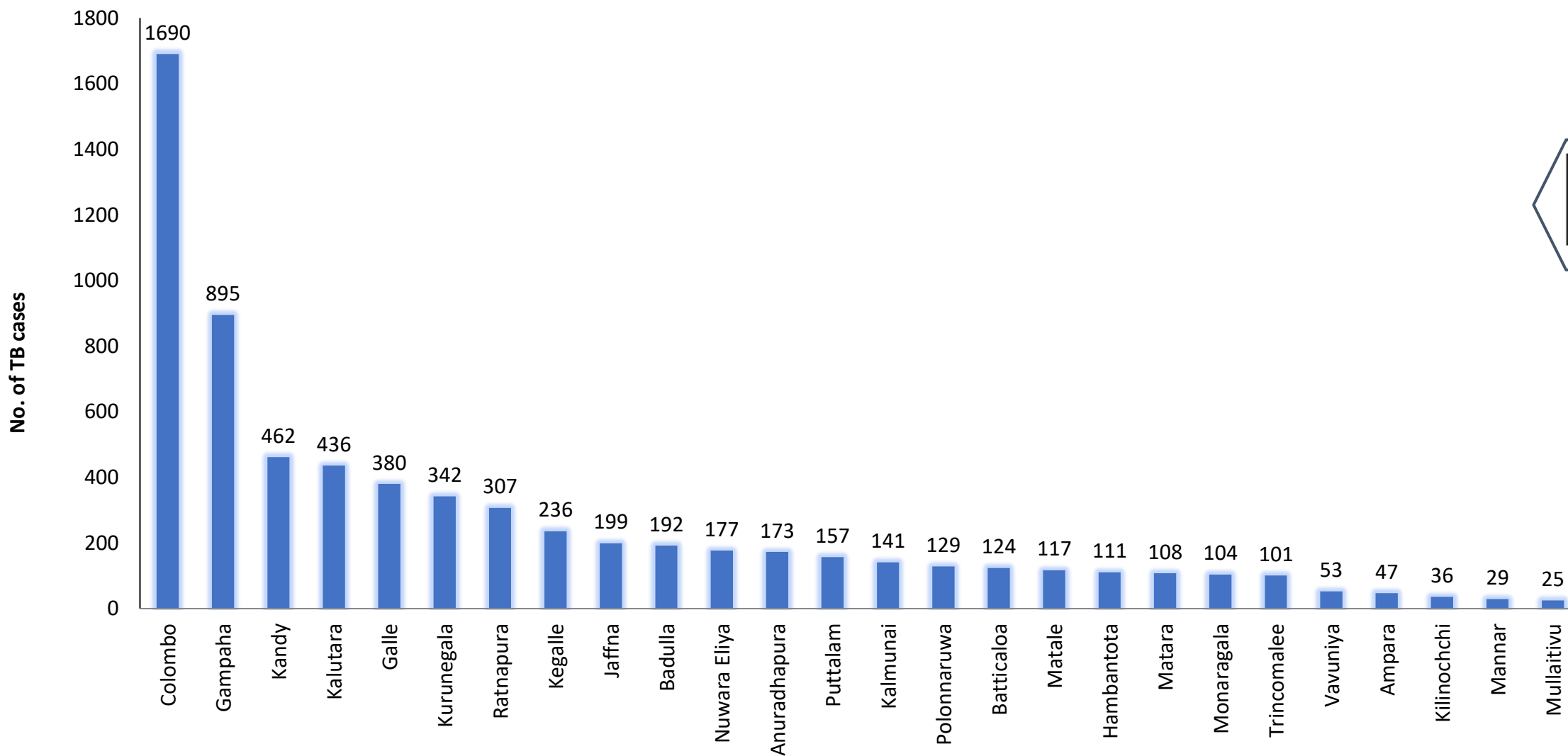


Case Detection of Tuberculosis - 2005 - 2021

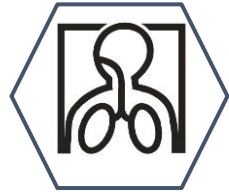




District wise distribution of TB patients: 2021

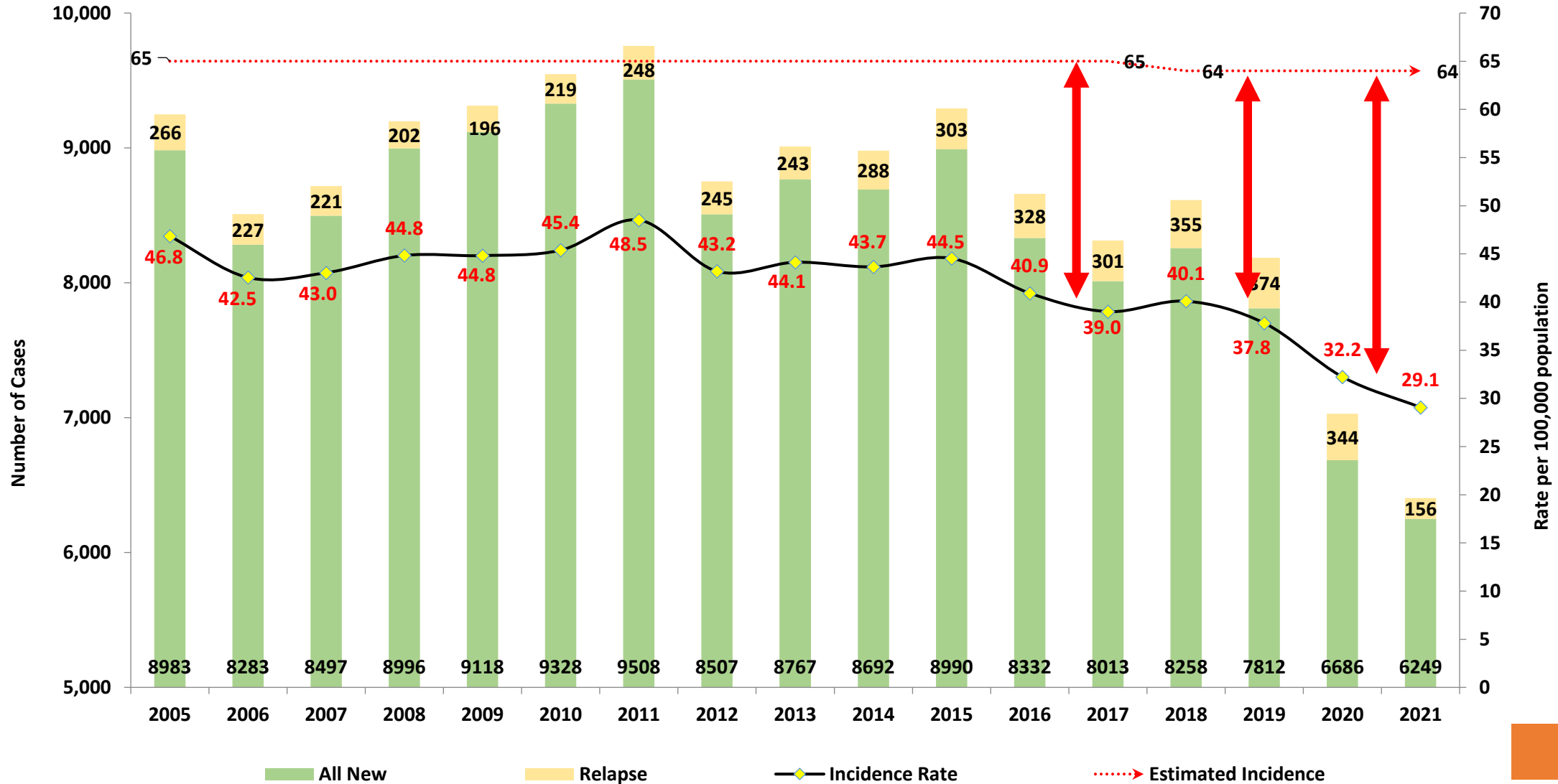


Low case detection compared to WHO estimates. Undetected 5000-6000 cases in the community???



GAP.....

Low case detection compared to WHO estimates. Undetected 5000-6000 cases in the community???



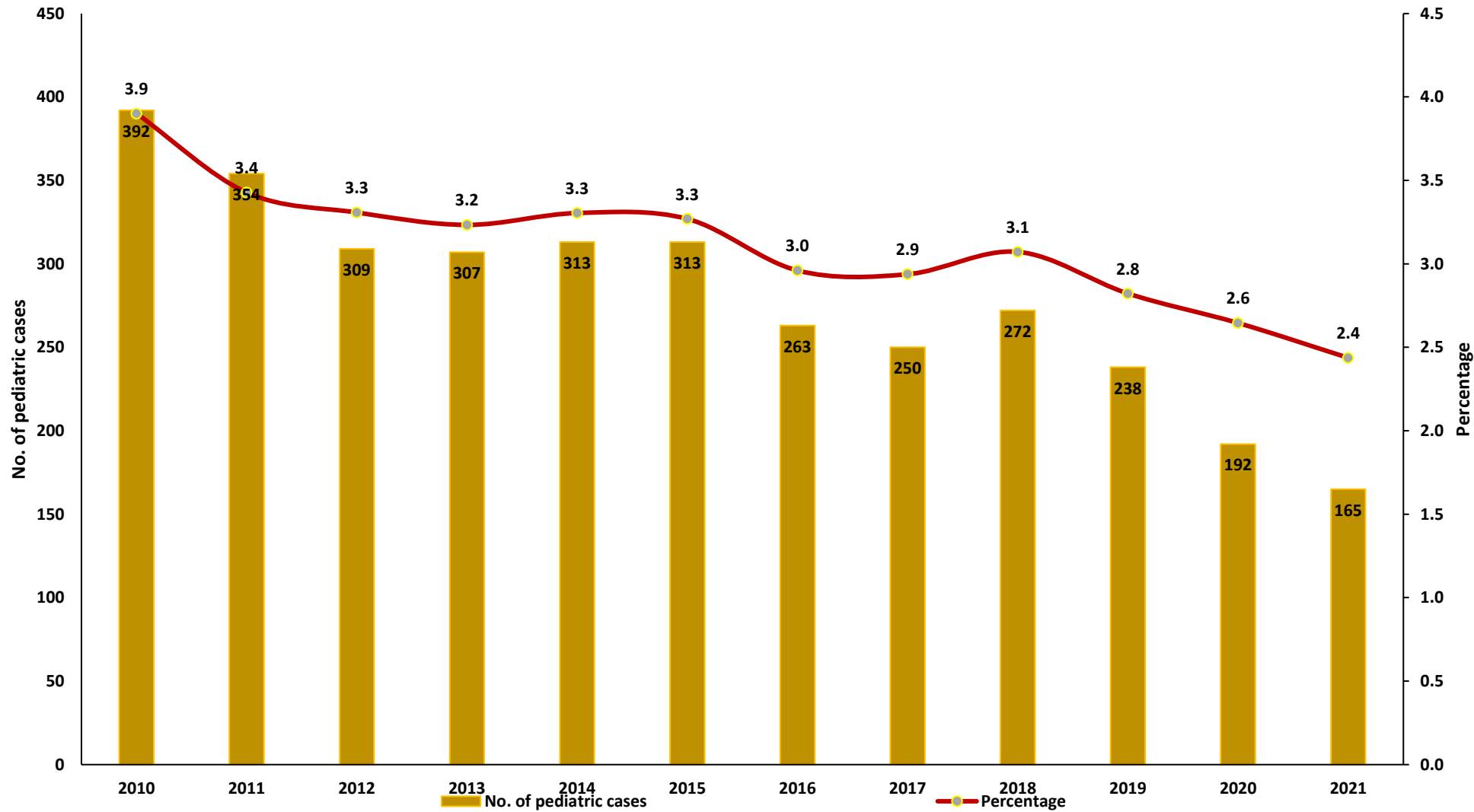
NPTCCD

Reasons for low case detection....???

- Awareness Vs empowerment
- Health priority Vs other priority (Covid -19, Dengue like episodic events masking the importance of TB)
- Difficult to reach populations- elderly/ estate population, Urban poor population
- Patients missing in private sector
- Mismanagement of presumptive cases – Antibiotics Eg. Ciprofloxacin
- Lack of intersectoral collaboration at each level
- Lack of awareness among health and other stakeholders (application to improve case detection and follow up is not optimum)
- Lack of health education by Health staff to the community (To address stigma)
- Presumptive cases screening at OPD set up is not prioritized
 - Some Teaching hospitals do not have microscopic centers
 - Least attention by OPD doctors although nearly 2% of OPD attendees are having respiratory symptoms
 - Microscopy Centers are not easily accessible

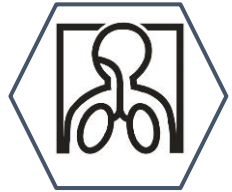


Trend of pediatric case finding: 2010 - 2021

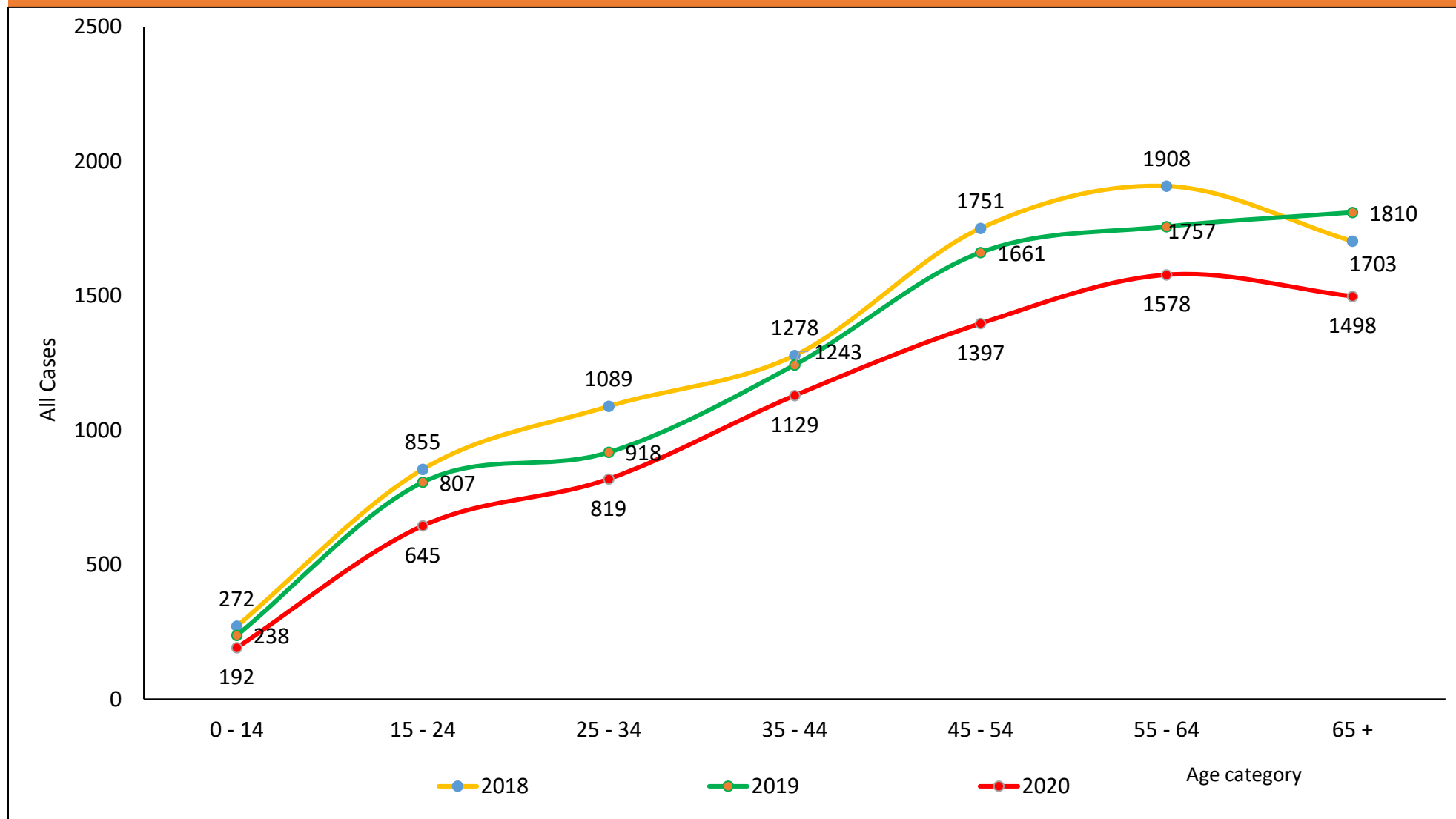


Considerations as a MOH to improve paediatric case detection.

- Presentation of TB among children is not straight forward
 - Not always present with cough
 - Continuous weight loss (loss of 5% in 3m) / no wt gain in past 3 months or Poor weight gain despite nutritional rehabilitation in children with SAM
 - PUO
 - Recurrent respiratory tract infections not responding to treatment
 - Contact history during past two years
- Contact screening is comparatively less
- Cross programmatic link is not satisfactory- FHB/School health
- DD by pediatricians, Nutrition Specialist not adequate
- Improve case detection through grassroot level involvement (through MOH, PHMM, PHI ...)



Age distribution for all TB cases: 2018 - 2020



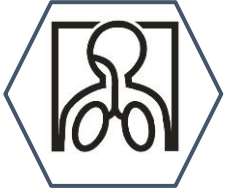
Why??

- Gender disparity- Many males get the disease compared to females (risk factors – smoking, drinking, social gathering etc., higher risk of exposure as higher mobility, treatment seeking behaviour...)
- Age distribution – right shift towards elderly age groups
- Demographic transition
- Epidemiological transition (more attention to NCDs such as DM/CKD)



The commonest opportunistic infectious association with TB is HIV.

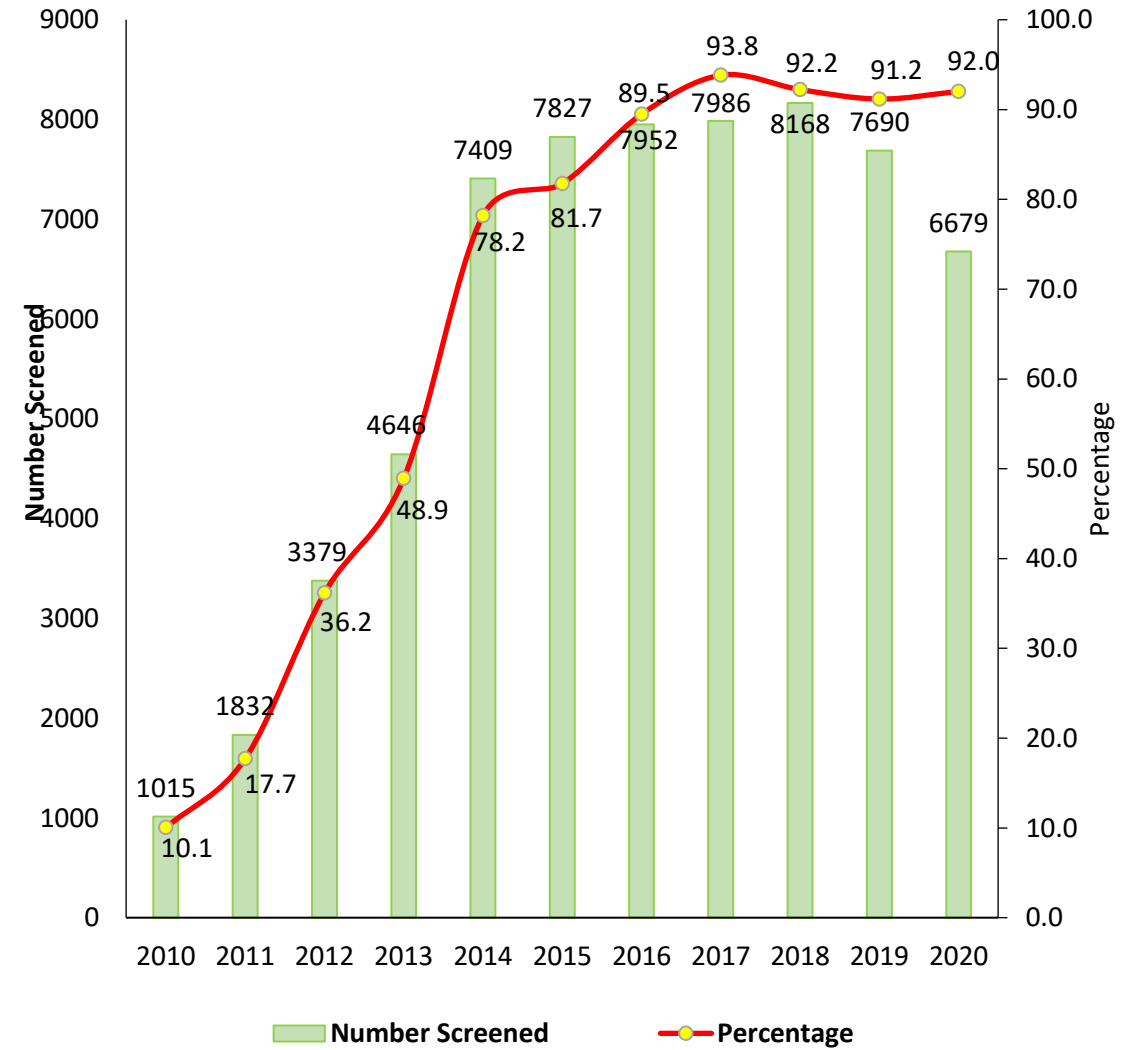
1. Pay special attention if HIV positive patient is found in the area;
2. Pay special attention to screen for TB
3. However, ensure stigma free, ethical approach promoting their treatment seeking and compliance behavior



TB HIV Screened 2010 - 2020

Year	Number Registered	Number Screened	Percentage
2010	10095	1015	10.1
2011	10329	1832	17.7
2012	9343	3379	36.2
2013	9496	4646	48.9
2014	9473	7409	78.2
2015	9575	7827	81.7
2016	8886	7952	89.5
2017	8511	7986	93.8
2018	8856	8168	92.2
2019	8434	7690	91.2
2020	7258	6679	92.0

TB HIV Screened 2010 - 2020



TB - HIV Coinfection By District - 2020

District	TB Patients found positive through screening for HIV	Referred from NSACP	No. of total Coinfection cases
Anuradhapura	0	1	1
Batticaloa	0	1	1
Colombo	0	5	5
Galle	0	1	1
Gampaha	6	3	9
Kegalle	0	1	1
Kurunegala	0	1	1
Nuwara Eliya	0	3	3
Puttalam	0	3	3
Ratnapura	0	1	1
Hambantota	2	0	2
Jaffna	1	0	1
Kalutara	1	0	1
Monaragala	1	0	1
Polonnaruwa	1	0	1
Trincomalee	1	0	1
Total	13	20	33

TB - HIV Coinfection By District - Up to Q2 2021

District	TB Patients found positive through screening for HIV	HIV Positive Patients Referred from NSACP	No. of total Coinfection cases
Colombo	1	7	8
Galle	0	1	1
Gampaha	3	3	6
Kalutara	3	0	3
Kurunegala	0	2	2
Matara	2	1	3
Total	9	14	23

Who is a contact?

Household contact:

A person who shared the same enclosed living space as the index patient for **one or more nights or for frequent or extended daytime periods** during the 3 months before starting current treatment.

Non household close contact:

A person who is not in the household but **shared an enclosed space, such as a social gathering, work place or facility, for an extended period** during the day with the index case during the 3 months before commencement of the current treatment episode.

e.g., children kept with grand parents during day time/ nursery

Households in close proximity, children visiting neighbouring houses frequently



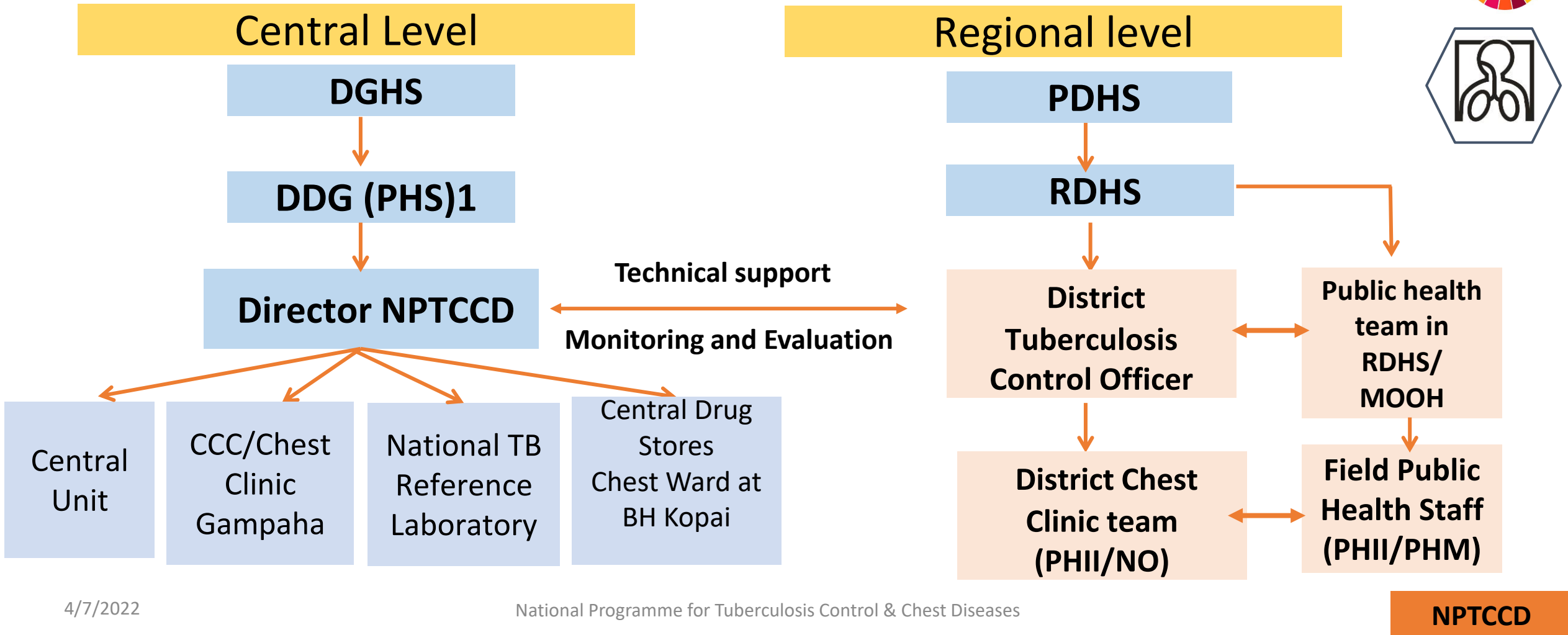
Contact screening- Responsibilities of MOH staff

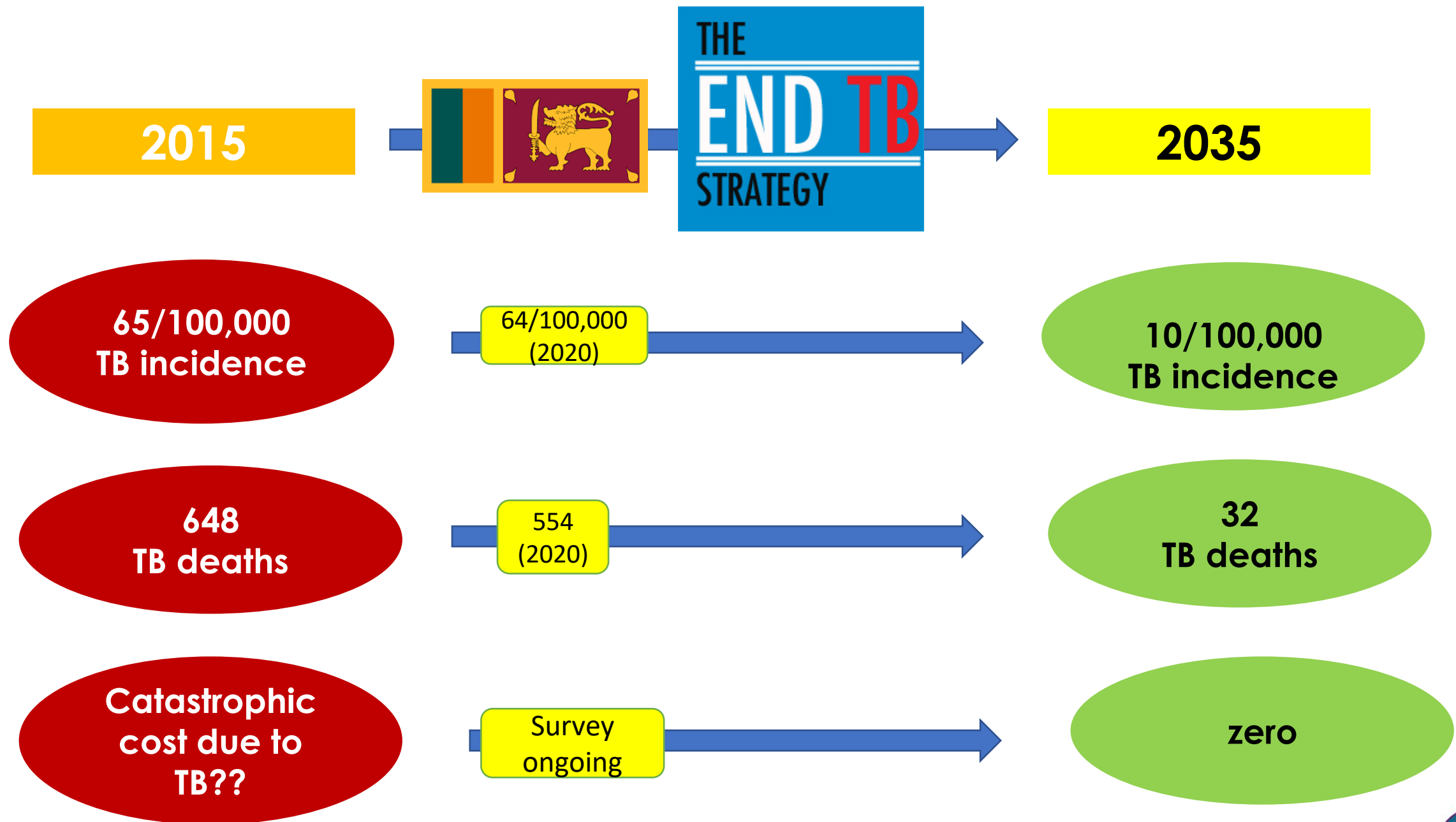
- Screening of all close contacts irrespective of the index case (PTB/EPTB) is the National Policy.
- Ensure contact tracing by the range PHI when necessary.
- Follow up of TB contacts 06 monthly for two (02) years;
 - 1st 2 years bears highest risk of developing disease among the contacts.



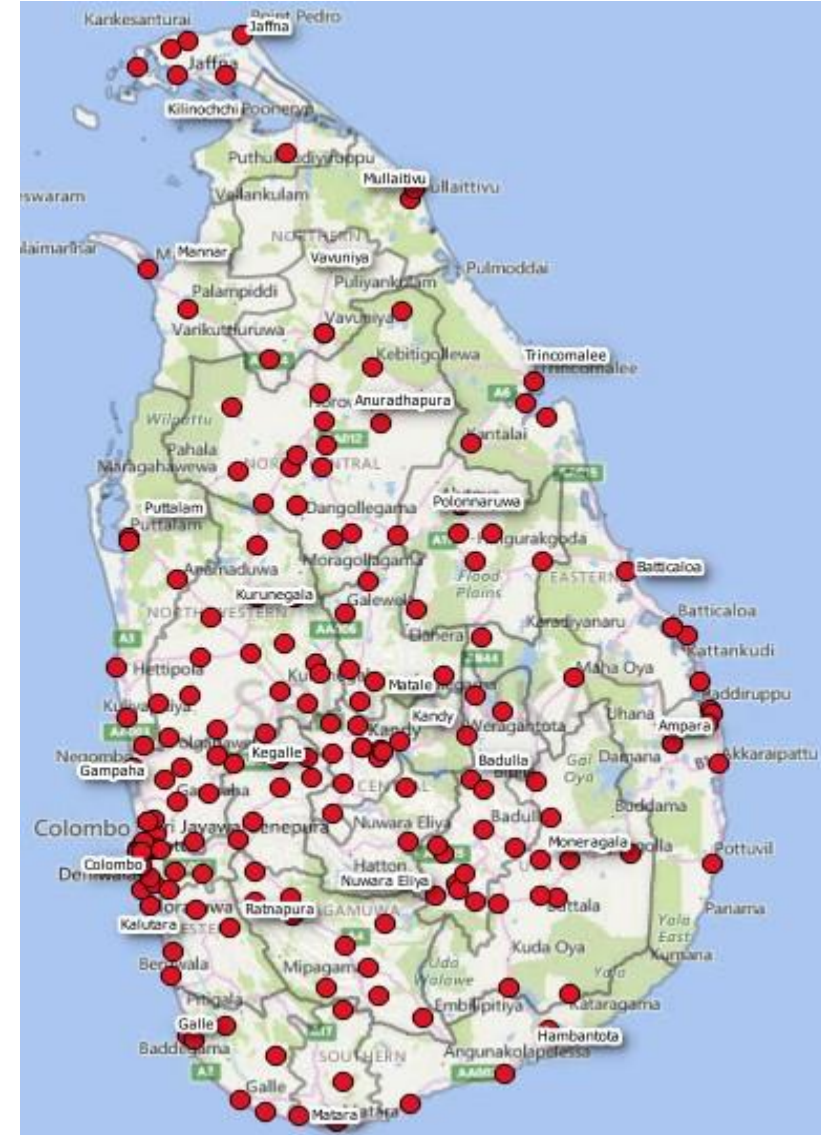
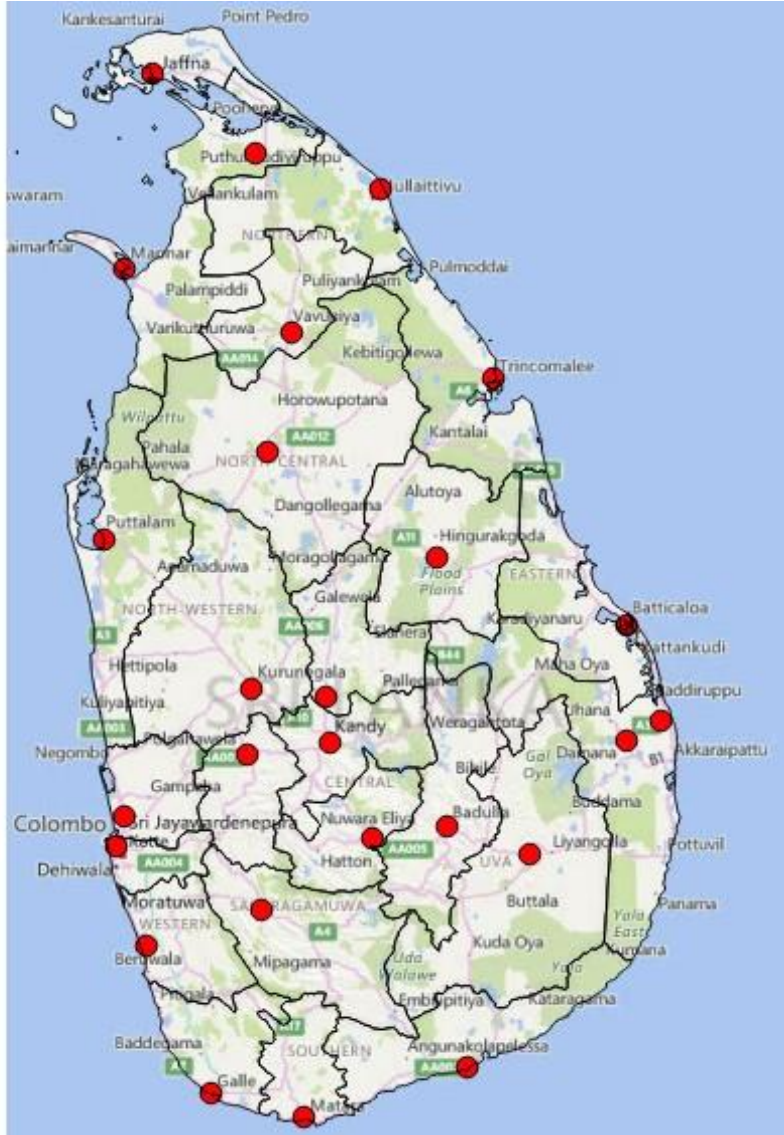
- Include Loss to follow up/ interrupters by the MOH level.....

National programme for tuberculosis control and chest diseases (NPTCCD)





- 26 District Chest Clinics
- 108 branch clinics
- 164 microscopic centres



Services available for TB control

Curative	<ul style="list-style-type: none"> • District Chest clinics- 26 • Provide ambulatory care for TB patients • Provision of anti-TB drugs Free of charge. (After registering at DCC) • Inward care for in need patients at hospitals with Chest wards and NHRD-Welisara
Diagnostic	<p>Microbiology</p> <ul style="list-style-type: none"> • Microscopy services at DCC labs and Microscopy centres (>150 island-wide) • TB culture facilities – 4 labs (ITLs- Intermediate Culture Labs) (Galle, Jaffna, Ratnapura & Kandy) • GeneXpert : 31 locations (every district) • NTRL- Culture & DST, Second line testing. <p>X ray facilities</p> <ul style="list-style-type: none"> • Available at DCC & local hospitals • Consider x ray as an initial test for TB identification <p>(All services are provided Free of Charge)</p>
Preventive	<ul style="list-style-type: none"> • BCG vaccination: EPI provides at birth • Provide BCG for those who do not show the scar by DCC (Below 5 yrs.) • Latent TB Infection (LTBI) management • Early diagnosis & Treatment: Active case finding, awareness & screening, targeted high risk approach, contact screening etc. • Notification



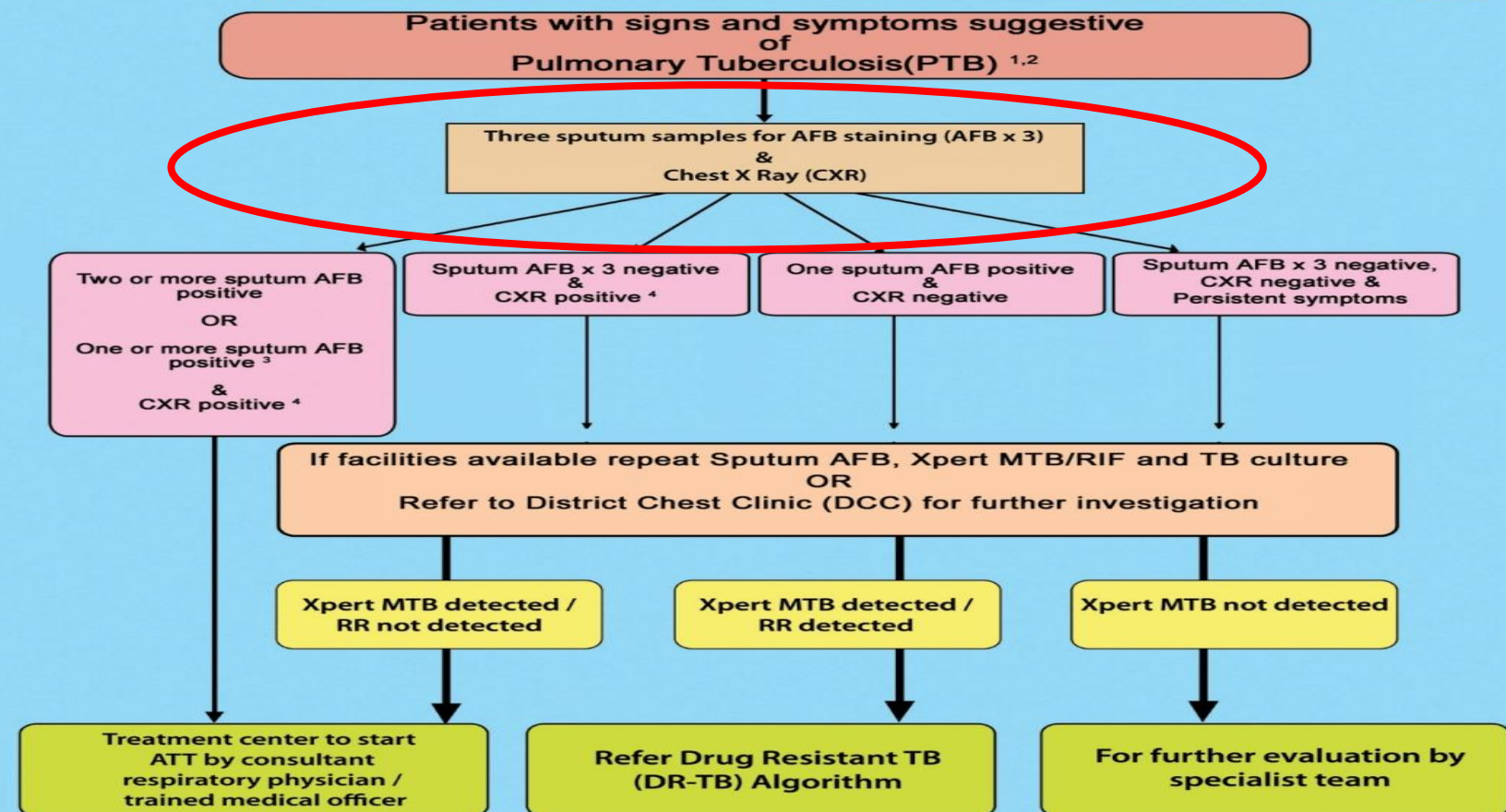
Strategy- Directly Observed Treatment Short-course (DOTS)

- DOT- Directly Observed Treatment is a component of DOTS strategy
 - Each and every drug dose is received under direct observation of a DOT provider.
- Very important for treatment sustainability through compliance
- Health Care Workers including field health staff (MOH, AMOH, PHNS, SPHI, PHI, PHM etc... can serve as DOT providers)



Algorithm for Adults

Diagnostic Algorithm for Tuberculosis



1. Key symptoms of TB are cough of 2 weeks or more and/or chest pain, shorthorness of breath, haemoptysis. In immunosuppressed individuals and in elderly people (60 years or more of age) cough of any duration should be considered. Other symptoms of TB are loss of appetite, tiredness, loss of weight or failure to gain weight in children, low grade fever, night sweats.
2. Pulmonary tuberculosis suspects with high risk should be referred urgently / early to District Chest Clinics or situation where no other diagnosis to be consider. These **High-risk categories** include Health care workers (HCW), Patients living with HIV (PLHIV), prisoners, drug addicts, close contacts of Bacteriologically confirmed PTB patients and patients with past tuberculosis or immunosuppression.
3. If two or more sputum samples are positive without chest x- ray , the patient should be referred for treatment
4. Positive chest X-ray is defined as any abnormality that could be consistent with TB

Abbreviations

AFB - Acid Fast Bacilli , Xpert - Gene Xpert , MTB - Mycobacterium Tuberculosis, RR - Rifampicine Resistance, ATT - Anti Tuberculosis Treatment

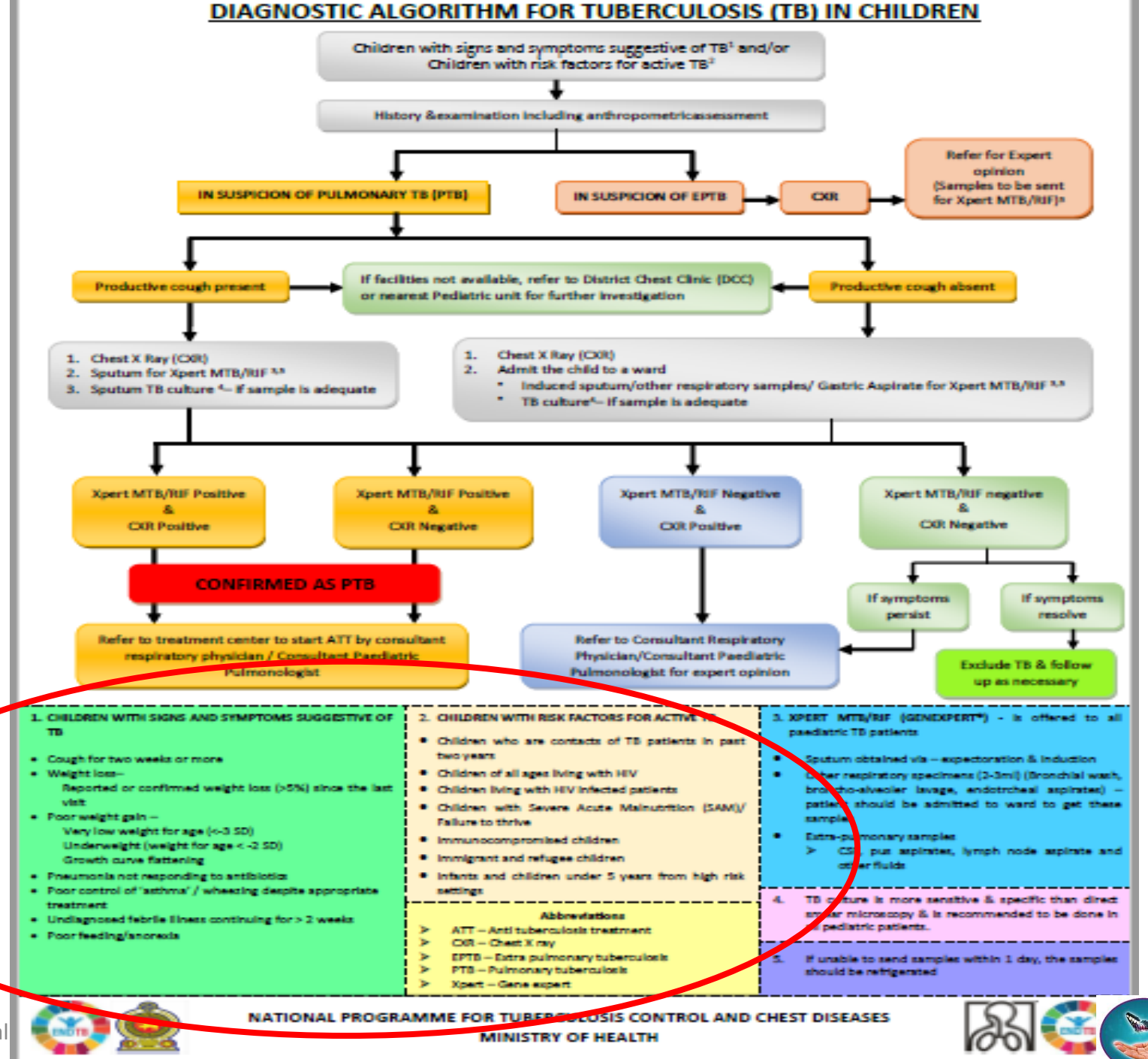
TUBERCULOSIS is completely cured with proper treatment



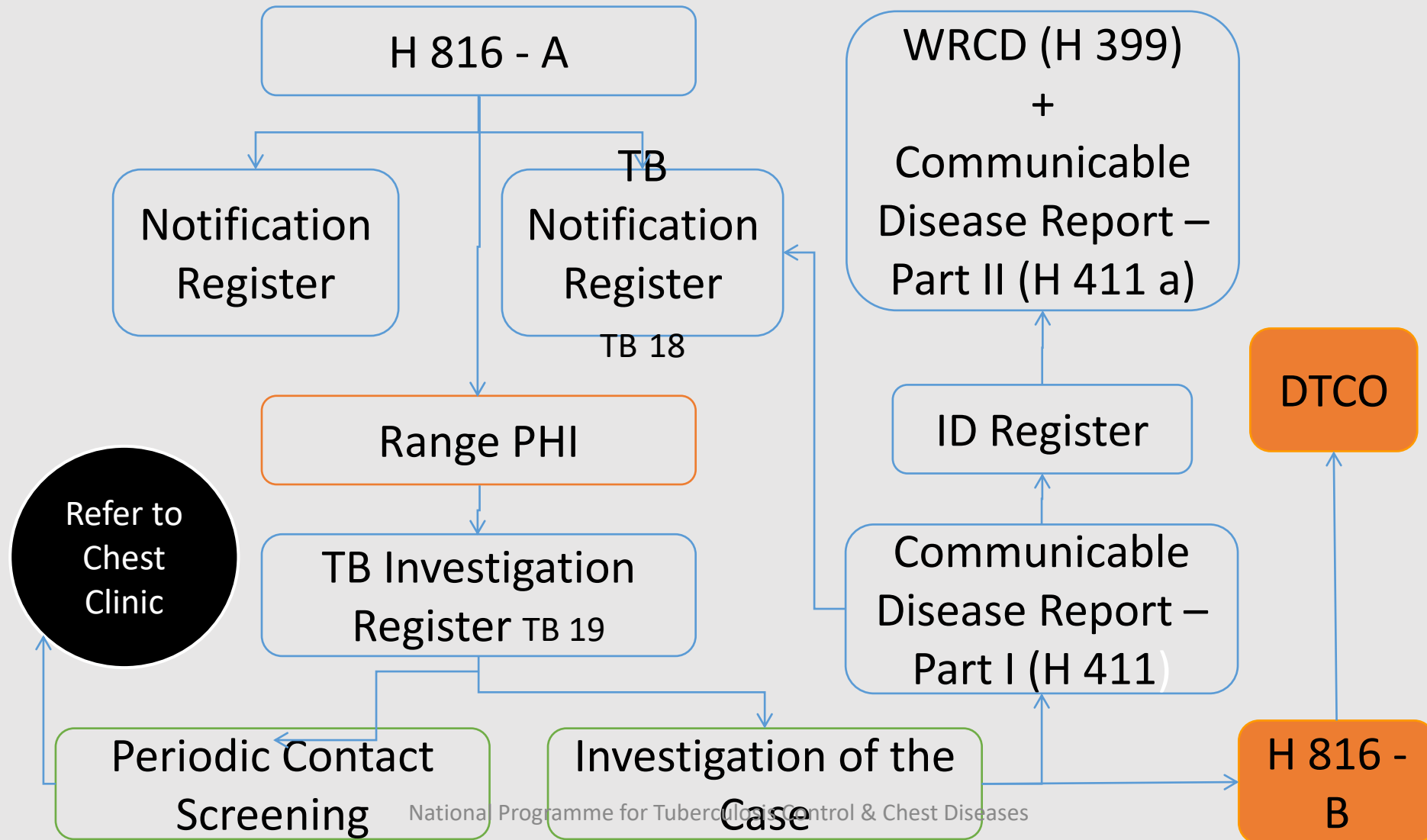
National Programme for Tuberculosis Control & Chest Diseases
Ministry of Health, Nutrition & Indigenous Medicine



Algorithm for pediatric age group



TB NOTIFICATION



TB notification register (TB 18)

No	Date Received	District TB Registration No	Name and Address of the Patient	Age	Sex	Occupation	PHI Division	Type of TB	Date Investigated	Treatment Outcome	Remarks

Disease Type: **PTB SS+** : Sputum smear positive pulmonary tuberculosis; **PTB SS-** : Sputum smear negative pulmonary tuberculosis; **EPTB**: Extrapulmonary tuberculosis
 Treatment outcome: Cured; Treatment completed; Failure; Defaulted; Died; Transferred out



TB investigation register (TB 19)

No	Date Received	District TB Registration Number	Name and Address of the Patient	Type of TB	Date Investigated	Details of Contacts*						Follow-up of contacts				Remarks
				Treatment Outcome		Name	Age	Sex	Address	Relationship to the Patient	Symptoms (Present Absent)	At 6 month	At 1 year	At 18 months	End of 2 years	

Disease Type: **PTB SS+**: Sputum smear positive pulmonary tuberculosis; **PTB SS-**: Sputum smear negative pulmonary tuberculosis; **EPTB**: Extrapulmonary tuberculosis
 Treatment outcome: Cured; Treatment completed; Failure; Defaulted; Died; Transferred out

Nº 036045

ஊடக ரோக நிவேதன பத்திரம்
சயரோக அறிவித்தல் பத்திரம்
TUBERCULOSIS - NOTIFICATION FORM

ஊடக
சுகாதார
HEALTH } 816-A

All patients should be referred to the District Chest Clinic for registration

S.P.C.(050973)

(NPTCCD காவலகத்தில் பி.சி.சி. கட்டிடம்/NPTCCD காரியாலய பாவனைக்கு மட்டும் / To be filled in NPTCCD)

ஊடக ரோக பதிவேட்டில் இலக்கம் }
சயரோக பிரதான பதிவேட்டு இலக்கம் }
Central Tuberculosis Reg. No. }

(உடல் சிகிச்சையுடன் பி.சி.சி. கட்டிடம்/மாவட்ட சயரோக உத்தியோகத்தினால் நிரப்ப வேண்டியது/ To be filled in the District Chest Clinic)

உத்தியோக ஊடக ரோக பதிவேட்டில் இலக்கம் }
மாவட்ட சயரோக பதிவேட்டு இலக்கம் }
District TB Reg. No. }
ஊ. சே. சி. காவலகம் }
சுகா. வை. அதி. பிரிவு }
MOH area }
ஊ. சி. மருத்துவமனை }
டொட் மத்தியஸ்தானம் }
DOT Centre }

(உத்தியோக ஊடக ரோக பதிவேட்டில் பி.சி.சி. கட்டிடம்/அறிவிக்கும் அலுவலகத்தினால் நிரப்ப வேண்டியது/ To be filled by the Notifying Officer)

A. நிறுவனம் }
Institution }
உத்தியோக ஊடக ரோக பதிவேட்டில் இலக்கம் }
BHT/Clinic No. }

B. ரோகியின் விவரம்/நோயாளியின் விவரம்/ Patient information

1. உத்தியோக ஊடக ரோக பதிவேட்டில் இலக்கம் }
அ. அ. இல. }
NIC No. }

2. ரோகியின் முழுப் பெயர் }
நோயாளியின் முழுப் பெயர் }
Full name of the patient }

3. a) முழு முகவரி (உத்தியோக ஊடக ரோக பதிவேட்டில் இலக்கம்)
சிகிச்சை பெறும் காலத்தில் நோயாளியின் விலாசம்
Complete address, where the patient will be staying during the course of treatment
.....
.....
.....

i. மாவட்டம் }
District }
ii. தொலைபேசி இல. }
Tel. No. if any }

b) மாநிலம் (மாநிலம் மாறுபட்டால்)
நிரந்தர விலாசம் (மேலே குறிப்பிடப்பட்ட விலாசம் மாறுமானால்)
Permanent address (if it differs from above)
.....
.....



i. දිස්ත්‍රික්ක
மாவட்டம் } District

4. a) වයස
வயது } Age

5. ස්ත්‍රී පුරුෂ භාවය
ஆண்/பெண் } Sex

7. ජනවර්ගය
இனம் } Ethnicity

ii. දුරකථන අංකය
தொலைபேசி இல. } Tel. No. if any

b) උපන් දිනය
பிறந்த திகதி } Date of birth

6. රැකියාව
தொழில் } Occupation

C. රෝග විශ්ලේෂණය / நோய் நிரணயம் / Diagnosis

පුප්පුවේ නෙල රෝගය
சுவாசப்பை சயரோகம் } Pulmonary TB

විෂබීජ සහිත
கிருமிகளுடன் } Sp. sm.pos.

විෂබීජ රහිත
கிருமிகளின்றி } Sp. sm.neg.

පුප්පුවේ නොවන නෙල රෝගය
சுவாசப்பையில் இல்லாத ச.ரோ. } Extra pul. TB

රෝගය වැලඳුනු ස්ථානය
நோய் தடுக்கும் இடம் } Specify site

D. රෝග වර්ගීකරණය / நோய் பாதிப்பு / Patient category

අලුත්
புதிய } New

නැවත සිදුවන
மீண்டும் பாதிக்கப்பட்ட } Relapse

ප්‍රතිකාර අසාර්ථක වී නැවත පැමිණීම
மீண்டும் வருகைதரும் } Treatment after failure

ප්‍රතිකාර පැහැර හැර නැවත පැමිණීම
சிகிச்சை எடுக்காமல் மீண்டுவரும் } Treatment after default

වෙනත්
வேறு } Others

නිදහස්
நாட்பட்ட } Chronic

විඳු ඖෂධ ප්‍රතිරෝධී
ஒளடதம் பொருத்தமற்ற } MDR-TB

රෝගියා යොමුකරන ලද ලෙඩ විකිණියාගේ (අදාළ නම්) / நோயாளிக்கு சிபாரிசு செய்த சிகிச்சை நிலையம் / Chest clinic - Patient referred to (If relevant)

දිනය/திகதி/Date

වෛද්‍ය විලායර් / வைத்திய உத்தியோகத்தர் / Medical Officer

තනතුර / பதவி / Designation

If this form is filled by

a. DTCCO

1. Keep one copy at the District Chest Clinic
2. Send one copy to D/NPTCCD
3. Send one copy to the relevant MOH

b. Chest ward

Send all 3 copies to District Chest Clinic

c. General Wards

1. Keep one copy in the institute
2. Send two copies to the D/NPTCCD

d. Private hospital

1. Keep one copy in the institute
2. Two Copies to the D/NPTCCD

Director / NPTCCD National Public Health Complex, 555/5, Elvitigala Mawatha, Colombo 05



Nº 027904

RESPONSE TO NOTIFICATION OF TUBERCULOSIS PATIENTS H 816 - B

To be filled up by the investigating PHI and returned to the DTCCO through MOH

MOH area :

Name of the patient :

Address:

Central TB Reg. No. : District TB Reg. No.:

DOT centre

Date of receiving the notification :

Date investigated :

Outcome of the investigation;

Patient living at the given address

Yes No

Comments

Complying with treatment:

Yes No

Comments

No. of household contacts.....

Measures taken to trace the patient if not found at the given address.

.....
.....
.....

.....
Date..... PHI

.....
Date..... MOH

S.P.C. (050974)



Role of MOH in TB care

- Be aware of the TB status in the MOH region (High risk pockets identification)
- Discussing TB situation at monthly conference.
- Make sure that each H 816A notified patient should be investigated within 2 weeks and H 816 B is returned to the DCC on time.
 - Notification can reach the MOH through paper based/ ePIMS system.
 - Therefore pay attention to the both.
 - Maintain and ensure completeness of TB 18 & 19 registers.
- Take timely action once a request is received from the DCC for contact tracing and/or defaulter tracing.
- Health education programmes for community by the MOH staff.
- Opportunistic identification of presumptive TB cases and referrals by the MOH staff.
- Consider TB whenever applicable in antenatal and well baby clinics and refer to a relevant specialist; VOG, CRP, Paediatrician.
- Provision of nutritional advice for needy TB patients.
- Take measures and empower the community and MOH staff to minimize stigma on TB.



Contact details of DCC/ DTCOs/ NPTCCD



- Discussion on identified issues and future plans.....



- වැඩිදුර විස්තර සඳහා ඔබගේ ළඟම දිස්ත්‍රික් ලය රෝග සායනය හෝ ක්ෂය රෝග මර්දන හා ලය රෝග පිළිබඳ ජාතික වැඩසටහන වෙත යොමු වන්න

ක්ෂය රෝග මර්දන හා ලය රෝග පිළිබඳ ජාතික වැඩසටහන
අංක 555/5, මහජන සෞඛ්‍ය සංකීර්ණය
ඇල්විටිගල මාවත
කොළඹ 05

දුරකථන : 011-2368276

ෆැක්ස් : 011-2368276

ඊමේල්: dirnptccd@health.gov.lk, nptccdirector@gmail.com

- மேலும் தகவல்களுக்கு, உங்கள் அருகிலுள்ள மாவட்ட மார்பு மருத்துவமனை அல்லது தேசிய காச நோய் கட்டுப்பாடு மற்றும் மார்பு நோய்த் திட்டத்தைப் பார்வையிடவும்.

காசநோய் கட்டுப்பாடு மற்றும் மார்பு நோய்க்கான தேசிய திட்டம்,
எண்: 555/5, பொது சுகாதார வளாகம், எல்விட்டிகல மாவத்தை
கொழும்பு 05

தொலைபேசி: 011-2368276

தொலைநகல்: 011-2368276

மின்னஞ்சல்: dirnptccd@health.gov.lk, nptccdirector@gmail.com

