



आओ समाज क्षयमुक्त करे

RF(I)T's effort towards a TB free India

by

2025



# What is TB?

- Tuberculosis or TB, as it is commonly called, is an infection that usually affects the lungs
- It can also spread to other parts of the body, like the lymph nodes, abdomen, bone & joints, spine, brain etc.
- It is caused by a type of bacteria called *Mycobacterium tuberculosis*

# About TB ....

**Tuberculosis** is generally curable and preventable

**TB** is spread from person to person through the air

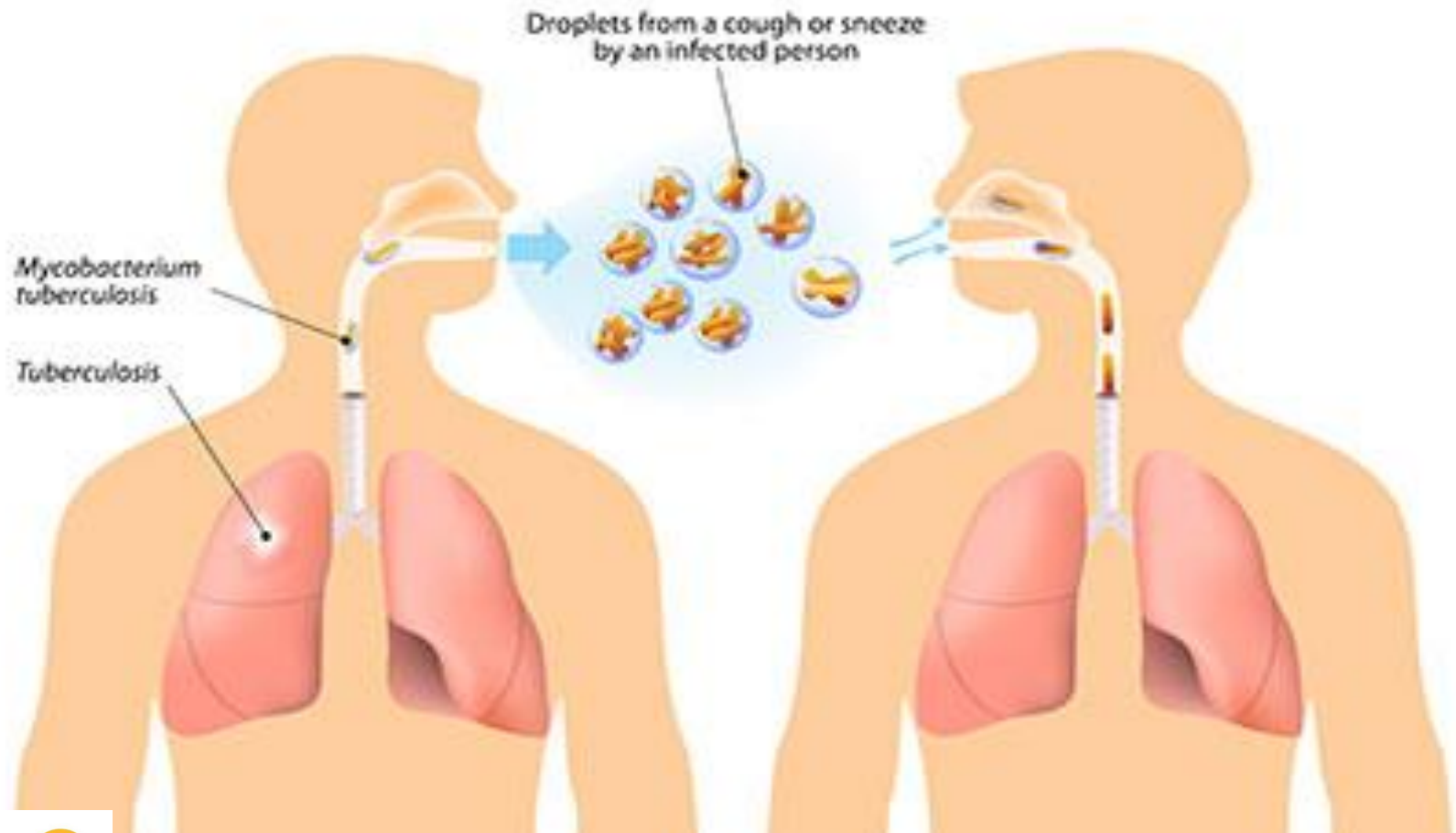
When people with lung **TB** cough, sneeze or spit, they propel the **TB** germs into the air

Other than Lung TB, there are other types of TB also

All types of TB are not infectious

# How does TB spread?

## TUBERCULOSIS



# How does TB Spread (contd...)

- TB germs spread when a person suffering from TB coughs, sneezes, speaks and spits in open spaces or in still water
- TB germs spread in an overcrowded, ill ventilated unhygienic environment and or in places where there is no direct sunlight
- People with weakness due to lack of a nutritious diet are more susceptible to TB
- Patients with other chronic ailments like HIV/AIDS, diabetes, whose resistance has become low are also more susceptible to TB
- People whose lungs have become weak due to smoking get more easily infected by TB

# When does a person become ill with TB?

- About one third people in the World are infected with TB bacteria
- But a person with TB bacteria becomes ill **ONLY IF** the TB bacteria in the person's body becomes active
- Latent (inactive TB bacteria) does not make a person ill with TB

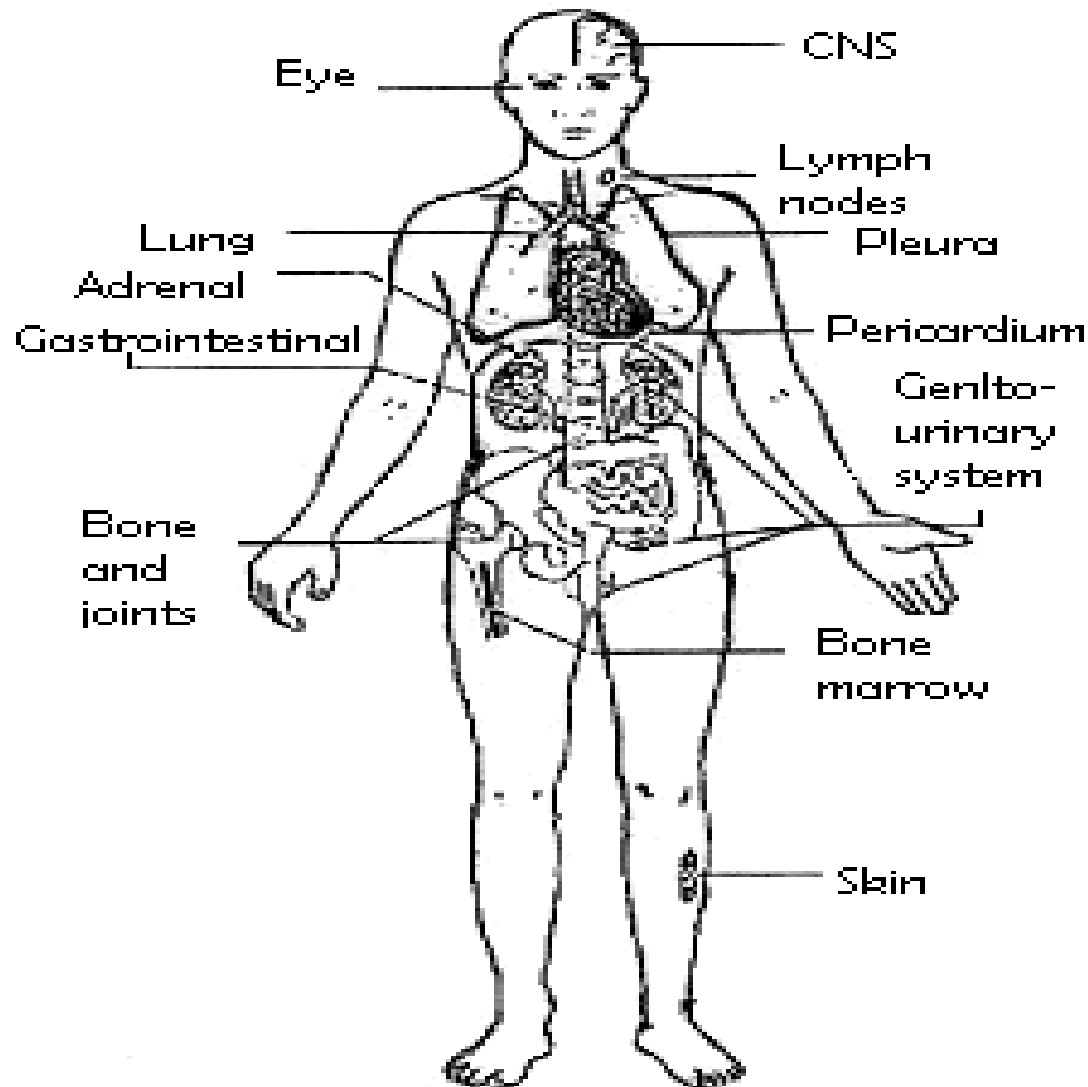
# When does a person become ill with TB? (contd...)

TB bacteria in a person's body becomes active only when their immunity is low

Immunity can be low due to -

- some other illness such as HIV/AIDS, diabetes, substance abuse, tobacco smoking, chronic kidney diseases, cancers etc.
- Lack of proper nutrition

# Various organs involved in TB



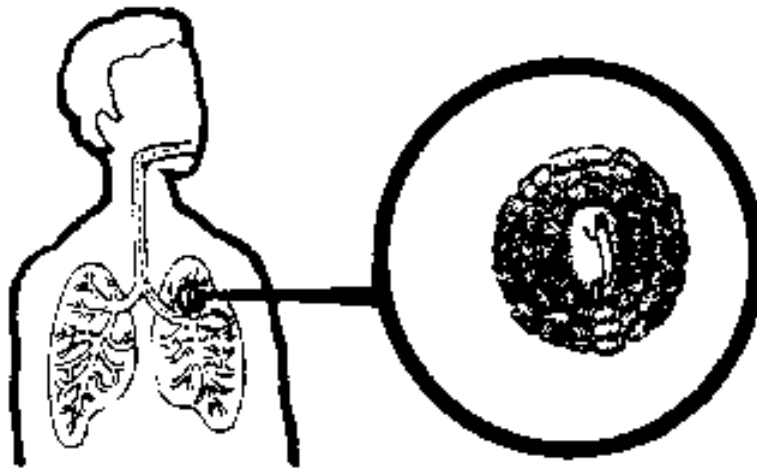


# Symptoms of TB

- Consistent, but not very high fever beginning in the evening , observed over a few weeks
- A persistent cough, over a long period of time, which is not cured despite treatment
- There may be blood in sputum
- Decrease in appetite
- Decrease in body weight and weakness
- Pain in the chest while taking deep breaths

# How does TB Infect/ Invade the Lungs

## Latent Vs. Active TB



Effective  
immune  
response

Infection limited  
to small area of lung

Immune response  
insufficient

# How is TB diagnosed?

- Sputum examination
- X-rays, sonography, CT scans etc.
- Biopsy
- Facilities are available at government institutions

# Treatment of TB

- Treatment of TB is of long duration
- Many medicines are used in combination to treat TB
- There are two phases of treatment
  - **intensive phase (IP)** and
  - **continuation phase (CP)**
- Treatment depends on the type of TB diagnosed – drug sensitive or drug resistant

# Types of TB

- Treatment of Drug sensitive TB: Initially, when a person is detected with TB, first line treatment is given, which is basically a combination of 4 types of medicines

This treatment is usually for 6 to 9 months

- If a patient does not complete the first line of treatment, it is likely that the TB will become **Multiple Drug Resistant( MDR)**
- A person can also get infected with MDR TB directly from another patient with drug resistant TB

# Types of TB – MDR

- MDR patients usually do not respond to 2 important types of first line TB medication. Their treatment can go up to 2 years or more
- An MDR TB patient has to take about 14,600 pills in 2 years. The medication is strong and has side effects like nausea, giddiness , weakness, toxicity etc.

# Types of TB – XDR & TDR

- Usually, when MDR TB patients do not complete treatment, they become resistant to most types of medication used for the 2<sup>nd</sup>. line of treatment and become **Extremely Drug Resistant (XDR)**

Stronger medication has to be used for their treatment

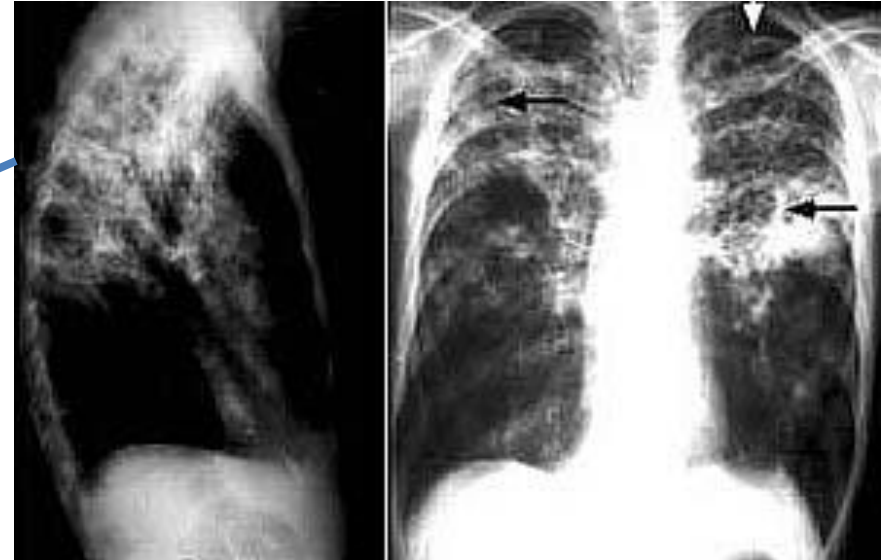
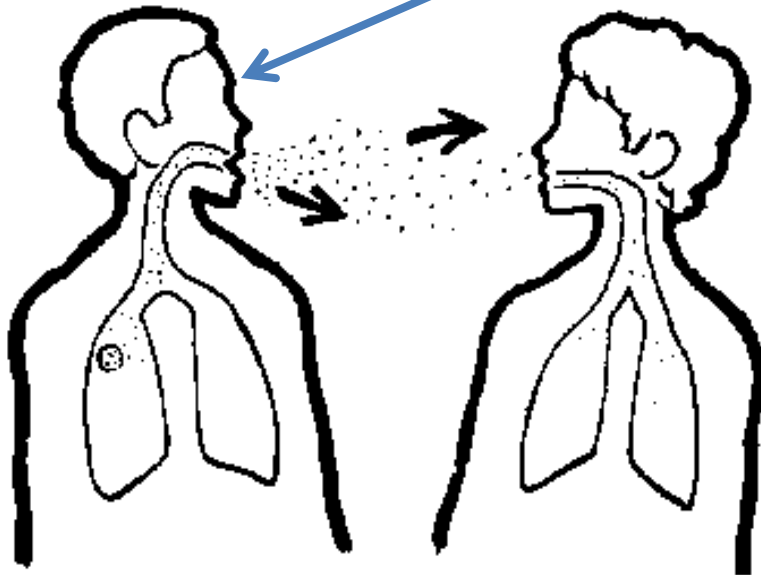
- If this treatment too is not completed, the patient becomes **Totally Drug Resistant (TDR)**

Treatment of such patients becomes a challenge as they do not respond to most types of medication

TDR cases have been reported from 3 countries in the world- India, Iran and Italy

# Examples of TB:

## Lung TB & Skin TB





# What should a TB infected patient DO?

- Take prescribed medication regularly and complete the medicine course advised by the Doctor
- Take a regular, nutritious, high protein diet to build immunity and to be able to tolerate TB medication
- Cover the mouth while coughing
- Regularly get the diagnostic tests done, as advised by the Doctor( Sputum, X-ray, blood test etc.)
- All those living in close proximity with the infected patient should also get their check up done and follow the advice of the Doctor
- Keep your surroundings clean and infection free

# What should a TB infected patient **NOT DO?**

- Do not stop treatment unless advised by a Doctor  
***Leaving TB treatment mid-way, without consulting your Doctor can be very risky***
- Cover mouth and nose whilst coughing
- Do not spit in open spaces
- After spitting, clean the place properly. Sputum can also be collected in containers, boiled in water and discarded to prevent spread of infection
- Do not take medication without proper advice from the Doctor. Consult the Doctor in case of side effects

# Please Remember !!!!

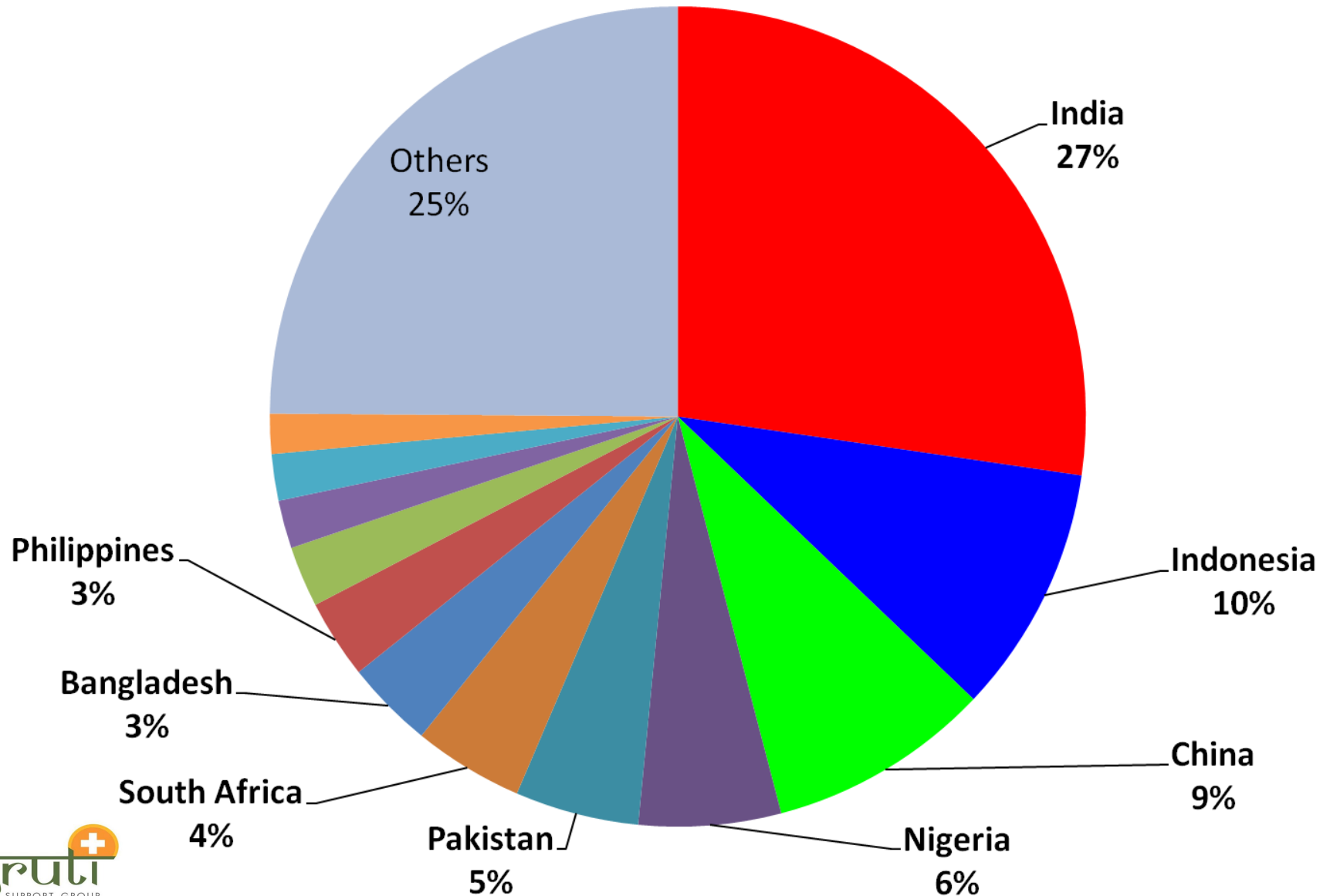
- Be alert about the symptoms of TB not only for yourself, but for those around you
- Do not ignore the symptoms of TB
- TB is curable if we take the correct and regular treatment and complete it properly
- TB treatment is free under the Government's RNTCP programme
- Contact your nearest Government dispensary, Health Post, Hospital for free treatment and free diagnostic tests

# TB in India

- India has the highest number of TB patients in the world ( 25%)
- The Government's India TB Report 2018, puts this number at about 28 lakhs
- TB is India's biggest health problem
- 4 lakh people die of TB in India every year
- India has the highest number of missed TB cases ( 24%) , as TB is not detected.
- 50% of TB cases in India are not reported

Hence we have to spread awareness about TB - it's causes, symptoms and treatment

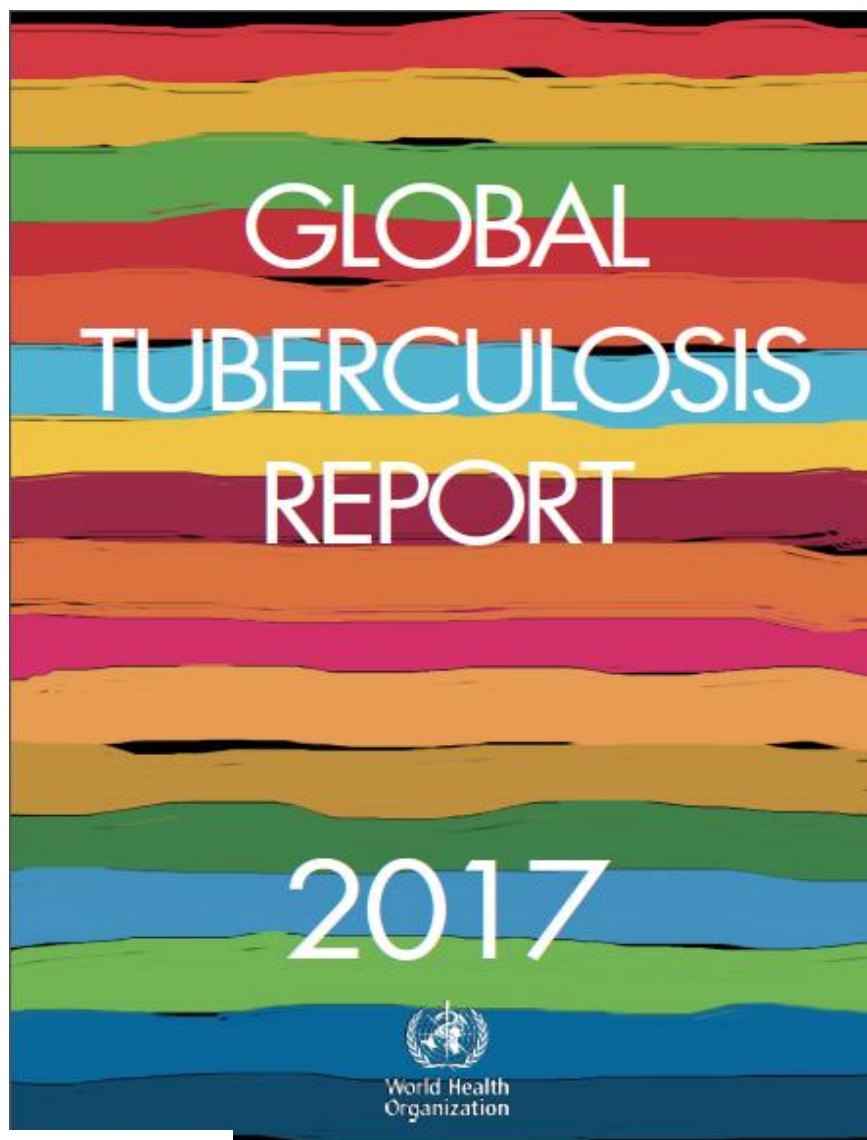
# TB Disease Burden



# TB In India

- The incidence of TB is about 211 per lakh of people at present. Working towards a TB free India we want to bring it down to 43 per lakh of people
- 32 per lakh of people die of TB ( excluding HIV). Working towards a TB free India we want to bring it down to 3 per lakh of people
- Mumbai has the dubious distinction of being the TB Capital of India , with the highest number of TB and MDR cases in the country

# Global TB Burden -2017



	Global	India
Incidence	1,04,00,000 (140/lakh)	27,90,000 (211/lakh)
Deaths	16,74,000 (22/lakh)	4,35,000 (33/lakh)
HIV TB cases	10,30,000 (14/lakh)	87,000 (6.6/lakh)
HIV TB deaths	3,74,000 (5.0/lakh)	12,000 (0.9/lakh)
Estimated MDR/RR cases	6,01,000 (8.1/lakh population)	1,47,000 (11/ lakh population)

# Treatment of TB

- We have a **Vision** of a TB free India, with zero deaths, disease and poverty due to TB
- Treatment of TB is free under the Government of India's Revised National TB Control Programme ( RNTCP) available through Govt. Dispensaries, Health Posts and Hospitals
- TB patients need a protein rich diet. The government gives an allowance of Rs. 500 per month to each registered patient under the **Nikshay Poshan Yojna**
- TB is a notifiable disease in India since 2012 . As per current laws ALL doctors and Chemists have to report TB cases to the Government

**Still 50% cases are treated in the private sector in India**



# Make TB free India a Reality



Let us pledge to make India TB free by

Sharing this information

&

Acting on this information

when and where required