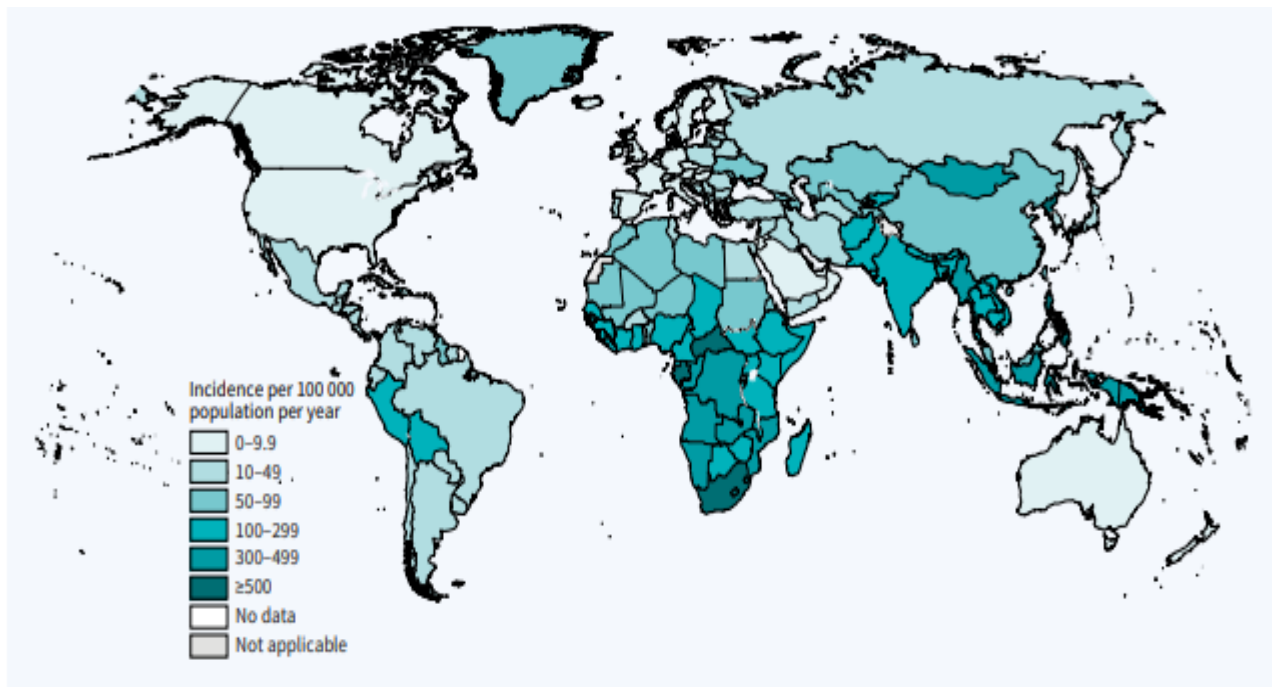


TB

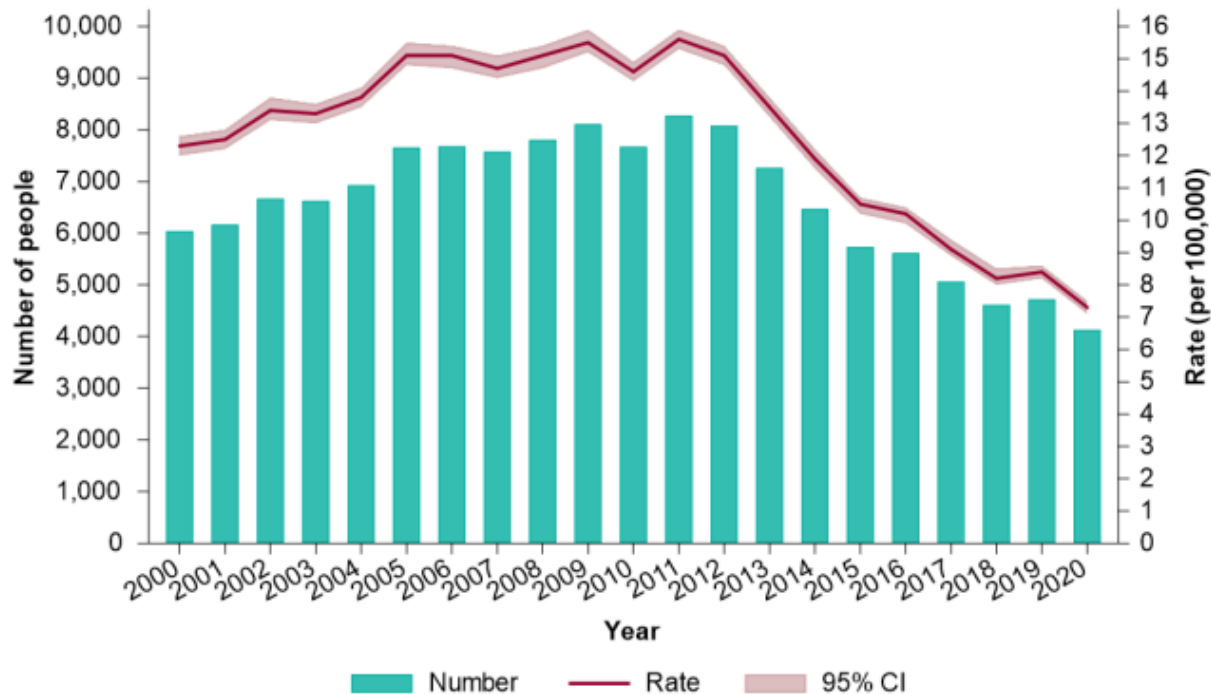
Fran Guyatt / Cheryl Weller
TB Nurse Specialists

Estimated TB incidence rates, 2021

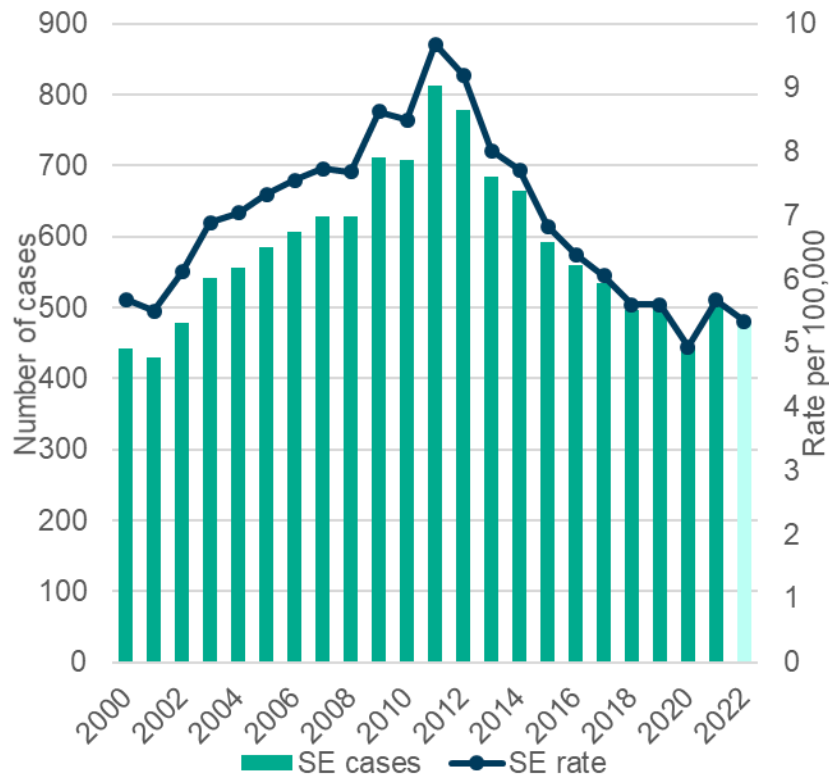
(WHO GLOBAL TUBERCULOSIS REPORT 2022)



Number of TB notifications and rates, England, 2000 to 2020

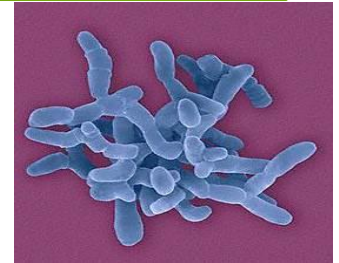


TB case reports and rates, South East, 2000 – 2022(2)



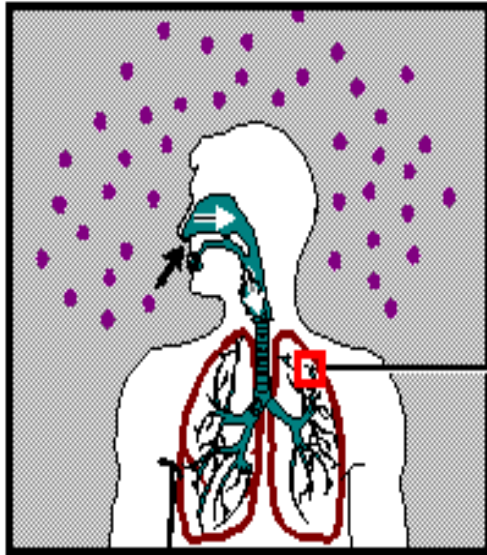
- 2021: 511 TB cases, rate 5.7/100,000
- Median age 41 (IQR 31-56)
- 57% male
- 80% born outside the UK
- *Provisional 2022: small decrease, 481 cases rate 5.3/100,000 population*

What is TB?



- Tuberculosis encompasses a wide disease spectrum affecting multiple organs
- TB is a bacillus, meaning rod shaped bacteria; it is from the genus mycobacteria.
- TB most usually affects the lungs but it can affect other parts of the body.
- Only TB of the lungs or larynx is infectious.
- TB is an airborne disease which can be cured.
- TB is transmitted to others when a person with infectious TB coughs, talks, sings, laughs or sneezes.
- TB is a notifiable disease under Public Health (Control of Disease) Act 1984.
- TB incidence is decreasing globally, and has decreased in the UK since 2011 but has seen an increase in 2019

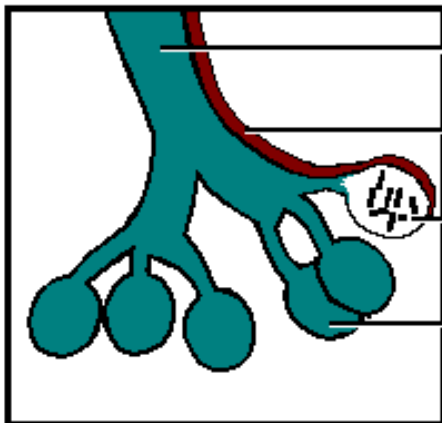
1



Area of detail for boxes 2, 4, & 5

Droplet nuclei containing TB bacilli are inhaled, enter the lungs, and travel to the alveoli.

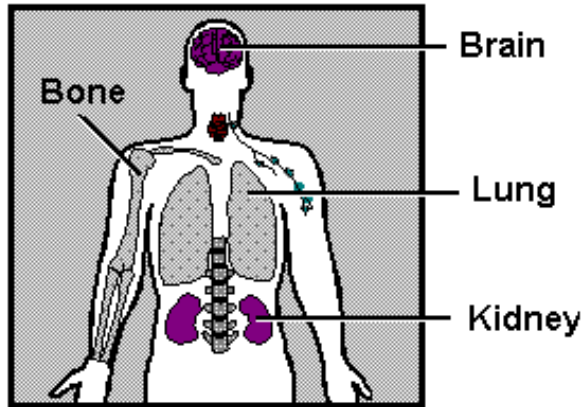
2



Bronchiole
Blood vessel
Tubercle bacilli
Alveoli

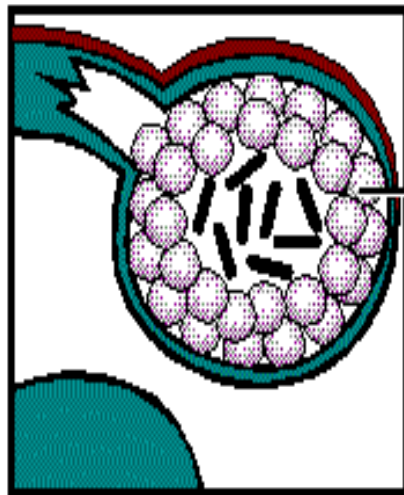
TB bacilli multiply in the alveoli.

3



A small number of TB bacilli enter the bloodstream and spread throughout the body. The bacilli may reach any part of the body.

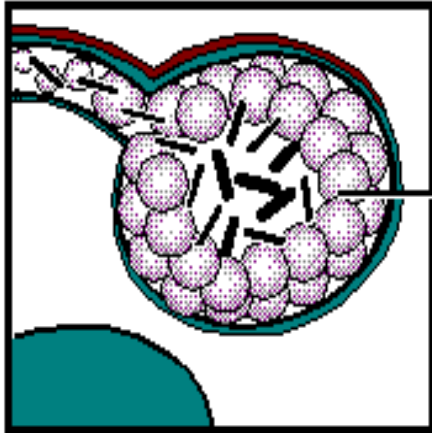
4



Special immune cells form a hard shell (in this example, bacilli are in the lungs)

Within 2-10 weeks, the immune system produces immune cells called macrophages that surround the TB bacilli. The cells form a hard shell called a granuloma that keeps the bacilli contained and under control (**latent TB infection**).

5



Hard shell
breaks down
and tubercle
bacilli escape
and multiply (in
this example,
TB disease
develops in the
lungs)

If the immune system cannot keep the bacilli under control, the bacilli begin to multiply rapidly (**TB disease**). This process can occur in different places in the body, such as the lungs, kidneys, brain, or bone.

Of those infected:

- 5% will progress to disease usually in the first two years
- 5% will progress to disease some time in their lifetime

Which organs can be affected?

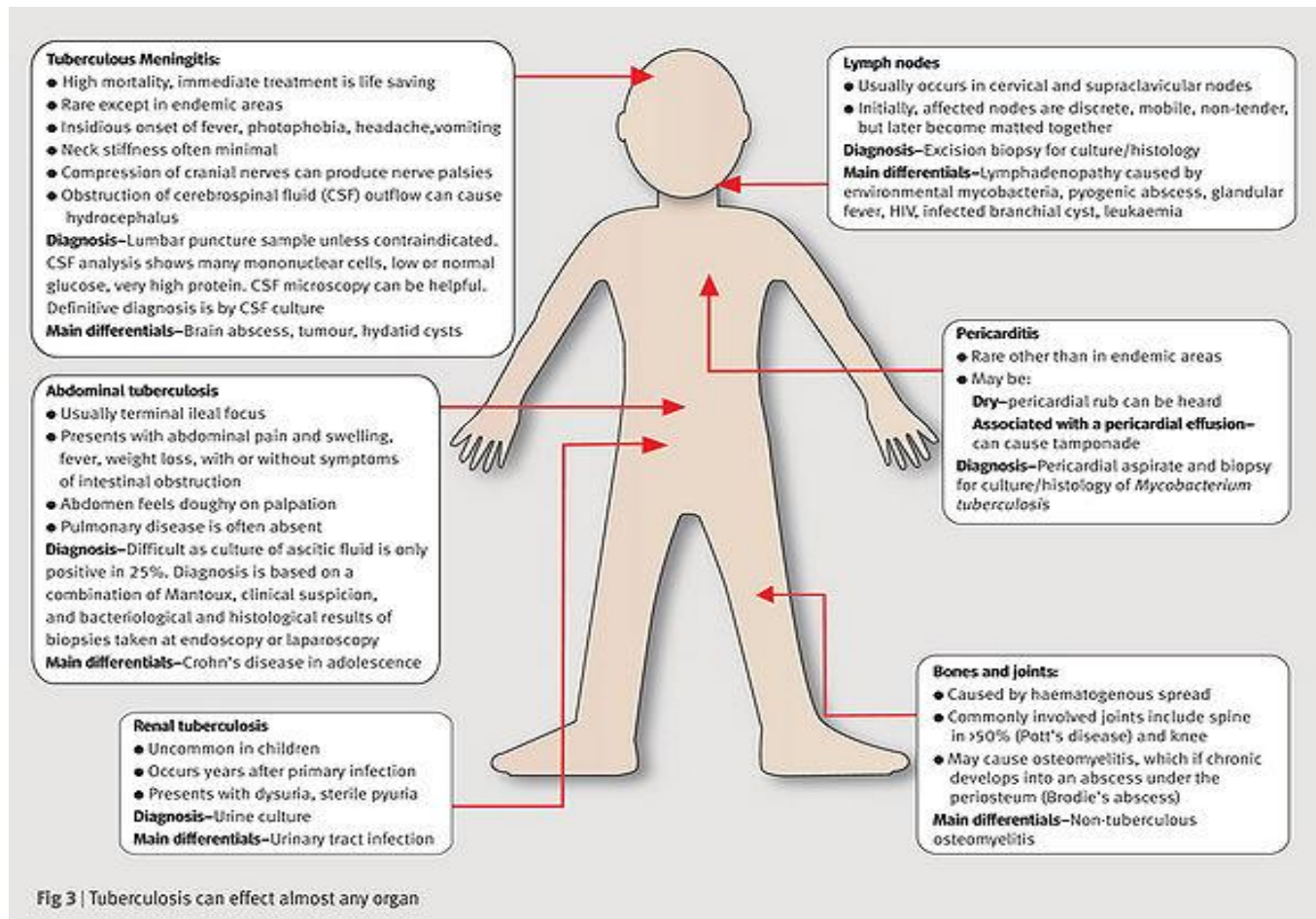
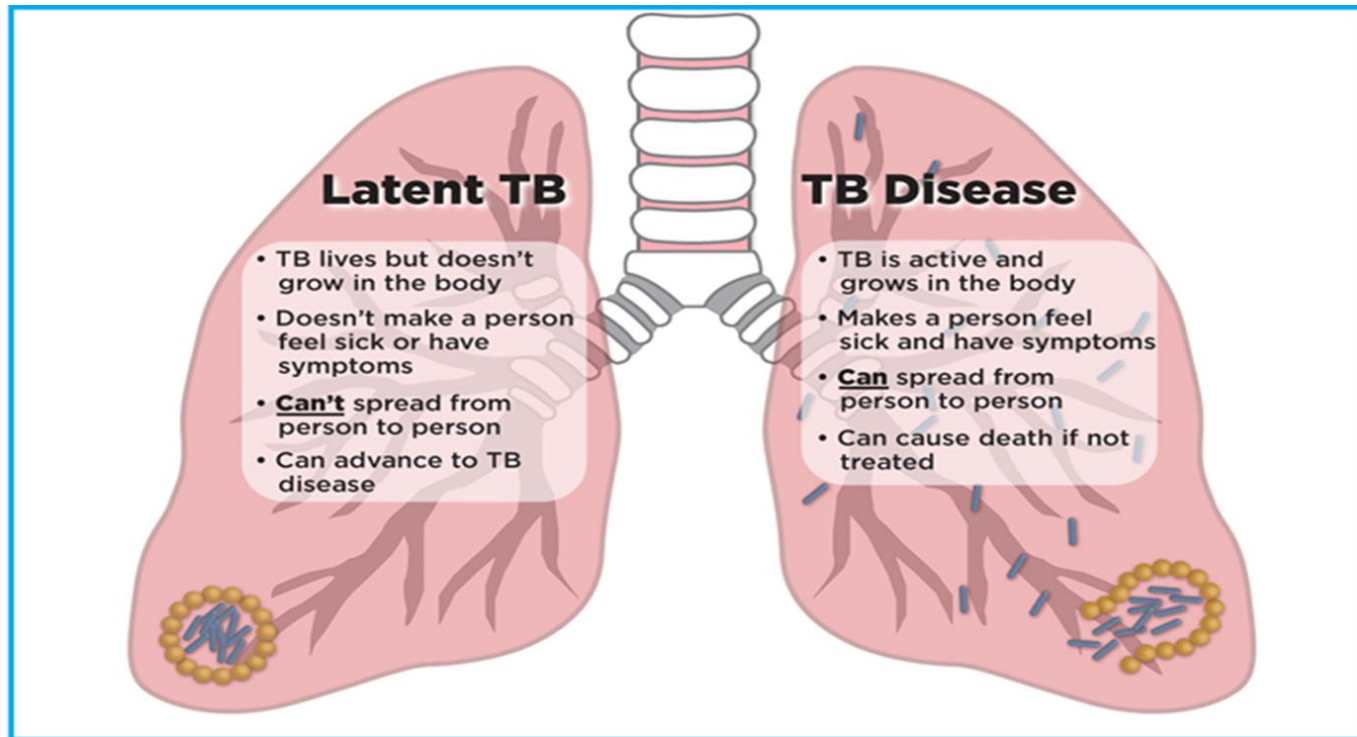
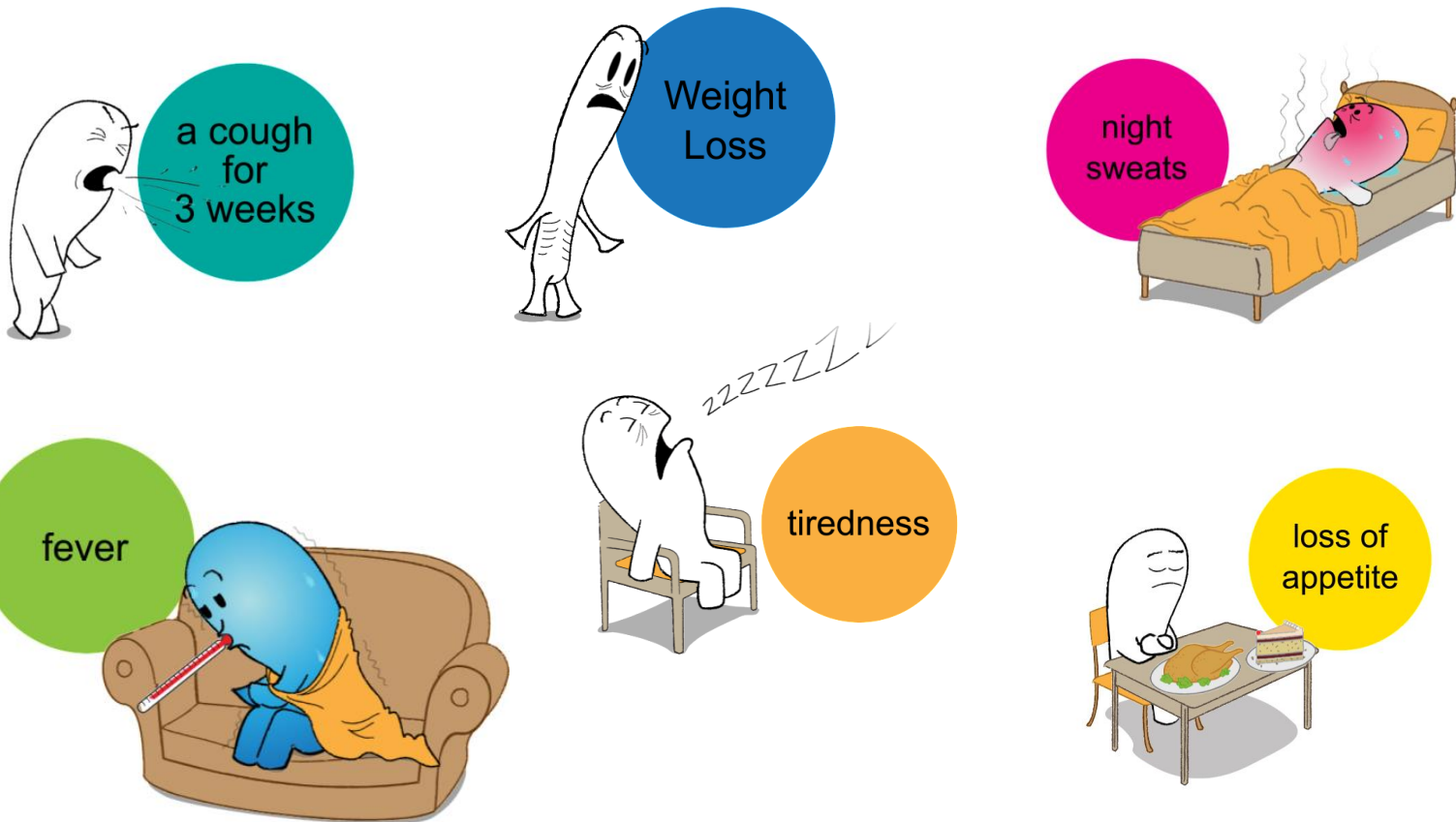


Fig 3 | Tuberculosis can effect almost any organ

What is the difference between latent and active TB



Active TB Disease Symptoms and Signs



Diagnosis:

History/contact

Pulmonary TB:

- CXR
- sputum x 3 (AFB & culture)
- bronchoscopy
- blood for FBC, ESR and CRP
- CT SCAN
- Induced sputum not done at MTW

History/ contact

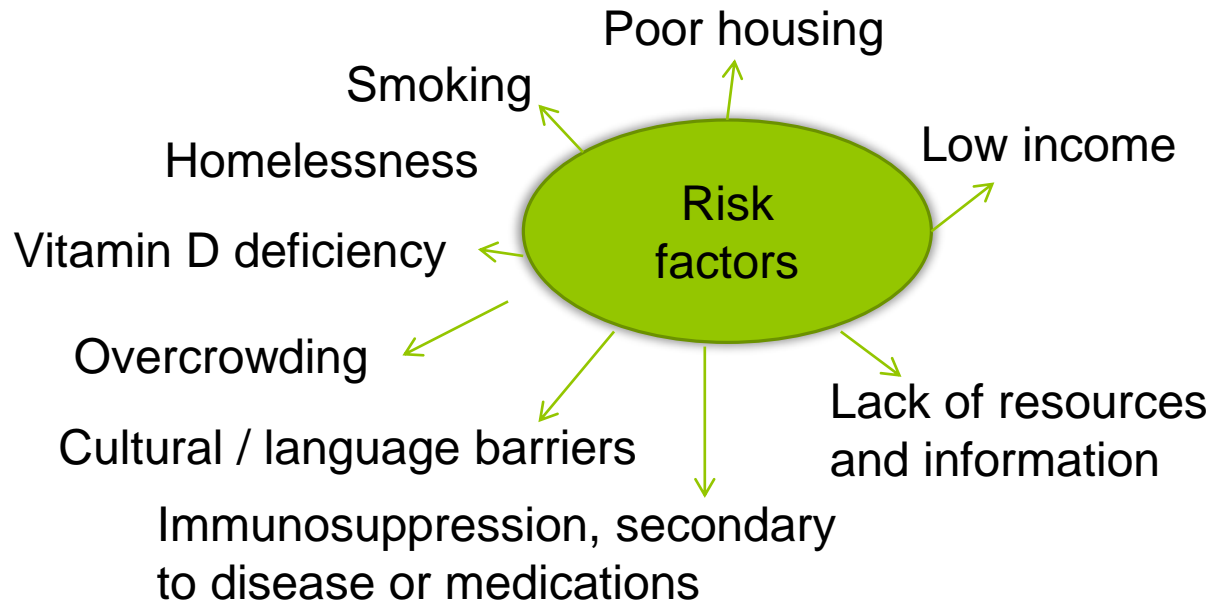
Extra-pulmonary TB:

- fine needle aspirate (lymph node),
- pleural biopsy/ aspiration (pleural)
- lumbar puncture (meningitis)
- MRI scan (bone/joint)
- Early morning urines
- Ocular ??





Risk factors:



Children

New immigrants, refugees

Asian / African groups

Vulnerable groups

Older people

Known TB contacts

Substance misusers

Homeless

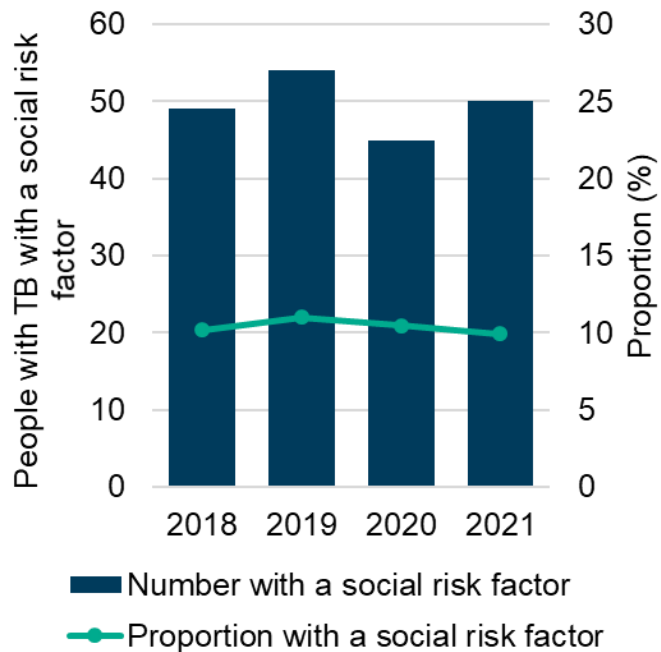
Prisoners

Mental health patients

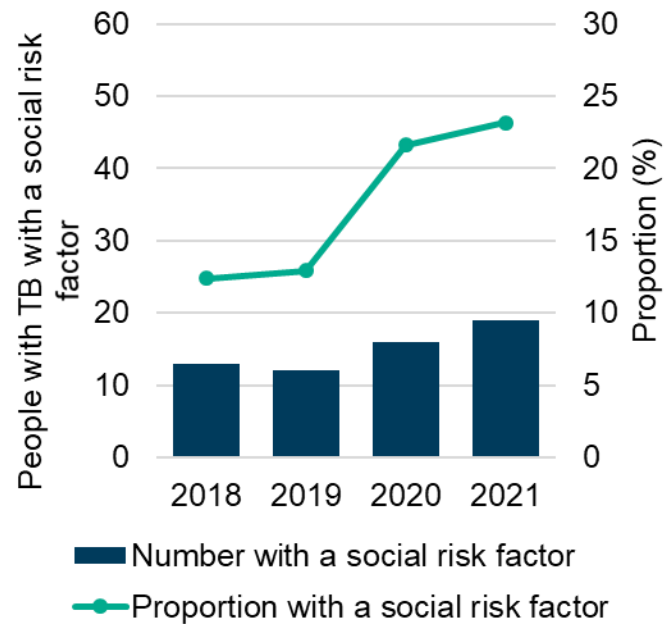
People with co-infection: HIV, Hep B, Hep C,
comorbidities

Social risk factors among adults aged 15 or older, resident in the South East and Kent and Medway

South East



Kent & Medway



Characteristics of among adults aged 15 or older with TB, with social risk factors, Kent and Medway 2021

- Social risk factors more common among:
 - UK born (35%, 8/23) vs non-UK born (19%, 11/59)
 - Men (32%, 54) vs women (7%, 2/28)
- For 2018-2021, more than 20% of people with TB had a social risk factor among:
 - Residents in Swale (48%), Thanet (29%), Ashford (25%), Dover (23%), Maidstone (22%), Folkestone and Hythe (21%)

Characteristics of among adults aged 15 or older with TB, with social risk factors, Kent & Medway 2021

- The 19 people with TB and a social risk factor more likely to have:
 - Pulmonary disease (68%, 13, vs 51% among those without SRF)
 - CNS, spinal, cryptic or military TB (21%, 4, vs 14% among those without SRF)
 - Have enhanced case management (84%, 16)
 - Be in a cluster (42%, 8, in a WGS cluster, vs 29% of those without SRF)
 - First present to A&E (52%, 10, vs 22% of those without SRF)
- Drug resistance
 - 2018-2021, all those (3) with RR/MDR disease had experience of SRF
- Hepatitis C
 - 2018-2021, all those (3) with TB and hepatitis C had experience of drug misuse

Outcomes of among adults aged 15 or older with TB, with social risk factors, Kent and Medway

People with TB and a social risk factor were more likely to have a poor outcome:

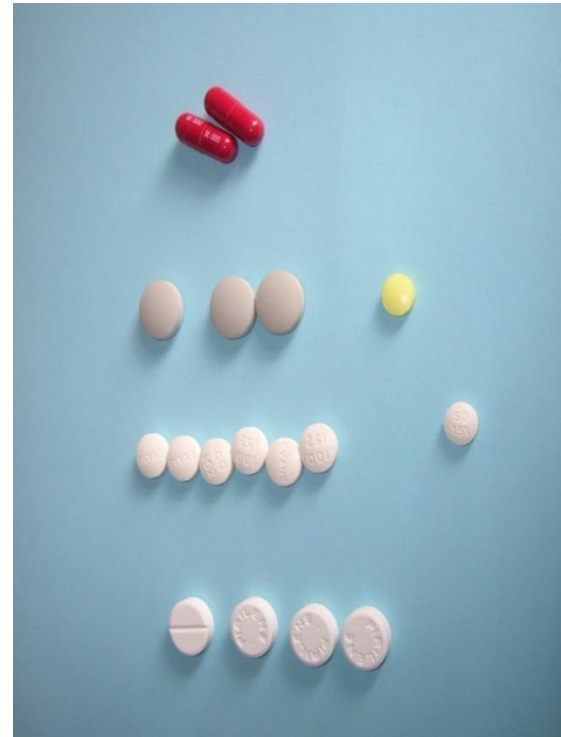
- Of those on standard treatment in 2020 (excluding RR/MDR or CNS, spinal, miliary TB):
 - Of those notified in 2020, 71% (10/14) completed treatment vs 85% of those without SRF
 - Of those notified between 2018 and 2020, 67% (35/52) completed treatment at 12 months vs 80% of those without SRF

Standard Treatment:

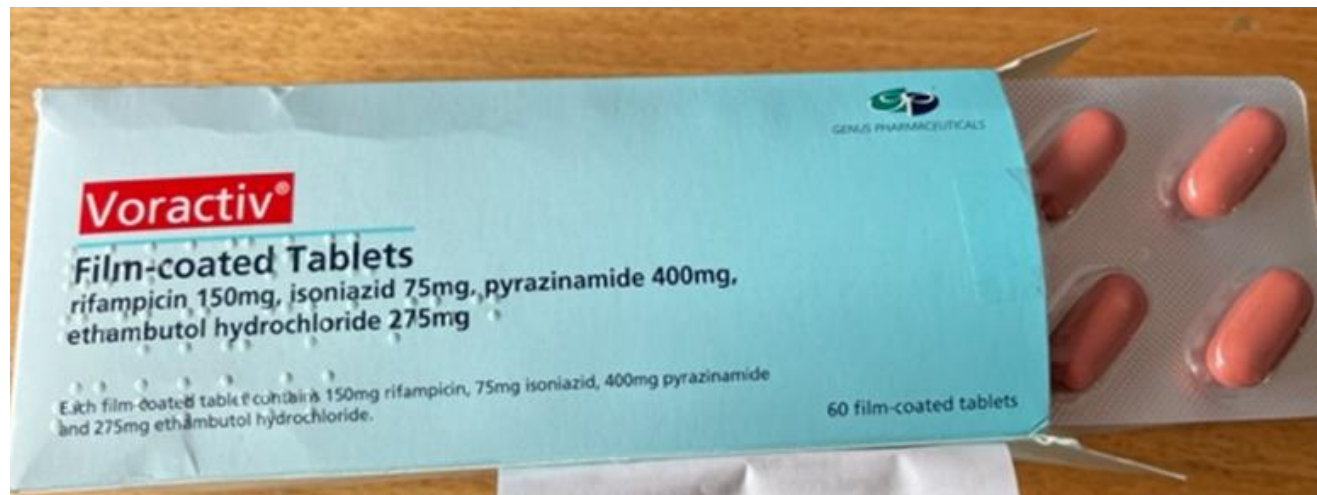
- 2 months quadruple therapy
Rifampicin/Isoniazid/Pyrazinamide
(Rifater)
Ethambutol (15mg/kg)
- Voractiv- all above in 1 tablet
- 4 months Rifampicin/Isoniazid (Rifinah)
- +/- Pyridoxine

NB-If there is central nervous system involvement the continuation phase of treatment is extended to 10 months making a 12 month full treatment plan

Treatment:



Voractiv



Compliance:

- Self administered- urine check / pill counts
Monthly FU, dosette box.
- Directly Observed Therapy (DOT) 7 days a week (3 times a week- No longer advocated) for duration of treatment
- Video Observed Therapy (VOT)

Contact details

UKHSA - [0344 225 3861](tel:03442253861)

- SE.AcuteResponse@ukhsa.gov.uk

West Kent: Fran Guyatt 07763582732 Cheryl Weller 07523942257

- Contact details: mtw-tr.mtwtbsevice@nhs.net
- Symptomatic patients - urgent referral to Dr Mankragod via above email/ telephone numbers

East Kent: Marianne Stoneman / Sarah Murphy

- Contact details: Tel 0300 123 1430,
- Symptomatic patients - urgent referral to: Dr Malamis, Dr Goldsack QEQM / Kent & Canterbury /William Harvey

Medway: Joan Mabonga / Mika Gabatin

- Contact Details: Tel 01634 830000 Ext 3242
- Symptomatic patients - urgent referral to: Dr Hettiarchchi

Darford/Gravesend/ Swanley: Kate Stevens

- Contact Details : 01474 360526/8 Symptomatic patients - urgent referral to: Dr Lohani