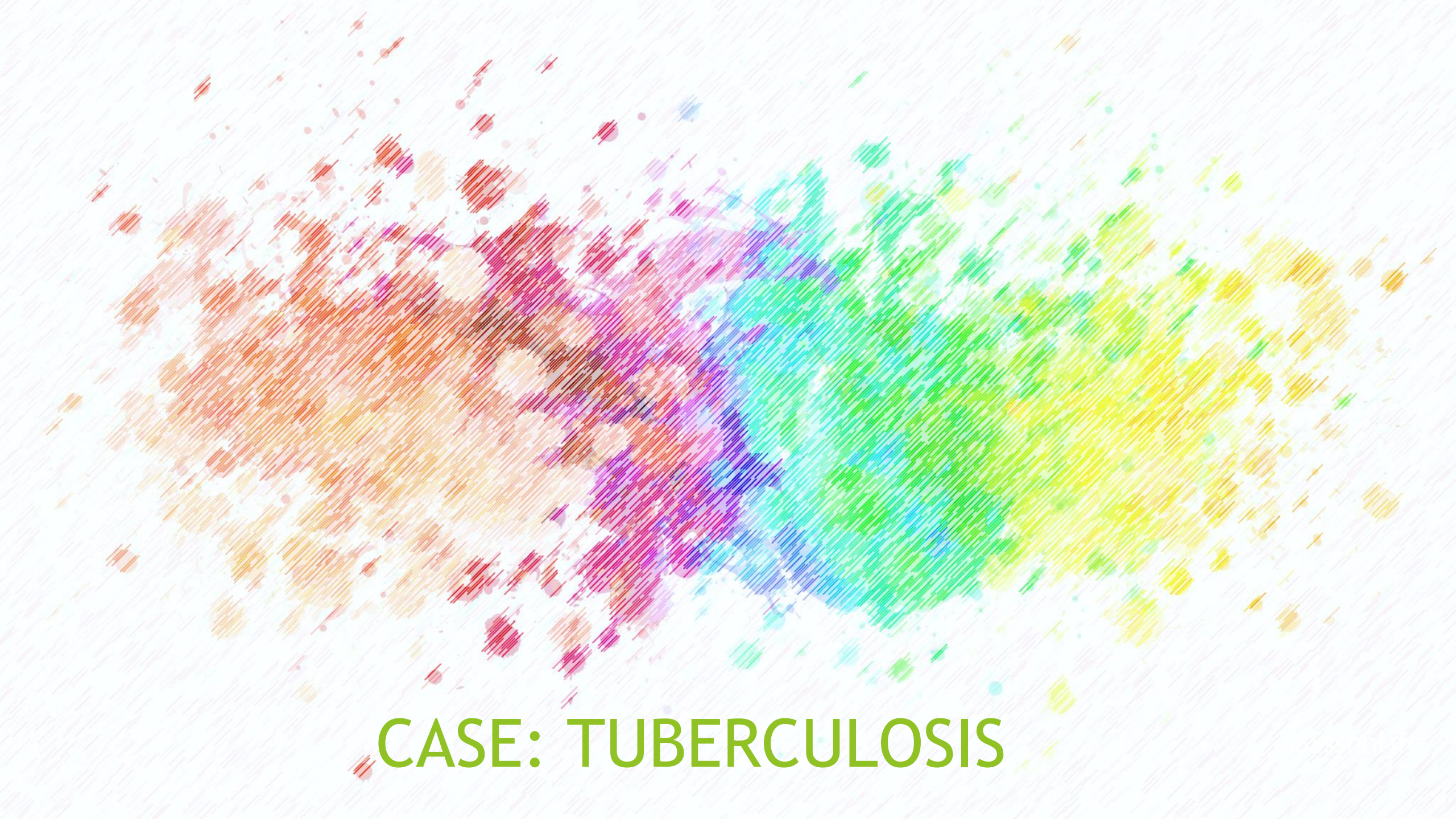




CASE: TUBERCULOSIS

NAMES OF PRESENTERS FOR THIS GROUP.

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INTRODUCTION.

- ▶ Tuberculosis is caused by mycobacterium tuberculosis. It mainly affect the lungs and spreads through airborne droplets. Measuring TB helps public health authorities understand it spread and plan control strategies.

WHAT ARE THE MAIN APPROACHES AND STRATEGIES THAT COULD BE USED TO MEASURE AN INFECTIOUS DISEASE.

1.DISEAS SURVEILLANCE:

Disease surveillance helps a 21-year-old Patel with TB living in a shared bedroom by tracking and monitoring the spread of tuberculosis in his community. Through collection data from hospital which Patel's has been visiting for the past years for check up and diagnosis. This help to monitor TB trends and detect outbreak amongst the boys in the shared bedroom.

INCIDENCE AND PREVALENCE.

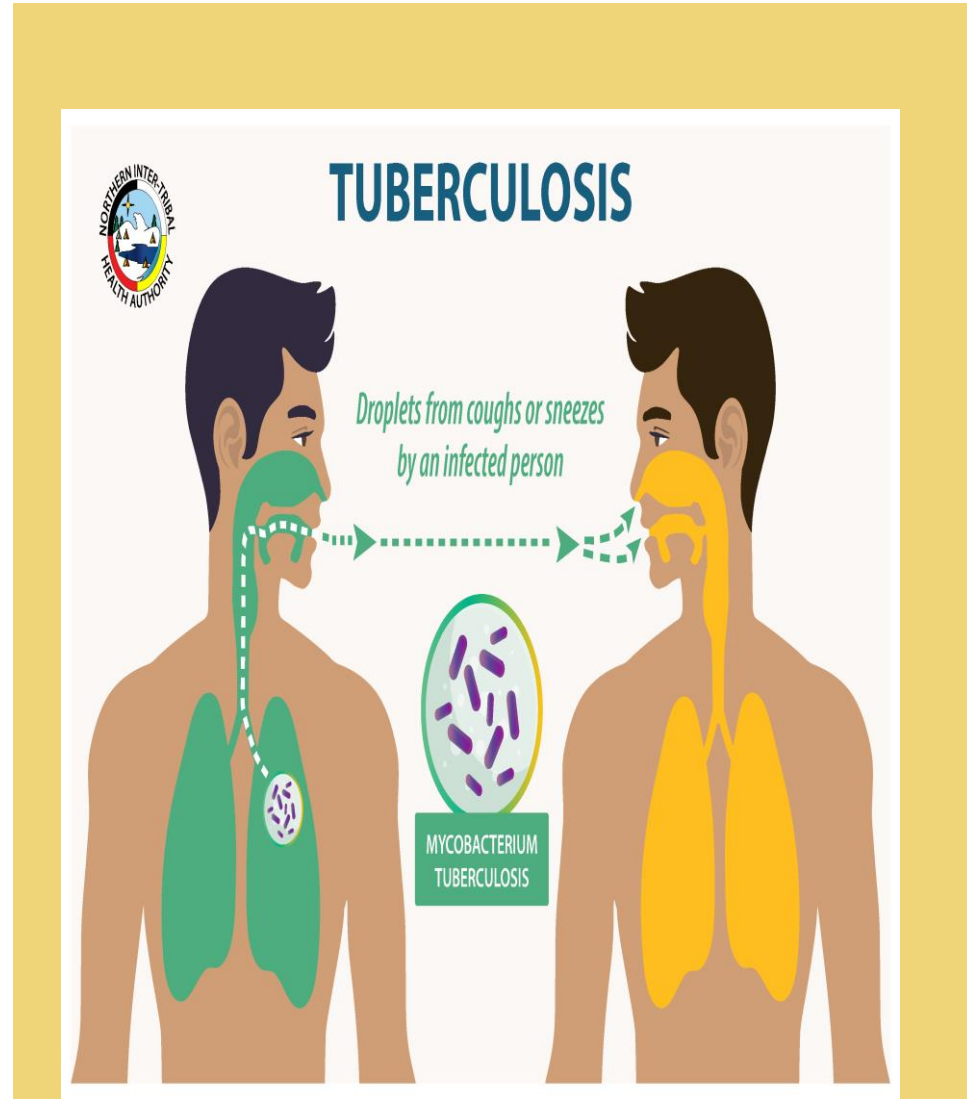
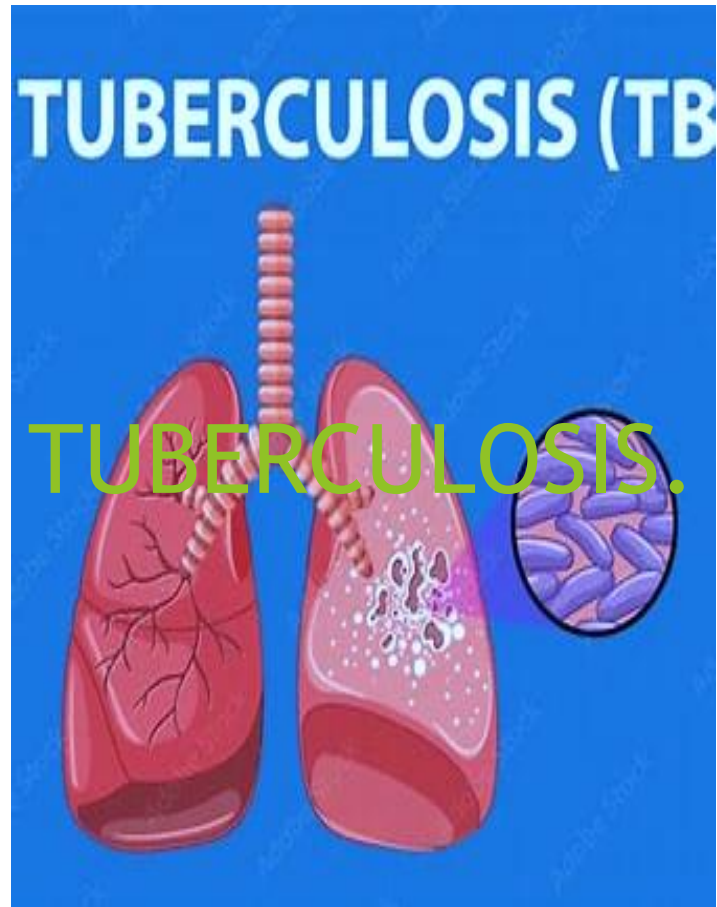
- ▶ A 21-year-old Patel with tuberculosis who lives in a shared bedroom benefits from disease incidence and prevalence because it illustrates how widespread and quickly the disease is spreading in his community.
- ▶ Health professionals can better grasp the current risk of contracting tuberculosis by looking at incidence, which indicates the number of new cases of the disease over a given time.
- ▶ The number of people who currently have tuberculosis (TB) indicates the disease's prevalence in the community.

Laboratory Testing and screening.

- For Patel, who has been diagnosed with tuberculosis, laboratory testing and screening are essential, particularly when he shares a bedroom with three other boys. Testing aids in diagnosis confirmation and therapy efficacy monitoring. Screening and population surveys identify hidden TB cases for Patel's interaction daily.

PREVENTION AND CONCLUSION

- ▶ Health education promotes awareness of TB symptoms amongst the people who Patel's share bedroom with on a daily interaction.
- ▶ Early testing and treatment can also stop the spreading of the TB disease.
- ▶ Measuring TB supports effective disease control.



What are the main approaches and strategies that could be used to monitor an infectious disease outbreak.

- ▶ The UK government uses a variety of public health regulations and initiatives to control and prevent the spread of tuberculosis (TB) in situations such as Patel's (21 years old, with severe symptoms, sharing a bedroom with three adults). Among them are:
 - ▶ **1. Early Identification and Management**
 - ▶ prompt detection of tuberculosis patients via medical services.
 - ▶ ensuring that the entire course of antibiotics is completed, which is essential for both curing and preventing drug resistance, by providing free, supervised treatment under the National Health Service (NHS).
 - ▶ Directly Observed Therapy (DOT) is used to promote adherence, particularly in serious situations.
 - ▶ **2. Contact Tracking and Evaluation**
 - ▶ For intimate connections, such as the three adults Patel shares a bedroom with, Public Health England (or the UK Health Security Agency) performs contact tracing to detect and screen for latent or active tuberculosis.
 - ▶ Chest X-rays and skin or blood testing (such as interferon-gamma release assays) are examples of screening procedures. Contacts with latent TB 3 may be eligible for preventive treatment. infection to slow the development of an active illness.

Continue explanation.

▶ 3. Infection Prevention Strategies

- ▶ giving the patient advice on respiratory hygiene, such as how to properly dispose of sputum and shield their mouth when coughing.
- ▶ evaluating dwelling conditions and suggesting better ventilation to lower the danger of transmission in communal areas.

▶ 4. Health Assistance and Education

- ▶ educating people about the symptoms, transmission, and significance of treatment adherence of tuberculosis.
- ▶ Social support helps alleviate issues like overcrowding and make healthcare more accessible.

▶ 5. Monitoring and Reporting

- ▶ TB cases must be reported to public health authorities in order to facilitate surveillance and response planning necessary, isolate infectious individuals in medical facilities during the contagious phase.

▶ 6. Dealing with Social Factors

- ▶ Policies aimed at improving housing and reducing overcrowding can help reduce TB spread in vulnerable populations. cooperation with social services to provide help as required.

- ▶ **In Summary:** Immediate medical evaluation and medication initiation are vital for Patel, who has severe symptoms and shares a bedroom with three adults. Government regulations ensure comprehensive NHS care and public health team intervention to prevent disease spread in his home and neighbour.

WHAT ARE MAIN APPROACHES AND STRATEGIES THAT COULD BE USED TO CONTROL AN INFECTIOUS DISEASE OUTBREAK.

The best, and very effective ways to control a disease outbreak are as follow:

Fast detection, as soon as an outbreak has come to light all the relevant people must informed fast.

The main route transmission is well understood at the earliest time possible. Public health guidelines trusts are followed at the community levels.

First is to create a surveillance around the community which can be mounted at a crucial way. This includes tracking disease incidence to identify outbreaks early and collecting epidemiological data to

Understand the spread and impact of the disease.

Prevention strategies play a vital role as well. Vaccination helps build hard immunity, while public health campaigns educate communities on hygiene and preventive measure.

Quarantine and isolation are essential methods for controlling outbreaks. Isolating infected individuals prevents further transmission, and quarantining those who may have been exposed helps contain the spread.

CONTINUE.

- ▶ Community engagement is necessary for effective outbreak control. Collaborating with local leaders and empowering communities to participate in health initiatives can enhance response efforts.
- ▶ Environmental controls, such as sanitation measures and vector control, help reduce transmission risks. Improving cleanliness in public spaces and managing outbreaks. Allocating resources for response efforts is equally important.
- ▶ For a service aiming to improve patient waiting times, you define a target example under half an hour minimum choosing 4 to 6 average waiting percentage seen with an hour on every person arrival these weekly on a simple chart, review them in a team meeting.
- ▶ Finally, research and development contribute to long-term solutions. Studying pathogens helps in understanding diseases better, while innovative technologies can enhance surveillance and treatment options.

WHAT POLICY AND STRATEGIES ARE AVAILABLE TO THE UK GOVERNMENT TO MAINTAIN PUBLIC HEALTH.

- ▶ For a family like the Patels, who have been diagnosed with tuberculosis (TB) and have three sons sharing a bedroom's Screening and Contact Tracing: The NHS and local public health teams routinely screen close contacts of TB patients, such as household members, to identify latent or active TB early and provide the proper treatment or preventive medication.
- ▶ Directly Observed Therapy (DOT): Healthcare providers may provide DOT, in which a medical professional continuously monitors the patient taking medication to guarantee adherence to TB therapy, to reduce the risk of drug resistance and treatment failure.
- ▶ homes and Social Support: To lower the risk of tuberculosis transmission, local governments and health agencies may work together to enhance living conditions, particularly in cramped homes.
- ▶ If families need to be isolated, social services can help them find better living options or temporary accommodations.
- ▶ Families receive education on TB transmission and infection management strategies (e.g., ventilation, cough etiquette).
- ▶ Community Involvement and Health Education:
 - ▶ Public health initiatives raise knowledge of tuberculosis symptoms, transmission, and the significance of treatment.
 - ▶ Affected groups, particularly those of South Asian heritage like Patel's family, are provided with culturally relevant communication and support.

WHAT HEALTH EDUCATION WILL YOU GIVE TO THE COLLEGE TO PREVENT THE TB OUTBREAK.

- ▶ 1. Isolation and Respiratory Precautions: Stress the significance of Patel avoiding close contact with roommates, particularly during the infectious phase (typically the first two to three weeks of treatment).
- ▶ Tell Patel to properly dispose of tissues and to cover his mouth and nose with a mask or tissue when he sneezes or coughs.
- ▶ 2. Ventilation: To lower the number of tuberculosis germs in the air, emphasise keeping the shared bedroom well-ventilated by opening windows and using fans to increase airflow.
- ▶ 3. Precautions and Awareness of Roommates:
- ▶ Teach the three boys about the signs of tuberculosis, how to prevent it, and the value of maintaining proper respiratory hygiene.

Referencing

- ▶ Centres for Disease Control and prevention,(2022) Tuberculosis (TB).
- ▶ Pai, M. et al. (2016) Tuberculosis, Nature reviews Disease primers.
- ▶ World Health Organisation, (2023) Global Tuberculosis Report.
- ▶ GOV.UK. Communicable disease outbreak management guidance: principle to support local health protection systems. Update 2025.
- ▶ Number Analytics, Effective Strategies for infectious Disease Control,2025.
- ▶ World Health Organization, Preparing and Preventing Epidemics and Pandemics.