TB at the centre of airborne Pandemic Preparedness and Response

Suvanand Sahu

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COVID-19 Pandemic Experience

TB program resources and expertise were used to fight Covid:

- TB human resources
- Hospitals, laboratories / diagnostics
- Airborne infection control practices

TB programs were familiar with measures used in COVID:

- Masking, contact tracing, respiratory care, social distancing, ventilation, UV lights, etc.

TB programs were underfunded & capacity was already stretched; this led to:

- Disruptions to TB services
- Inadequate support to COVID

Tuberculosis and COVID-19 – more in common than you think

Illustrative

Common manifestations

Airborne infections transmitted through breath
1 untreated TB infects 15/yr; 1 C19 infects many

Causing similar symptoms (e.g., cough, fever)

Affecting primarily the respiratory tract

Both have high mortality
TB kills slowly but untreated TB has 50% mortality

Common responses

Testing

Tracing

Masking

Isolating

Airborne infection control

INTEGRATED APPROACH NEEDED FOR PREVENTION AND CARE OF LETHAL RESPIRATORY INFECTIONS – COVID-19, TB AND FUTURE AIRBORNE PANDEMICS

Why TB needs to be in the centre of future pandemic preparedness and response?

- Very likely that next pandemic will be an airborne infection
  - Particularly if it is of a magnitude like COVID-19
- TB is an airborne infection, ever present everywhere, likely to outlive COVID-19 pandemic
- Adding investments to strengthen infrastructure and capacity of TB programs will help in developing surge capacity to fight any new airborne infection of pandemic potential
- Monitoring progress in TB could serve as a marker of the state of preparedness to fight any new airborne infection

Areas of investments which will help TB and also prepare the world for the next airborne pandemic

- Airborne infection prevention and control (AIPC)
- Diagnostics: multiplex testing platforms for respiratory pathogens, genome sequencing for drug/vaccine resistant variants, X-ray/imaging with a.i., mobile diagnostic units
- Contact tracing: human resources and infrastructure
- Community systems: community care, community led systems
- Digital health tools: a.i. based CADs, DATs
- Respiratory care: human resources, beds, equipment, supply, surge capacity, pvt sector care
- Disease surveillance and data: ILI/SARI as starting point of surveillance, next gen sequencing capacity for variants
- Vaccine research

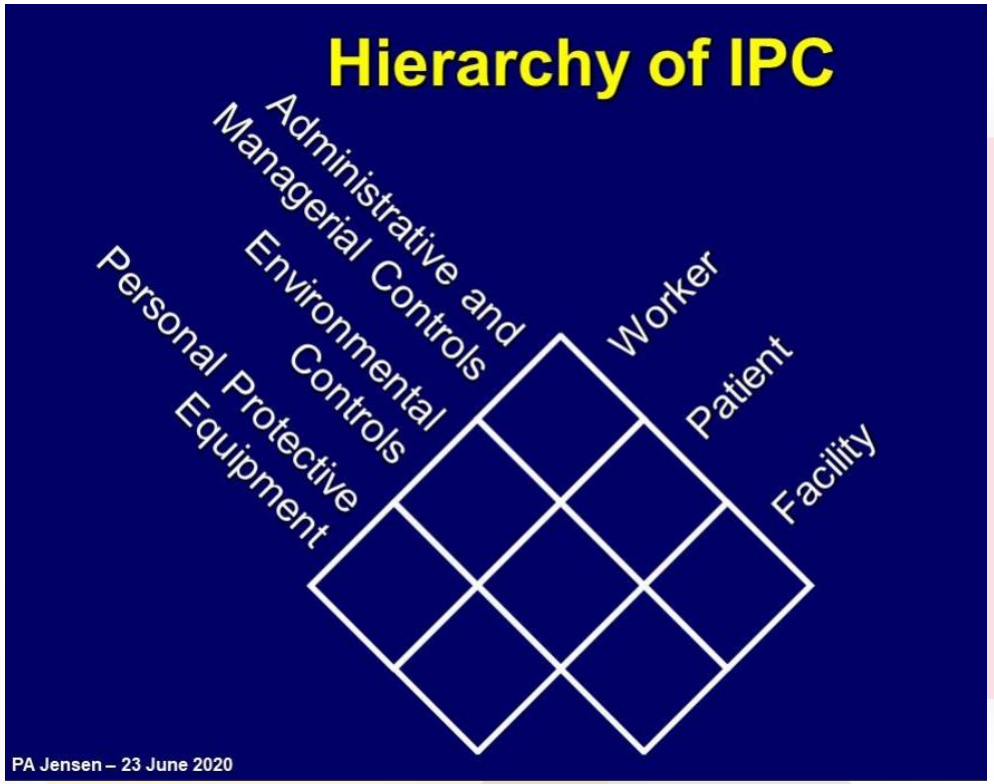
Airborne Infection Prevention and Control

- **A component of TB programmes for decades, but missing from health system and public spaces/buildings**
- **Time to change this to prepare for the next airborne pandemic**

1. Administrative controls
    - Triage those with respiratory symptoms
    - Isolation
    - Respiratory hygiene

2. Environmental controls
    - Upper-room germicidal ultraviolet (GUV) systems
    - Ventilation systems and filters

3. PPE



Taking respiratory care to the people- INVEST in dual purpose TECHNOLOGY for TB as well as other airborne respiratory illness

Stop TB Partnership 20 YEARS

Ultraportable Xray with CAD, being used in Pakistan

Rapid molecular test for TB & C19 - portable

A standardized van with onboard diagnostics developed by private sector partners

Philippines, in a C19 quarantine facility:
"How are your lungs? Free Chest X-ray"
https://www.devex.com/news/how-manila-is-using-its-covid-19-response-to-find-tb-patients-101594

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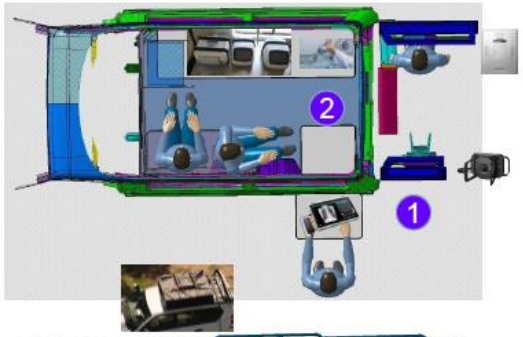
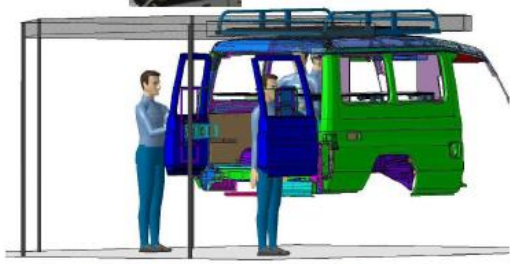
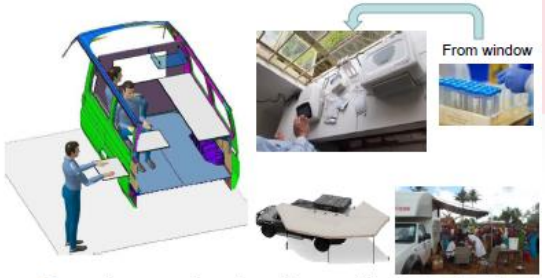




X-ray & Panel can be hold at the rear door

1. X-ray + AI for Chest screening
2. If positive, PCR test in the car

4 passengers can be on board in a car,
Ex) Radiographer x 1, LAB tech x 2, Driver x 1



Rear door can be closed to avoid contamination
Or LAB/X-ray test could be managed at outside.

Thank you

Secretariat would like to have Board guidance on making TB the centre of future airborne pandemic preparedness.