Non-pharmaceutical Interventions (NPI) for COVID - 19
Session Outline

Non-pharmaceutical Interventions (NPI)

- Concept and application
- Components and levels of interventions
- Implementation of NPI
- Evaluation
Potential Tools in Our Toolbox

- Vaccine – best countermeasure is not readily available

- Antiviral drug could improve outcomes but no clarity yet.

- Antiviral prophylaxis not available hence no effect on reducing transmission

- Non-pharmaceutical interventions may reduce transmission and diminish overall health impact.
Non-pharmaceutical Interventions

1. Delay disease transmission and outbreak peak
2. Reduce peak burden on healthcare infrastructure
3. Diminish overall cases and health impacts
Isolation

- Separation and restricted movement of ill persons
- Would apply to even PUI
- Isolation in a hospital – ideally in a Bio-containment facility;
- if not available in an isolated room not sharing air-circulation with other rooms.
- Follow hospital infection prevention and control Recommendations
Quarantine

- refers to separation and restriction of movement or activities.

- Persons who, while not yet ill, have been exposed to an infectious agent and therefore may become infectious.

- Often at home

- Follow infection control practices for home care settings
Non-Pharmaceutical Interventions

Individual level

- Isolation
- Quarantine
- Infection control through simple public health measures
  - Hand washing
  - Respiratory etiquettes
  - Stay away
  - Use of PPE
Non-Pharmaceutical Interventions

Community level

- Quarantine of groups/sites
- Community wide quarantine-Cordon Sanitaire
- Measures to increase social distance
  - School closures
  - Business and market closure
  - Cancellation of events
  - Movement restrictions
Non-Pharmaceutical Interventions

National/ International level
- Non essential travel deferred
- Provide information to travelers
- Self recognition of illness and self reporting
- Entry screening (Passive)
- Exit Screening at Airports of affected countries
- Airport Quarantine
- Ban of flights/ ships originating from affected area
NPI for COVID - 19

• Individual level
  ➢ Isolation
    ➢ Hospital setting
  ➢ Quarantine
    ➢ Home, POE and hospital settings
  ➢ Simple public health measures for infection control (Hand washing, Hygiene, Sanitation, Respiratory etiquettes)
    ➢ Home, school, workplace, hospitals, markets
  ➢ Use of masks and gloves (for care provider)
    ➢ Home care, POE and hospital settings
NPI for COVID - 19 cont’d

• Community level
  – Quarantine of site (Hospital) in case of Nosocomial infection involving HCWs
  – Social distancing measures / community wide quarantine not advocated.

• National/ International level
  – Non essential travel to be deferred.
  – No need to restrict trade or Travel
  – No import of bush meat or products of similar nature.
  – Need to inform travelers on the risk
Bio Safety and Clinical Requirements

- Ideally requires Bio - Containment Treatment Facilities.
- These patients often requires intensive care that is not possible in many of our district level hospitals.
- Identified facilities also require high level of critical care management.
- It also need to have a laboratory to support investigations required to manage critical patients.
- Adequate Infection Prevention Control Practices.
Ideal Bio Containment Patient Care Unit

- Negative air flow system with greater than 12 air exchanges per hour
- High-Efficiency Particulate Air (HEPA) filtration system of exit air.
- Secured access, double door air lock main entrance
- Separate staff entrances and exits
- Staff decontamination shower
- Pass through autoclave to disinfect materials leaving the unit
- Dunk tank to decontaminate lab specimens leaving the unit
- Video phone for patient communication
- Dedicated laboratory to process the clinical samples.
1. Triage
2. Decon
3. Treatment area
4. Biocontainment
5. Staff area
Suggested modalities for Isolation Facilities

Isolation facilities for managing COVID-19

- Single room with attached washroom, away from main patient care areas.
- The room needs to be kept closed.
- No visitor should be allowed except through tele/video conference.
- Preferably maintain the room at negative pressure.
- Health care workers attending on him should wear full complement of PPE.
Pressure Monitors

Air Filtration Systems

Portable units
Infection control : Home care settings for Quarantine / Isolation

• Requirements
  – The ill person should have his or her own bed preferably in a separate room.
  – Adequate air-ventilation
  – Basic amenities
  – Toilet facilities that preferably only the ill person use.
  – Identified primary caregiver for medications and care.
  – Care giver should be briefed adequately on infection control practices.

Non Pharmaceutical interventions
Non-Pharmaceutical Interventions

Health Monitoring

- Regular **health monitoring** of HCW in hospital settings/ Care givers in home care settings
- Self **health monitoring advisory** to other at-risk persons.
- Reporting to nearest health facility
- Details of accessible identified health facility.
Non-Pharmaceutical Interventions

Risk Communication

• Communicate the risk in clear consistent messages
• Convince public why the NPI measures are important and how they will protect the public.
• Wide spread dissemination through media
• One source for official information
• Prevention of incorrect information
• Allays psychological fear
Non-Pharmaceutical Interventions

Implementation requires:

- **Clear understanding of roles and responsibilities at all levels**
- **Coordinated planning** by many partners
  - Public health authorities, health-care providers, emergency response teams, law enforcement, transportation, civil aviation, shipping authorities
- **Trust and participation** of the general public
  - Effective risk communication, support and coordination with community groups
Non-Pharmaceutical Interventions

Evidence Base

- Limited scientific evidence about NP interventions currently exists.
- Historical and contemporary observations, anecdotal evidence
- Some evidence through mathematical models
- More Research is required
Summary

- NPI likely to be useful in delaying and reducing disease transmission, and may decrease health impact
- NPI should be used in coordination with other interventions, and early implementation is crucial
- All measures should be implemented within context of local situation.
- Limited scientific evidence. Need for further research
Thank you