

# Non-Pharmaceutical Interventions

# Session Outline

## Non-Pharmaceutical Interventions (NPI)

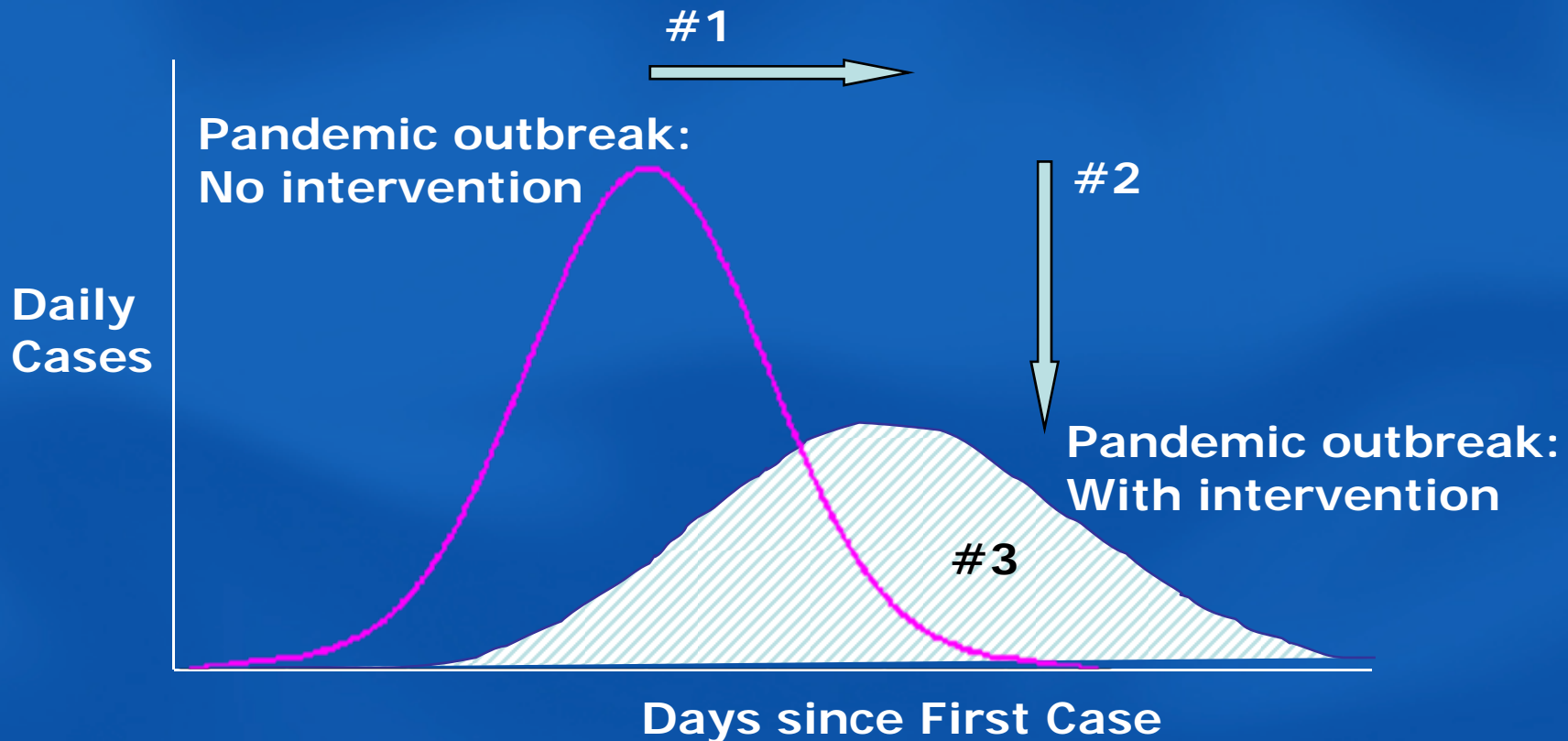
- ❑ Concept and application
- ❑ Components and levels of interventions
- ❑ Deciding factors for use of NPI
- ❑ Implementation of NPI
- ❑ Evaluation
- ❑ Scaling back

# Potential Tools in Our Toolbox

- ❑ **Vaccine** – best countermeasure but will probably be unavailable during first wave of pandemic
- ❑ **Antiviral treatment** – may improve outcomes but will have only modest effects on transmission
- ❑ **Antiviral prophylaxis** – may have more substantial effects on reducing transmission
- ❑ **Non-pharmaceutical interventions** – may reduce and delay transmission, giving time to prepare

# Non-Pharmaceutical Interventions

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



# Non-Pharmaceutical Interventions

## Individual level

- ❑ Isolation
- ❑ Quarantine
- ❑ Infection control
  - Hand washing
  - Respiratory etiquettes
  - Stay away from ill persons/if ill
  - Use of Personal Protective Equipment (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
- ❑ Infection control measures

# Non-Pharmaceutical Interventions

## National/International level

- ❑ Non essential travel deferred
- ❑ Provide information to travelers
- ❑ Self recognition of illness and self reporting
- ❑ Entry screening
- ❑ Exit screening
- ❑ Maritime/Airport quarantine
- ❑ Ban of flights/ships originating from affected area

# Non-Pharmaceutical Interventions

## Isolation

- ❑ Separation and restricted movement of ill persons with contagious disease
- ❑ Often in a hospital setting
- ❑ Primarily individual level
- ❑ Can be voluntary or legally mandated

# Non-Pharmaceutical Interventions

## 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, may be designated residential facility or hospital
- ❑ Individual or community level
- ❑ Can be voluntary or legally mandated

# Non-Pharmaceutical Interventions

## Community wide quarantine-*Cordon Sanitaire*

- ❑ Closing of community with barriers around a geographic area
- ❑ Prohibition of travel in and out of the area
- ❑ Helpful in closed settings (Military Barracks, University campuses etc.) or remote settings
- ❑ May be impractical in most settings

# Non-Pharmaceutical Interventions

## Principles of Quarantine

- ❑ Used when resources are available to implement and maintain essential services and care for those in quarantine
- ❑ Used in combination with other interventions
  - Surveillance, diagnosis, treatment, and preventive interventions
- ❑ Used only as long as necessary
- ❑ Does not have to be absolute to be effective

# Non-Pharmaceutical Interventions

## Social Distancing

- ❑ Interventions applied to specific groups or community designed to reduce personal interactions and thereby transmission risk
  - Cancellation of events
  - Closure of schools, cinema, buildings
  - Restrict entry to certain sites/buildings (railway station etc.)
- ❑ Not necessarily all of them are at risk of exposure
- ❑ Community level

# Non-Pharmaceutical Interventions

## Closure of Schools and Facilities

- Schools
  - Should be implemented early
  - Especially useful if high morbidity among children
  
- Business and market closures
  - Access to and availability of necessities
  - Economic considerations

# Non-Pharmaceutical Interventions

## Cancellation of Events

- Population measures to increase social distance and reduce mixing
  - Discourage mass gatherings such as festivals and sporting events
  - Impact on economy
  - Cultural significance

# Non-Pharmaceutical Interventions

## Movement Restrictions

- Another population measure to increase social distance and reduce mixing
  - Restrictions on public transportation and public gatherings
  - Voluntary or involuntary work holidays

# National/International Level

- ❑ Entry screening
- ❑ Exit screening
- ❑ Port/airport quarantine
- ❑ Travel advisory
- ❑ Ban on flights/ships

# Infection Control

- Infection Control
  - Hand hygiene
  - Cough etiquette
  - Facemasks
  - Cleaning and disinfection of surfaces

# **Implementation of Non- Pharmaceutical Interventions – Critical Issues**

# Non-Pharmaceutical Interventions

## Legal and Institutional Frame/work

- ❑ Legal provisions in the constitutional/central/federal/provincial laws (laws differ by country)
- ❑ Review existing laws prior to pandemic
- ❑ Enforcing authority
- ❑ Institutional mechanism
- ❑ Voluntary adoption

# 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

## Risk Communication

- ❑ Communicate the risk in clear consistent messages
- ❑ Wide spread dissemination through media
- ❑ One source for official information
- ❑ Prevention of incorrect information
- ❑ Allay psychological fear

# Non-Pharmaceutical Interventions

## Health Monitoring and Medical Care

- ❑ Regular health monitoring
- ❑ Self health monitoring & Reporting
  - Hotlines to answer questions about signs and symptoms
  - Fever clinics
- ❑ Effective medical care requires well trained staff
  - Ensure health care providers are available

# Non-Pharmaceutical Interventions

## Scaling Back

- Clear criteria are necessary prior to scaling back
  - Number of new cases
  - Spread of disease to surrounding areas

# Non-Pharmaceutical Interventions

## Evaluation

- ❑ Limited evidence about Non-Pharmaceutical interventions currently exists
  - Opportunity to add to the body of evidence
- ❑ Create evaluation plan prior to pandemic
  - Number of cases prevented
  - Unforeseen positive and negative impact

# Non-Pharmaceutical Interventions

## Challenges

- ❑ Infringes on personal freedom of movement
- ❑ Feeling of isolation
- ❑ Loss of income and employment
- ❑ Requires plans/protocols for provision of essential services
- ❑ Legally enforceable or voluntarily mandated

# Non-Pharmaceutical Interventions

## Facilitating/enabling factors

- ❑ Pre event planning and coordination
- ❑ Community preparedness (public understanding of the process)
- ❑ Systems to communicate relevant messages
- ❑ Personal protection/chemoprophylaxis
- ❑ Essential supplies and services

# Recommendations for Non-Pharmaceutical Interventions

	Phase 3 (Current)	Phase 4 & 5 (Rapid response)	Phase 6 (Pandemic)
Isolation	Yes	Yes	Yes
Quarantine	No	Yes	Possibly
Identification of contacts	Yes	Yes	No
Health monitoring	Yes	Yes	No
<i>Cordon sanitaire</i>	No	Possibly	No
Facility closure, movement restrictions, cancellation of events	Possibly	Yes	Possibly

# Summary

- ❑ Non-Pharmaceutical Interventions likely useful in delaying and reducing disease transmission, and may decrease health and human impact
- ❑ Non-Pharmaceutical Interventions should be used in coordination with other interventions, and early implementation is crucial
- ❑ All measures should be implemented within context of local situation and culture

**Thank you**