

# Preparing for the next flu pandemic



**MINISTRY OF HEALTH**

**SINGAPORE**

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# Pandemic Planning Assumptions

- Two or more waves in same year or in successive flu seasons
- Second wave may occur 3-9 mths later; may be more serious than first (seen in 1918)
- Each wave lasts about 6 weeks

# Estimates of cases in a pandemic

- Attack rate of 25%
- 450,000 do not need care
- 550,000 outpatients
- 11,000 hospitalised
- 1,900 deaths

# Singapore's Pandemic Plan

- Surveillance.
- Response & Impact Mitigation.
- Vaccinate population.



# Surveillance

- **Detect importation, occurrence as early as possible.**
- **External surveillance.**
- **Internal surveillance**
  - **Community ARIs, viral isolation**
  - **Atypical pneumonias**
  - **Unexplained deaths + respiratory illness**
  - **Lab diagnosis - PCR**

# Response & Impact Mitigation

## ➤ Desired Outcomes

- Minimise disruption to economy and society
- Maintain essential services
- Reduce morbidity and mortality through treatment of influenza-like cases
- Slow down and limit the spread of influenza to reduce the surge on healthcare system

# Vaccinate Population

- Obtain vaccines as soon as possible.
- Vaccinate entire population.
- Designated vaccination centres.



# Pandemic Response Plan

## ➤ Concept

- Colour-coded Risk Management approach
  - **Green** – animal disease [WHO 1,2,3]
  - **Yellow** - inefficient human-to-human transmission, small cluster [WHO 4]
  - **Orange** – larger cluster, more efficient H to H transmission, but still limited [WHO 5]
  - **Red** – pandemic; widespread infection [WHO 6]
  - **Black** - high mortality, morbidity



# Pandemic Response Plan

## ➤ Concept

- **Green/Yellow/Orange** -- Effective surveillance to detect the importation of cases with a novel influenza virus;
- Ring-fence cases through isolation of cases and quarantine of contacts.
- Tamiflu prophylaxis.

# Pandemic Response Plan

## ■ Yellow-Orange

- High risk of importation of cases
- Border control e.g. temp screening (effectiveness?)
- Infection control in health care system
- Quarantine facilities
- Info management

# Pandemic Response Plan

## ➤ **Pandemic – Red** : Mitigate consequences of 1st wave

### MOH

- Maintain essential services – Tamiflu prophylaxis.
- Treatment of cases with ILI in Flu clinics. Role of other GP clinics – manage other cases.
- Public sector hospitals handle flu cases, augmented by selected community hospitals. All elective work cease.
- Private sector hospitals – manage other cases.
- Tight infection control in healthcare institutions.

# Pandemic Response Plan

## ➤ **Pandemic – Red** : Mitigate consequences of 1st wave

### Whole of Govt

- Social distancing to be considered e.g. close schools, child care centres, ban public gatherings (e.g. cinemas, concerts), limit travel.
- Strong public communications.

# Pandemic Response Plan

- **Pandemic – BLACK** : Mitigate consequences of 1st wave
  - Public health considerations take precedence.
  - Social distancing measures – ban on public gatherings.
  - Additional health care facilities.

# Pandemic Response Plan

## ➤ Post 1<sup>st</sup> wave :

- Prepare for next wave.
- Vaccine may not come before next wave.
- Increased resistance to antivirals.
- Health care system remains on alert; maintain infection control measures.
- Use of recovered staff.
- When to relax social distancing measures.

# Business Continuity Plan

## ➤ GREEN :

- Maintain situation awareness, develop BCP, preparedness training

## ➤ YELLOW /ORANGE :

- Educate staff on good personal hygiene, implement infection control measures, temperature checks, increase cleaning of work areas, limit staff travel to affected areas

# Business Continuity Plan

## ➤ **Pandemic - RED/BLACK**

- Implement BCP
- Update staff about MOH directives, don't report to work if sick but go to Flu clinics instead
- Contacts – self-quarantine, monitor for fever
- Limit social gatherings, increase social space, consider telecommuting, no travel to affected countries



*"... The Perfume Filling the Air  
Could Have Come  
From Paradise ..."*

*"Kangaroo" - D.H. Lawrence.*



**Thank You**



[www.flu.gov.sg](http://www.flu.gov.sg)

[www.moh.gov.sg](http://www.moh.gov.sg)