Hospital Pandemic Preparedness

Surabaya, 10 May 2010

World Health Organization
Why do we need a plan?
Why do we need a plan?

- Provide a time-bound framework
  - for emergency response to the influenza pandemic based on national priorities

- Ensure that resources are mobilized and used most efficiently

- Facilitate coordination
  - among various sectors, particularly those dealing with human and animal health
Hospital pandemic preparedness plans

- The plan should be kept simple and it must be widely shared.
- It must be understood by all concerned actors (staff, patients, volunteers, partner institutions etc)
- It must clearly define roles, behaviors and protocols of all those involved
- The protocols should not substantially differ from the daily practice and vice versa.
Implications for pre-hospital care
Implications for pre-hospital care

1. Surge
   - Susceptibility of population
   - Transmissibility of influenza virus
   - Health seeking behaviour
Implications for hospital

Seasonal influenza

Pandemic influenza

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Implications for hospital care

- [Graph showing cases over time with two curves: one labeled "pandemic" and the other "seasonal".]
Impact of pandemic in hospitals

2. Disruption to services

- Hospital facilities including outpatient clinics, inpatient wards, intensive care units and hospital logistic units are expected to come under great stress during a pandemic.
Impact of pandemic in hospitals

2. Disruption to services

- We also anticipate the normal functioning of the hospitals to be affected by additional measures in triage and infection control.
Implications for pre-hospital care

3. Healthcare worker absenteeism

“There are potentially greater than normal health risks for some healthcare workers working during a pandemic, and these workers may be concerned about infecting family members/friends.”
Impact of pandemic in hospitals

4. Supplies

Potential vulnerabilities
1. Multiple sources of raw material
2. Reduced transportation
3. Workforce absenteeism
4. Increased demand
Specific issues in hospital pandemic response
Specific issues in hospital pandemic response

1. Implementation of hospital pandemic preparedness and response plan

- The implementation of the plan can be scaled upwards incrementally according to the extent of the burden with which the hospital is dealing.

- In most scenarios, we may expect transiting from the first suspected cases of likely epidemic infections to a full scale progression of the pandemic occurring in the concerned community with community level transmission.

- The strategy of the hospital should align itself with that of local or national government e.g. containment or mitigation strategies.
Specific issues in hospital pandemic response

2. Screening, isolation, cohorting and traffic control of patients

- Triage early
  - The aim of this is to minimize mixing of pandemic cases with non-pandemic ones so as to avoid nosocomial infections
  - especially for those who are at high risk of morbidity and mortality from pandemic disease

- Procedures should be in place for identification of cases (both confirmed as well as suspect cases, based on prevailing case definitions) with implementation of isolation precautions
Specific issues in hospital pandemic response
Specific issues in hospital pandemic response
Hospital Infection Control

- Hospital Infection Control Committee
  - Infectious diseases specialist
  - Laboratory technician
  - Pharmacist
  - Infection control nurses

- Surveillance
  - Hospital acquired infection surveillance

- Infection Control Nurses
Isolation Precautions

- Standard Precautions
- Respiratory Hygiene and Cough Etiquette
- Expanded Precautions: Droplet, Contact, Airborne
Respiratory Hygiene / Cough Etiquette

- Apply to all patients with respiratory illness
- Source control measures
- Early separation
- Early isolation
- Droplet precautions
- Hand Hygiene
- Waste management
Hospital Infection Control – Hospital Management

- Administrative measures, Education
- Hand hygiene
- Patient care equipments, soiled linen
- Prevent needle and sharp injury
- Patient placement
- Transportation of patients
- Personal Protective Equipments (PPE)
- Waste disposal
- Cleaning and disinfection
- Personal Hygiene
Patient Placement

- Airborne infection isolation room (AIIR)
- Single room with toilet and hand hygiene facilities
- Anteroom
- Ability to provide intensive care: oxygen, suction
- Ability to observe the patient from outside
ANNEX: Recommended Floor Plan for SARS Isolation Unit

General Principles of isolation unit

A. Disinfection station  
B. Storage for general ward clothes, new PPE.  
C. Biohazard bag for used PPE disposal.  
D. Wall-mounted alcohol hand-wash dispensers.  
E. Windows...external only. Keep clear of public.

Schematic of Anteroom

- Nurse’s Station
- Glass Wall
- Ante Room
- Negative Pressure Air Flow
- Glass Window
- Isolation Room
- Inner Layer discard
- Outer Layer discard
- Fan
- Bed
- Sink
- Dried Reusable Masks/Eyewear

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One Real World Example

- Anteroom
  - Glass partition
  - Entrance to anteroom
  - Entrance to hallway
- Nursing Station and Dressing Area
  - Personal protective equipment & supplies
- Door to patient room

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Well sealed room
Putting on PPEs

1. Putting on a mask
2. Putting on a respirator
3. Putting on goggles
4. Wearing a hairnet
Taking off PPEs

1. Removing gloves
2. Removing inner gloves
3. Removing hairnet
4. Removing goggles
Hand Washing
Parts of Hand Often Missed in Hand Washing

Palm-side

Most Missed
Often Missed
Missed

Usually Washed

Back-side
Six step hand washing technique
Specific issues in hospital pandemic response

- Traffic controls
  - Prevent mixing (exposure)
  - Security
Specific issues in hospital pandemic response

- Bed management
  - Criteria for admission
  - ICU
  - Referrals to other hospitals
Specific issues in hospital pandemic response

3. Vulnerable groups

- People with limited self-sufficiency e.g. elderly and disabled people may not have equal access to medical care in critical situations such as a pandemic. Ironically, these groups may be more likely to develop complications during a pandemic due to their underlying conditions or state of health.

- They may thus require special assistance to facilitate their access to the hospital and to guide them through medical care delivery.
Key messages

- Early preparedness is the key
- Adapt plans to your local needs
- Pandemic situation will continue to evolve
Hospital pandemic preparedness plans

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- The protocols should not substantially differ from the daily practice and vice versa.
Thank You