Infection Control

Pandemic Influenza sub plan

2015
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Introduction

This sub plan focuses on the infection control management principles applicable to the care of patients with suspected or confirmed pandemic influenza. It also provides guidance on the areas to be considered in developing a plan for an individual health care setting.

The following guidelines have been written to complement the detailed information contained in the SA Health Pandemic Influenza Plan (2015) and the Australian Health Management Plan for Pandemic Influenza (2014).

These guidelines will be updated, as necessary, as new information becomes available.

The spread of pandemic influenza

Experience with seasonal influenza suggests that human influenza is spread by a combination of droplet, contact and airborne routes of transmission and it is likely pandemic influenza will be similarly spread. The relative contribution of the three modes of spread is currently unknown. However, most available evidence points to the predominance of droplet and contact spread, although airborne spread may be important in certain situations, such as during aerosol generating procedures (AGPs). Potential AGPs are endotracheal intubation, nebulized medication administration*, airway suctioning, bronchoscopy, diagnostic sputum induction, positive pressure ventilation via facemask, cardiopulmonary resuscitation and high frequency oscillatory ventilation1.

* Note: The administration of nebulised medication, acquisition of nasopharyngeal swabs and use of high flow oxygen may be considered aerosol generating procedures. However, there is little evidence for transmission by this route. 2,3,4. During nebulisation, the aerosol derives from a non-patient source (the fluid in the nebuliser chamber) and does not carry patient-derived viral particles.

Incubation period

The incubation period is an average of two days for seasonal influenza (range one to four days). The incubation period is presumed similar for a pandemic influenza strain.

Infectious period

The infectious period is considered to be from one day before the onset of symptoms until seven days after the onset of symptoms. After five days the level of infectiousness is probably very low, however some people, especially children and people with weakened immune systems, might be able to infect others for a longer time period.

Infection Control Principles

Detailed information on standard and transmission-based precautions is found on the SA Health website: http://www.sahealth.sa.gov.au/infectionprevention.

This section contains recommendations that are generally applicable throughout the different pandemic phases. In some cases, as indicated, recommendations may be modified as the situation progresses from limited cases to widespread community illness.

In general, the following is recommended when managing patients with confirmed or suspected influenza:

> Timely management of patients presenting to a healthcare facility with respiratory symptoms i.e. fever, cough and sore throat. Management should include:
  - isolation of patient until causative agent is known.
  - application of contact and droplet precautions (gloves, fluid resistant long sleeved gown and fluid resistant surgical mask).

> Effective hand hygiene with either soap and water, or alcohol-based hand rub or gel.

> Wearing of personal protective equipment (PPE) appropriate to the task and risk of exposure.

> Effective environmental hygiene.

When caring for patients with pandemic influenza, health care personnel should be particularly vigilant to avoid:

> Touching their eyes, nose or mouth with contaminated hands (gloved or ungloved). Careful placement of PPE before patient contact will help avoid the risk of self-contamination whilst making PPE adjustments. Careful removal of PPE is also important.

> Contaminating environmental surfaces that are not directly related to patient care (e.g., door knobs, light switches, etc.).

**Staff training in correct PPE use**

There should be in place an ongoing program of training for all healthcare staff in the proper application of PPE. This is essential for adequate staff protection.

> All SA Health staff should complete the online learning module Safe Use of Personal Protective Equipment (PPE) by clicking [here](#).

> Non SA Health staff should familiarise themselves with the SA Health Training Tool for the Correct Use of Personal Protective Equipment & Respiratory Mast Fit Testing available by clicking [here](#).

> In hospitals, all staff in the key areas of emergency department, intensive care, respiratory units and infectious diseases wards should be fit tested and trained in the proper application of P2/N95 mask, or powered air purifying respirator (PAPR), as per the SA Health Respiratory Protection against Airborne Infectious Diseases Policy Directive.

**Selection of PPE**

**Table 1: Summary of PPE for confirmed or suspected influenza in healthcare settings.**

<table>
<thead>
<tr>
<th></th>
<th>Entering patient room</th>
<th>Aerosol generating procedure being performed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P2/N95 respirator</strong></td>
<td>No</td>
<td>Yes, or PAPR</td>
</tr>
<tr>
<td><strong>Surgical mask</strong></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td><strong>Fluid resistant long sleeved gown</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Gloves</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Eye protection</strong></td>
<td>Yes, if body fluid exposure anticipated</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Hair covering

<table>
<thead>
<tr>
<th>Apron</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes, if splashing possible and fluid resistant gown not available</td>
<td>Yes, if splashing possible and fluid resistant gown not available</td>
</tr>
</tbody>
</table>

Note: Any cleaners who have to enter the room of an infectious patient should wear gown, gloves and a surgical mask. This is because cleaning activities are likely to bring their hands and clothes into contact with potentially contaminated surfaces.

Patient Management

Presentation to a hospital

The key recommendations are:

**Triage**

> Consider the option of providing a triage point immediately outside of the emergency department entrance.
> Have appropriate signage in place to alert patients of the need to inform triage staff of any respiratory symptoms. A flu alert poster can be found on the SA Health website by clicking here.
> If the patient is coughing, ask them to wear a surgical mask.
> The use of nebulisers should be avoided and a spacer used instead.

**Infection Control Precautions**

> All staff entering the patients room should don the appropriate PPE as outlined in Table 1.
> All staff present when performing aerosol-generating procedures should wear a properly fitted P2 (N95) mask or PAPR, gown, gloves, cap and eye protection.
> All PPE should be removed before leaving the room and hands should be decontaminated with alcohol-based hand rub, or washed with soap and water.
> In a patient cohorting situation, the same mask and gown can be used between patients, but gloves should be changed and hand hygiene performed. The mask should be changed when it becomes moist or soiled with body fluids.
> All potentially contaminated surfaces and reusable patient equipment should be cleaned with detergent and water followed by a Therapeutic Goods Administration (TGA) registered disinfectant or a detergent/disinfectant wipe.
> When transporting the patient through the facility, the patient should wear a surgical mask.

**Patient placement**

> Place the patient in a private room or a room with another influenza-infected patient (confirmed cases only).
> Later in the pandemic, it might be necessary to consider cohorting of patients with suspected or confirmed influenza in a specified area of the hospital.
> If influenza clinics are established as part of the response, a system of redirecting patients to these establishments should be developed.
> On discharge, the patient should be given education on how to avoid transmission of influenza to other household members.
Visitor restrictions

During a pandemic, visitors should be discouraged. However, if considered necessary then they should be encouraged to:

- keep a distance of greater than one metre from a symptomatic patient,
- wear a surgical mask (to prevent potential self-inoculation of mucous membranes),
- wash hands thoroughly on leaving the room,
- not visit any other patient in the hospital/facility.

Patient Transport Settings

Patients with severe pandemic influenza or disease complications are likely to require emergency transport to hospital. The following points should be considered in order to minimise the risk of infection to ambulance (including air ambulance) personnel.

Key recommendations are:

- All symptomatic patients should wear a surgical mask during transport.
- All ambulance officers should wear appropriate PPE at all times, including a P2 (N95) respirator if performing an aerosol-generating procedure.
- Records should be kept of any accidental unprotected exposures.

Presentation to a Primary Health Care Facility

During a pandemic, people with suspected or confirmed pandemic influenza may telephone or present to community medical practices. In this situation, the objective is to prevent transmission to attending medical practice staff and other patients.

The following procedures should be in place and be routine practice before the arrival of a pandemic strain of influenza in Australia:

- Post visual alerts (in appropriate languages) at the entrance to the facility alerting patients with respiratory symptoms to:
  - inform reception on arrival, and to keep one metre distance from other patients,
  - practice cough etiquette/respiratory hygiene.
- Facilitate adherence to cough etiquette/respiratory hygiene by the provision of conveniently located tissues, waste receptacles and dispensers of alcohol-based hand hygiene product.
- Promote the use of surgical masks and spatial separation for persons with symptoms of influenza.

SA Health’s Wash, Wipe, Cover……don’t infect another! resource provides tools to assist in the promotion of respiratory hygiene and can be found at: www.sahealth.sa.gov.au/washwipercov

Once pandemic influenza has been detected in Australia, the following additional steps should be taken:

- Triage patients calling for medical appointments for influenza symptoms to discourage unnecessary visits and to give instruction on infection control measures in the home and when travelling to necessary medical appointments.
- Where possible, designate a separate triage and waiting area for patients with symptoms of pandemic influenza.
- Consider arranging a special time and consultation room for the assessment of patients with suspected pandemic influenza.
**Personal protective equipment**

- Attending healthcare workers (HCW) should wear appropriate PPE consisting of gown, gloves, eye protection and a surgical mask when examining a patient with suspected or confirmed influenza.
- Following clinical assessment HCW should avoid touching their own eyes, nose and mouth until they have removed their PPE and performed hand hygiene.
- Used masks, disposable gown and gloves should be disposed of into a plastic bag in general waste, and reusable PPE (i.e. goggles or face shield) should be cleaned and disinfected as per the manufacturer’s instructions.

**Other measures**

- If the patient needs immediate hospitalisation, the general practitioner (GP) should telephone the ambulance service and advise the ambulance officer that the patient is potentially infectious. Detailed information can be found in the SA Health Guideline for Emergency Departments and General Practice by clicking [here](#).
- If the patient is sent home, the GP should provide advice on home care and written information on infection control precautions to be taken in the home. Refer to SA Health Patient Fact Sheet by clicking [here](#).
- Regularly clean the environment in which patients with respiratory symptoms are waiting or examined using a TGA registered disinfectant/detergent (or detergent/disinfectant wipe) paying particular attention to frequently touched surfaces.
- The number of people entering the room of a pandemic influenza patient should be kept to a minimum.

**Influenza clinics**

During a pandemic, when there is community transmission, South Australia may establish “flu clinics” in strategic locations. HCWs in these locations should wear appropriate PPE, and undertake environmental cleaning and waste disposal as outlined above.

**Dental practice settings**

The same infection control principles and practices should be applied in dental practice settings as in other medical settings.

Additional key recommendations are:

- Once the pandemic is established in an area in Australia, dental practices may consider deferring all non-essential consultation and procedures until the pandemic has subsided.
- Contacts of suspected and confirmed pandemic influenza patients and those who have recently travelled in an affected area should not undergo elective consultation or a dental procedure until the incubation period (e.g. 7 days) has passed.

If urgent consultations or procedures are required:

- If a designated influenza dental practice has been set up, the patient should be referred to this facility.
- Standard and contact, droplet and airborne precautions should be followed, as dental work may involve the generation of aerosols. Full PPE including P2 (N95) respirators are essential.
- Surfaces should be cleaned regularly with a TGA registered disinfectant/detergent (or detergent/disinfectant wipe) paying particular attention to frequently touched surfaces.
Residential care settings

Residents of nursing homes and other residential care facilities will be at particular risk of severe pandemic influenza and complications. Pandemic influenza can be introduced through facility personnel and visitors, and once introduced controlling its spread will be difficult. Therefore as soon as pandemic influenza has been detected in the region, nursing homes and other residential care facilities should implement aggressive measures to prevent introduction of the virus. Influenza resources for residential care settings can be found on the SA Health website.

The key recommendations to prevent or delay entry of the virus into the facility are to:

- Post appropriate signage and screen visitors for potential exposure to pandemic influenza.
- Implement a system of staff screening for influenza-like symptoms and potential exposures before they start work each shift.
- Monitor all residents daily for signs and symptoms of influenza.
- Immediately notify suspected cases to SA Health’s Communicable Disease Control Branch (1300 232 272).

On detection of a suspected or confirmed case of pandemic influenza implement the following actions:

- Implement contact and droplet precautions for the resident and roommates, pending confirmation of pandemic influenza virus infection.
- If available, a properly fitted P2 (N95) respirator should be used by staff undertaking any aerosol generating procedure on an infectious patient.
- The patient and any roommates (considered potentially exposed) should not be separated or moved out of their rooms unless medically indicated for at least 7 days, or until asymptomatic.
- The ill resident should wear a surgical mask if possible when others are in the same room.
- The ill resident should not be transferred to hospital unless medically indicated.
- Resident movement within the facility should be restricted (i.e., temporarily close the dining room and suspend social and recreational activities).
- Resident transfer from anywhere in the facility to another facility is not recommended during the outbreak.

Recommendations for visitors

Visitors should be restricted to the absolute minimum required for the well-being of residents.

Visitors should be instructed to:

- wash hands on arrival and just before leaving the room,
- wear a surgical mask and maintain a distance or greater than one metre from the ill resident,
- visit ill residents in their rooms only, and not visit any other resident.

Recommendations for staff

- Ideally, all staff (including volunteers) who are working in the facility at the time a case is detected should not work in other settings until the outbreak has ceased.
- Staff should be monitored daily for signs and symptoms of respiratory illness, and be sent home immediately for assessment by a medical officer if symptomatic.
- Cohorting of staff within the facility could be considered.
Home healthcare settings

Home healthcare includes nursing, allied health and rehabilitative services performed in the home. When pandemic influenza is circulating in the community, home health care agencies should consider contacting clients before the home visit to determine whether persons in the household have an influenza-like illness, or are under home quarantine.

If persons with suspected or confirmed pandemic influenza are in the home, agencies should consider:

- postponing non-essential services,
- assigning providers who are not at increased risk of complications of pandemic influenza to care for these patients,
- using a minimum number of staff who are well trained in the application of infection control precautions to care for pandemic influenza patients.

Home healthcare providers who enter homes where there is a person with suspected or confirmed pandemic influenza should follow the same infection control precautions recommended above for other healthcare workers.

Communication with the household ahead of the visit will be important to ensure the patient is wearing a mask (surgical or cloth), and to determine whether suitable hand hygiene facilities are available.

Schools, childcare and workplaces

Schools and childcare centres may be closed early in the pandemic. The following general infection control principles can be applied to minimise the transmission of pandemic influenza in these and other public settings.

Key recommendations are:

- Promote the routine practice of cough etiquette and respiratory hygiene.
- Ensure adequate supplies of tissues, appropriate waste receptacles and hand hygiene facilities are available.
- Educate all personnel on the early signs and symptoms of influenza and immediately send ill persons home or to an influenza clinic for assessment.
- Keep contacts of suspected pandemic influenza cases away from the facility.

Caring for influenza patients in the home

Infection control principles used in healthcare settings also apply in the home care setting. However, due to practical limitations there are some differences between what can be done in the home environment and in healthcare settings.

Key recommendations are:

- The infected person should not leave the house and visitors should be discouraged whilst still symptomatic.
- Social separation within the household should be instituted if possible (i.e., separate bedroom and bathroom for the patient, if available).
- The patient should wear a surgical or other disposable mask when others are in the room.
When movement outside of the home is necessary, e.g., for medical follow up, the patient should wear a mask, and avoid using public transport.

Emphasis should be placed on increasing the frequency of hand hygiene, using soap and water, or alcohol hand rubs or gels.

Towels and linen should not be shared between household members.

Laundry may be washed in a standard washing machine with warm water and detergent. Line-dry in the sun, if possible.

Dishes and eating utensils should not be shared, but do not need to be kept separate.

Environmental surfaces that are frequently touched should be cleaned regularly with detergent and water, followed by wiping with a cloth soaked in disinfectant, such as household bleach diluted 1 part in 50 parts water.
For more information

Communicable Disease Control Branch
System Performance and Service Delivery
Telephone: 1300 232 272

www.sahealth.sa.gov.au

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