Pandemic flu kit
The pandemic flu kit
Written by Judy Evans on behalf of The Royal Australian College of General Practitioners.

Disclaimer
The RACGP Pandemic flu kit is intended as a guide to assist health professional and other staff in the development of a practice pandemic response plan. The Pandemic flu kit is not nor is it intended to be, an exhaustive and comprehensive text on the subject matter. Nor does compliance with these guidelines guarantee that the professional has discharged his/her or its duty of care owed to patients and others coming into contact with the health professional and the premises from which the health professional operates.

In using these guidelines please note the following:
The Pandemic flu kit was reviewed by experts in the fields of infection control, epidemiology, public health and general practice and is current as at the time of writing. Except as otherwise stated in the Pandemic flu kit they are in conformity with Australian standards and authoritative texts on the subject matter. Care should nevertheless be exercised in the application of the guidelines to the circumstances of your practice.

The Pandemic flu kit in some instances, depart from the standards and other authoritative texts on the subject where it is considered that the standards they impose, say for example upon a hospital environment, are out of proportion to tangible risks in medical practice generally.

The text is directed to health professionals having qualifications in the fields of medicine or health care who are skilled in ascertaining and discharging their legal obligations having regard to the prevailing risks of infection and infectious disease.

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Information in this kit is based on the Australian Government publication: Australian health management plan for pandemic influenza, 2008.

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The Royal Australian College of General Practitioners ‘Pandemic flu kit’ has been developed with the support of the Australian Government Department of Health and Ageing and with the expertise of representatives across the health sector.

Pandemic influenza will challenge all facets of Australia’s health system. The role of general practitioners in a pandemic is to provide essential health care to patients, and to support public health goals in disease control.

In responding to a pandemic, general practices will need to develop practice systems to provide safety for practice staff and the continuation of high quality clinical care to patients.

This resource will provide the practice team with the information to build knowledge and competency in managing the impact of a pandemic influenza.

Pandemic preparedness of a practice, clinic or health centre requires careful consideration and planning across a wide range of contingencies. From the first patient with influenza-like symptoms presenting for an appointment, through to how an acutely unwell patient is managed while in isolation in their own home.

The Pandemic flu kit is designed to educate the entire practice team and to provide the necessary resources to support the education of patients and practice staff. There may be some information contained in these modules that is outside the current knowledge of some practice staff. Practice staff should be encouraged to speak with clinical colleagues for clarification on any of the clinical issues presented. The Pandemic flu kit is intended to expand and build on the current skill set of the practice team.

General practice is where the community turns to when faced with a public health disease outbreak. The Pandemic flu kit will help ensure that patients are well founded in their confidence that the practice team know their role in the management of communicable diseases.

Foreword

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General practice is where the community turns to when faced with a public health disease outbreak. The Pandemic flu kit will help ensure that patients are well founded in their confidence that the practice team know their role in the management of communicable diseases.
It is uncertain when the next influenza pandemic will occur, but, according to the World Health Organization ‘there will be an influenza pandemic, sooner or later’.  

Health care is increasingly being delivered by teams that include doctors, nurses, Aboriginal health care workers and other health professionals. Developing a multidisciplinary team approach to pandemic planning will strengthen team expertise and manage the challenges of organisational change.

How rapidly the next pandemic will emerge is unclear. It is also uncertain how severe the next pandemic will be. To assist in planning, a number of ‘assumptions’ have been made as to how the next pandemic virus might behave. Planning is based on the premise that the next influenza pandemic will be severe, will first emerge overseas, and will be imported to Australia via an infected traveller.

Current monitoring is for the detection of a strain of avian influenza known to cause disease in humans but not readily able to transmit efficiently between humans. However, further genetic change in the virus may result in a virus that can pass efficiently from human-to-human with pandemic potential.

General practice has a role in the clinical assessment and management of acutely unwell influenza patients and the ongoing management of noninfluenza related care, as well as surveillance.

Evidence shows that physical barriers, especially hand washing, the wearing of masks, and utilising isolation of potentially infected people are effective in preventing the spread of respiratory virus infections.

General practice planning falls into four functional domains:
• clinical care for influenza and noninfluenza patients
• engaging and working with public health authorities
• the internal environment of general practice (physical and organisational)
• integrating general practice planning across the entire health sector.

How to use this kit

This resource has been designed as a workbook. The Influenza pandemic planning workbook is a tool that will guide practice staff through a series of actions to help your practice plan to respond to a pandemic.

Each action and task box is supported by information provided in the education modules. As practice policies are developed, refer to the related module and further reading to provide background and underlying principles that will inform policy development. The workbook is available in pdf format or as a working word document (Appendix 1).

By working through the workbook and completing the actions and tasks, all the questions will have been answered, the training completed, the policy written and your practice team confident and prepared to deal with an influenza pandemic.
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Influenza pandemic planning

Introduction

In 2006, the Australian Commonwealth Government announced a national exercise to test the capacity of the health system’s preparedness for an influenza pandemic – ‘Cumpston 06’. The aim was to identify gaps in health sector planning and preparedness. One of the 12 key recommendations (recommendation 10) was to consult with and clarify the role of general practice and to further develop the role of the primary care sector response. At the time of an influenza pandemic when the demands on the health sector will be high, general practice will be a major component of a response strategy.

If Australia is prepared we are more likely to be able to dramatically reduce the impact of an influenza pandemic, minimise the number of people who become affected, protect critical infrastructure and essential services, and improve the health outcomes of those affected.

General practice has a critical role to play in ensuring the continuation of high quality health care to patients who become ill from avian or pandemic influenza. It also plays a role in providing care and ongoing management for patients requiring chronic disease management who are not directly affected by the influenza pandemic.

It is now time for general practice to start planning.

The first step in influenza pandemic planning is to appoint a staff member as the key person in your practice for the co-ordination of influenza pandemic planning activities.

The second step in the planning process is to read the modules in this kit and work through the ‘Influenza pandemic planning workbook’. The modules will provide you with the information required to complete the tasks.

Learning objectives

On completion of this module you will be able to:

- identify the practice staff member who has the key role of co-ordinating influenza pandemic planning
- develop or review practice planning or policies that underpin pandemic preparedness
- be confident that your practice is building knowledge and competence in planning to respond to the many demands of an influenza pandemic.
1.1 Influenza pandemic planning workbook

**Pandemic phase ALERT OS3**

Human infection with a novel influenza strain overseas but no human-to-human spread, or at most, rare instances of spread to a close contact.

While there is little evidence of human-to-human transmission of avian influenza, people returning from areas affected by avian influenza may come to your practice unwell or worried about having been in contact with avian influenza.

During the ALERT phase it is important to consider planning for the next phase; it will be too late once a pandemic starts.

**Action:**
- Appoint a staff member as the key person in your practice for the co-ordination of influenza pandemic planning

| Name of coordinator: ____________________________________________ |
| Action completed √ box |

**The influenza virus**

Influenza is an illness of the respiratory tract caused by one of a number of influenza viruses. The current circulating strain of H5N1 virus has been identified in humans where there has been close contact with sick or dead birds, or their secretions. Pandemic influenza is potentially caused when a type A influenza virus goes through a variation (antigenic shift) and the community has no immunity.

Read: Module 2 The influenza virus
Read: Module 2.1 Epidemiology of influenza

**Action:**
- A team meeting has been scheduled to educate all practice staff in the:
  - signs and symptoms of influenza
  - the differences between symptoms of influenza and the common cold
  - transmission and communicability of influenza

| Action completed √ box |
The Australian Government has developed the *Australian health management plan for pandemic influenza* (AHMPP). This documents detail the government planning for a national and primary health care response to a pandemic. Each Australian state and territory health jurisdiction also has plans that outline the operational aspects of responding to an influenza pandemic. Plans may vary by jurisdiction.

Read: Module 3 Government planning

**Action:**

- The influenza pandemic coordinator has read and is familiar with the fundamental principles of government planning (commonwealth, state, territory and local government)
- Provide a brief overview of government planning to your practice staff

Date of staff meeting: __________________________

☐ Action completed √ box

**Government health authorities have committed to providing:**

- Ongoing advice on reporting requirements, case and contact definitions
- Ongoing advice about distribution of antiviral medications and personal protective equipment (PPE)
- Ongoing advice regarding what infrastructure is in place in your local area to manage suspected pandemic cases
- Ongoing advice on the capacity of laboratories to perform testing on specimens collected from patients, and to
- Undertaking contact tracing in the early stages of a pandemic.

Divisions of general practice and The Royal Australian College of General Practitioners (RACGP) will form part of the communication network by informing practices when the government releases a pandemic alert notification.

**Action:**

- Practice contact details provided to the local division of general practice
- Practice contact details provided to the RACGP (to receive RACGP information email details to: friday.fax@racgp.org.au)
- Contact details for state/territory public health authority displayed in prominent areas of the practice (reception, treatment room, consulting rooms)

Practice contact details provided to local division of general practice. Date: ______________

Practice contact details provided to the RACGP. Date: ______________

Contact details of public health authority recorded and displayed in:

- Reception ☐ √ Yes
- Treatment room ☐ √ Yes
- Consulting rooms ☐ √ Yes

☐ Action completed √ box
Triage
A patient presenting to the practice with suspected pandemic influenza may experience influenza-like symptoms and describe close and sustained contact with another contact either within Australian or they could have had contact overseas with a human case (eg. family members have shown human-to-human transmission), or a laboratory worker working with influenza in Australia.

Read: Module 4 Triage

Infection control
Practice staff will require training in infection control measures. Simple measures such as hand washing, wearing a mask, and the isolation of potentially infected patients are effective in preventing the spread of respiratory virus infections.

Read: Module 5 Principles of infection control
Read: the RACGP Infection control standards. 4th edn. Chapter 5, section 1, pages 12–19

Action:
- Document your triage policy for pandemic phase ALERT OS3
- Schedule staff training in the triage policy
- Document questions to be asked at reception and the expected staff response and the responses required
- Display your triage plan in reception and distribute to all clinical staff

Triage policy documented and filed. Date: _____________ Location: ________________
Review date of triage policy _____________________________
Staff meeting scheduled to educate all staff in triage policy
Date: ________________
☐ Action completed √ box

Infection control

Practice staff will require training in infection control measures. Simple measures such as hand washing, wearing a mask, and the isolation of potentially infected patients are effective in preventing the spread of respiratory virus infections.

Read: Module 5 Principles of infection control
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Action:
- Document your infection control policy
- A team meeting has been scheduled to inform your staff of:
  - hand hygiene, cough etiquette and social distancing methods
  - appropriate and correct use of PPE (application, removal and disposal)
- PPE supplies have been ordered and stored where easily accessible
  - inform all staff of where PPE is stored

Staff meeting scheduled to educate all staff on hand hygiene, cough etiquette and social distancing. Date: ________________
Staff meeting scheduled to educate all staff on appropriate and correct use of PPE
Date: ________________
Name of supplier of PPE _______________________________
Identify where packs of PPE are located in the practice ________________
☐ Action completed √ box
Practice cleaning

Cleaning is an important infection control measure. Effective cleaning consists of the combination of mechanical action, detergent and water, and drying. The practice plan or policy will outline:

- the protection of staff (vaccination and safe work practices)
- cleaning products to be used
- frequency and procedures for scheduled cleaning
- procedures for unscheduled cleaning.

Read: Module 5 Principles of infection control
Read: the RACGP Infection control standards, 4th edn. Chapter 2, section 3, pages 37-45

Waste management

During a pandemic the amount of waste produced may be substantial. Handling waste correctly will reduce the risk of transmission of infection. Staff require an understanding of standard and additional precautions to reduce the possibility of cross infection. Waste management includes the collection, segregation and disposal of waste.

Action:

- Document your waste management policy
- A team meeting has been scheduled to inform all staff on the waste management policy

Waste management policy documented and filed.
Date: ________________
Location: _________________________
Review date of policy _______________________
Staff meeting scheduled to educate all staff in waste management policy
Date: __________________________
☐ Action completed √ box
Influenza pandemic planning

Module 1

Isolation
The role of isolation is to reduce the possibility of transmission (spread) of disease. Patients who are ill require isolation methods to reduce the risk of spread of influenza.

Read: Module 5 Infection control

Action:
- A team meeting has been scheduled to inform your practice staff of isolation and social distancing methods to be implemented in your practice
- Staff meeting scheduled to educate all staff on isolation methods

Date: __________________________

☐ Action completed √ box

Patient education
Patients will require ongoing and current information as a pandemic emerges. This includes initial information about the practice’s preparedness activities, and self management at home in later pandemic phases.

Read: Module 5.2 Isolation and quarantine

Action:
- Signage has been placed in patient waiting areas, and consulting and treatment rooms to alert patients to:
  - signs and symptoms of influenza to be alert for
  - social distancing
  - correct use of surgical masks
  - hand hygiene and cough etiquette
- Check available government resources for patient education and signage

Staff meeting scheduled to inform staff of signage and its purpose

Date: __________________________

☐ Action completed √ box
Communication
Communication is a key component in pandemic planning. Communication needs to be adaptable and reliable in a changing health environment such as a pandemic.

Read: Module 6 Communication

Action:
- Document a communication policy that details a strategic approach to communicating to:
  - patients
  - staff within your practice
  - public health units
  - key external providers of service and supplies
- Identify the location of your practice pandemic ‘notice board’
  - Is it a physical wall space?
  - Is it web based?
  - Is it paper based?
  - Another form ________________
- Check available government resources for patient education and signage

Staff meeting scheduled to inform staff of communication policy
Date: ________________
☐ Action completed

Vaccination
Seasonal influenza vaccination will not protect an individual against a pandemic influenza strain. However, vaccination for seasonal influenza is highly encouraged to reduce circulating influenza virus in the community and the chances that seasonal influenza will be confused with an outbreak of a novel strain. Pneumonia is a serious complication of influenza infection, particularly in the elderly and those at risk of respiratory disease. Pneumococcal vaccination is recommended for all at risk groups.

Read: Module 7 Clinical management
Read: Module 7.1 Immunisation

Action:
- Seasonal influenza and pneumococcal vaccine have been ordered and a staff and patient vaccination program planned
- Practice vaccination policy has been written

Staff meeting scheduled to inform all staff of the rationale in recommending influenza and pneumococcal vaccination to staff and patients
Date: __________________________
☐ Action completed


Business survival

General practice will require the capacity to respond to the health needs of patients while ensuring both the protection of staff and business continuity. Workplace absenteeism due to staff illness and other factors is inevitable, and during a pandemic continuation of core business will be a major challenge.

Read: Module 8 Planning for business survival

Action:
Meetings scheduled to develop business contingency planning:
• Management of staff illness and absenteeism
  Date: _________________
• Maintaining service and business delivery
  Date: _________________
• Strategic planning of financial obligations
  Date: _________________
• Inform external stakeholders of your business planning
  Date: _________________
☐ Action completed √ box

Pandemic phase DELAY OS4/OS5/OS6

DELAY OS4/OS5/OS6 marks the move from ‘pandemic alert’ to ‘pandemic threat’ and indicates the start of an influenza pandemic.

DELAY OS4/OS5/OS6 indicates that the novel virus has not arrived in Australia but large clusters of cases have been identified overseas. Border measures will be implemented to delay entry into Australia and to try to avert a major outbreak. There will be raised awareness in patients due to increased media attention and government announcements.

Pandemic preparedness activities move from ‘preparedness’ to ‘readiness’. This is a time for practice staff to review all policies and increase vigilance for cases of suspected pandemic influenza.
**Action:**
Inform staff of the epidemiology of the outbreak overseas and the implications for change in policy and clinical work. Review all practice policies and protocols that relate to pandemic preparedness in line with government policies:
- triage policy, including screening questions for front reception
- isolation and quarantine policy
- communication strategies
Confirm that all practice staff are:
- aware of patient management/referral pathways, and all clinical staff are aware of:
  - pathology swab collection protocol
  - patient referral and reporting pathways
Review levels of PPE stocks and review staff training in application, removal and disposal of PPE:
- staff to attend refresher course on infection control and the use of PPE

☐ Action completed √ box

**Pandemic phase CONTAIN 6a**
CONTAIN AUS 6a indicates that the pandemic virus has arrived in Australia and is causing a small number of cases and/or small number of clusters.

- The goal is to CONTAIN the establishment of the pandemic strain in Australia, and ensure the health system is best able to cope with an influenza pandemic.

**Pandemic phase SUSTAIN 6b**
SUSTAIN AUS 6b indicates that the pandemic virus is established in Australia and spreading in the community.

- The goal is to SUSTAIN the response while waiting for a customised pandemic vaccine to become available, and minimise transmission and maintain health services.

**Pandemic phase CONTROL 6c**
CONTROL AUS 6c indicates that the pandemic can be controlled with a customised vaccine.

- The goal is to bring the pandemic under CONTROL. This is also a time when there can be careful downscaling of the response as the pandemic is brought under control.

**Pandemic phase RECOVER 6d**
RECOVER AUS 6d indicates that the pandemic is controlled in Australia but further waves may occur if the virus drifts and/or is re-imported into Australia.

- The goal is to RECOVER and restore the health system and return to ALERT phase as quickly as possible.
- This is a time for enhanced vigilance for a subsequent wave with increased vigilance for cases and increased monitoring of the virus (looking for genetic mutations).
Role of general practice

Some practice staff may decide to opt out of working; but for many this will not be an option that they are comfortable with or able to choose. General practices need to discuss and plan for these situations. Absenteeism of staff due to sickness or family commitments will put pressure on the practice’s ability to be at full functioning capacity.

The roles and responsibilities of general practice during a pandemic will vary depending on circumstances and location. Some doctors may need to work in a different capacity, such as at designated ‘flu clinics’.

Referral pathways will be changed as very sick patients may overwhelm hospitals and more home care will be required for mildly sick or terminally ill patients.

It is important to ensure practices have access to current health information from appropriate public health authorities. Changes in pandemic phases may change:

- clinical management
- referral pathways
- vaccine and antiviral medical protocols.

Anxiety and associated behaviours

Anxious patients may behave aggressively or be driven by fear to make extraordinary demands on both clinical and nonclinical staff. Training for staff may include strategies for dealing with these behaviours.

Practice staff may be scared, ill, or feel vulnerable. Work rosters will need to be adjusted to cope with absenteeism due to fear, sickness, family needs or choosing to work in other capacities outside of the practice.

Read: Appendix 2 Managing the health of the practice team

Read: Appendix 3 Risk management

Grief and loss

During a pandemic, grief and loss will affect patients, staff, their families and their friends. At a time when all resources will be at capacity level, it is important that staff recognise their role in offering support and counselling. Professional counselling services may not be available. Staff may be the only support for patients and other practice staff. This will require special effort by the practice team to support each other in what will be a very stressful period.

Pandemic influenza vaccine

When a pandemic influenza vaccine is made available, state and territory health departments will be responsible for the management of vaccine services. General practice may supplement vaccine delivery programs. Practice staff involved in vaccinating patients will need to be competent in multidose vial use when dispensing pandemic vaccines.

Communication

Communication between government health jurisdictions and health care providers will be vital to:

- Monitor the number of new infections and ensure appropriate planning measures are in place
- Sustain a coordinated response strategy between all levels of government, the health sector, and the community
- Access current public health directives from commonwealth, state and territory health departments.
Inform all staff of the epidemiology of the outbreak and the implications for change in policy and clinical work

- Review protocols:
  - triage
  - clinical management of patients in their homes
  - clinical management of patients in the clinic
  - communication strategies
  - palliative care for patients
    - reporting deaths to health authorities
    - managing transfer to mortuary facilities
    - contingency planning if no mortuary facilities are available

- Capacity within the practice:
  - staff rosters to facilitate the separation of clinical management of pandemic influenza and noninfluenza patients
  - review physical layout of the clinic
  - monitor levels of PPE
  - plan patient flow and management of patient waiting areas, consulting and treatment areas
  - consider alternative strategies for waste disposal (collection services may be overwhelmed and beyond capacity)

- Vaccine management:
  - review training and protocols in use of multidose vial vaccine delivery (risk analysis)
  - review vaccine cold chain and anaphylaxis protocols
Checklist for general practice for influenza pandemic preparedness

☐ Staff have been briefed on Australian pandemic phases and understand the impact of each phase and the practice’s response plan

☐ Staff are aware of influenza-like illness symptoms (‘red flags’) that alert them to suspect a case of pandemic influenza

☐ Staff are aware of the differences in symptoms between influenza and the common cold

☐ The practice triage policy directs staff actions when a patient identifies influenza-like illness symptoms that fit with the current ‘case definition’ of the pandemic

☐ Staff understand the role of hand hygiene, hand washing, social distancing methods and cough etiquette

☐ Staff understand the rationale for requesting a patient to wear a surgical mask and are clear on the difference and indicators for wearing a surgical mask or a P2/N95 mask

☐ Stocks of personal protective equipment (PPE) are adequate and staff know where they are located for easy access

☐ Staff are competent in the application, removal and disposal of PPE

☐ Staff know where to locate the contact details for your public health authority and in what situation the practice would need to contact them for advice

☐ Staff understand the responsibility they have in preparing your practice for a pandemic

☐ Clinical staff know the clinical management and swab collection protocol for patients with suspected pandemic influenza

☐ All staff understand the practice waste policy and can identify the risks to staff when handling infectious waste

☐ All staff understand the practice cleaning policy, including cleaning solutions used for surface cleaning

☐ Posters and signage are in place to reinforce pandemic planning messages for staff and patients

☐ A business survival plan has been developed
1.2 Case scenarios

Scenario 1

Dave Wilson, 24 years of age, enjoys extreme outdoor sports. He has just returned from 2 months in South East Asia where he was trekking and living in remote jungle villages. Dave returned from his trip 2 days ago. He started to feel a sore throat and muscle pains on the plane, but thought it was the dry air and recent exertion. The cough started yesterday. He rang his local medical clinic requesting an appointment and was given a 2 pm appointment that day with his regular doctor.

Dave arrived half an hour early for his appointment and presented to reception. Joan has worked at the practice for 2 years as a receptionist, she listened while Dave explained his recent overseas trip and now illness. He took a seat in the waiting room, but it was not long before Joan noted his coughing and flushed face. Joan remembers the practice meeting a few days ago where they had discussed influenza pandemic planning. Could this be bird-flu? Joan requested that Dave put on a surgical mask and that he move away from other patients in the waiting room. Joan then spoke with the doctor and explained that Dave was not well and she was concerned that it was a case of bird flu.

Scenario 2

It is a cold morning in the middle of July in a busy suburban medical practice run by Dr Horsham. Today the practice has received an update from the health department that five cases of human-to-human transmission of swine influenza A (H1N1) have been confirmed by the World Health Organization in Panama, and the Australian pandemic phase is now DELAY OS4. Dr Horsham sees that the receptionist has put a box of surgical masks in the reception area. Dr Horsham calls a meeting of all staff to review the practice pandemic plan. Already staff are demonstrating a sense of unease. They have many questions that they need answered.

Scenario 3

Dr Rosehamp runs a solo practice with a practice nurse, Linda Swann. Dr Rosehamp and Linda have been able to keep the clinic operating over the past 6 weeks as Australia has moved from pandemic phase ALERT OS3 to CONTAIN 6a. She was relieved that the local hospital had set up a flu clinic in a neighbouring suburb only 3 minutes drive from her practice. Radio and television announcements, and posters in public places and on the practice door, direct people with fever or respiratory symptoms to the designated flu clinic.

Later that morning Dr Rosehamp hears raised voices coming from the reception area. She goes to see what the problem is and finds Mr Blewitt in the waiting area arguing with the receptionist who is trying to get him to wear a mask. Mr Blewitt is very upset and refusing to put on the mask; he has sat himself down between two other patients. Mr Blewitt has a cough and feels unwell. He won’t go to any other doctor or to the flu clinic as he has come to rely on Dr Rosehamp, who he and his wife, before she passed away, have been seeing for many years.

The information herein, including times, clinical data and assumptions are relevant to this fictitious situation and should not to be relied on outside the simulated environment.
Introduction

Influenza (the flu) is an illness of the respiratory tract caused by one of a number of influenza viruses. It is potentially a life threatening disease. Each year, seasonal influenza causes serious infection and sometimes death.

Pandemic influenza is easily and rapidly spread between humans, infecting large numbers of people and causing many deaths worldwide. Pandemic influenza has the potential to bring the economy to a complete standstill and cause societal disruption on a massive scale.

General practice will need to be prepared and have implemented planning in areas of clinical work, infection control and communication pathways.

Learning objectives

On completion of this module you will be able to:

- describe potential mutation (change or alteration) of the influenza virus
- reflect on the history of influenza pandemics in the 20th century
- identify lessons learnt from the SARS outbreak.
The influenza virus

Three virus types: influenza A, B or C, can cause respiratory illness and are easily transmitted in crowded and enclosed spaces. Regional and widespread epidemics are most often attributed to influenza A and B viruses, while type C virus is associated with mild illness, sporadic cases or minor outbreaks. Influenza A causes the most severe disease in humans and is the most likely to trigger a pandemic.4

Only type A viruses – which infect both humans and animals – have been known to cause influenza pandemics.

The influenza virus has high mutation (change or alteration) rate and is prone to variation. Small mutations in the influenza virus are common, and this genetic variation – antigenic drift – can cause seasonal epidemics. These changes mean that little if any immunity is gained from previous infection or exposure to the influenza virus. This is why we need a new seasonal influenza vaccine each year. Larger variations are less common – antigenic shift – and can potentially cause pandemics as no immunity is present in the community.

Cases of a strain of avian influenza ‘bird flu’ (H5N1) have been identified in humans where there has been close contact with sick or dead birds, or their secretions. There has been little human-to-human transmission. However, under the right circumstances, a new subtype of influenza with pandemic potential can emerge. This can occur by:

• mixing of an animal or bird influenza virus with an existing circulating human influenza virus strain, or
• adaptive mutation changes in an animal or bird influenza virus which may allow the virus to infect and be transmitted easily between humans.

The WHO5 has studied the development of previous pandemics and believes that the next pandemic is likely to develop by moving through the following steps:

Step 1: An influenza virus in birds or animals develops the ability to infect humans. During this stage the virus is not able to transmit efficiently between humans, therefore, contact with infected animals is needed for human cases to occur

Step 2: Following genetic change, the virus becomes more efficient at passing from human-to-human

Step 3: Finally, the virus is able to transmit readily between humans and spreads rapidly due to the short incubation period, period of communicability and the infectious nature of influenza. Rapid global spread is aided by extensive international travel, which takes place every day between virtually every country in the world.

Influenza pandemics in the 20th century

Pandemic – from the Greek ‘pan’ meaning all and ‘demos’ meaning people – has been described as a sudden increase in the incidence of disease affecting large numbers of people and spreading over a large area. In the 20th century, the world has experienced three influenza pandemics:

Spanish flu (H1N1), 1918: swept across the world in three waves between 1918 and 1919. Approximately 50 million people are estimated to have died, with the highest numbers of deaths in young and healthy people aged 15–35 years. Pregnant women were especially vulnerable. Approximately 10 000 Australians died.

Asian flu (H2N2), 1957: caused the highest infection rates in school children, young adults and pregnant women. In the second wave, the elderly had the highest rate of deaths. Approximately 2 million people worldwide are estimated to have died.

Hong Kong flu (H3N2), 1968–1969: mainly affected the elderly and is thought to have caused about 1 million deaths worldwide.
Pandemic preparedness

A pandemic could potentially emerge very quickly. No-one can predict how rapidly, but it could be with little warning. Health care providers have a number of responsibilities, including:

- maintaining effective communication between key state, territory and local public health authorities and the community
- minimising influenza virus transmission through
  - clinical assessment and isolation of suspected cases
  - working with relevant state, territory and local government agencies to facilitate contact tracing and quarantine
  - participating in antiviral and vaccine administration
- maintaining the health system by
  - maintaining health care services for patients
  - where possible assisting at assessment services established by health authorities
  - where possible providing home care for suspected cases
  - referring to local councils and appropriate agencies people who require community support.

An employer has the responsibility to ensure that the health and safety of employees is protected. Employers must take all practicable steps to mitigate the risk and protect employees from pandemic influenza.

Practice staff need to be adequately educated about pandemic influenza and measures to control spread, as well as how to access PPE and when to use it.

Patients need to be kept informed, protected from infection, and have continued access to medical services.

Government needs to collect information on all suspected cases of pandemic influenza in a co-ordinated manner between federal, state, territory and local governments, and coordinate appropriate public health responses according to their pandemic plans.

Australia is planning to have the ‘capacity, capability and flexibility to respond to a pandemic as severe as that which occurred in 1918’.6

Lessons learnt from SARS

Severe acute respiratory syndrome (SARS) is a viral respiratory illness of a previously unknown pathogen that originated in southern China then crossed into Hong Kong, Vietnam, Singapore, Canada and Germany.

The history of the SARS outbreak illustrated the critical importance of basic infection control in health care facilities.

- Lessons learnt from the SARS outbreak demonstrate the need for:
  - enhancement of surveillance mechanisms
  - development of coordinated communication systems
  - development of strategies to cope with ‘surge’ capacity in the health sector
  - reinforcement of simple measures of infection control; hand hygiene, cough etiquette, use of PPE and appropriate cleaning of the practice environment.
Further reading


Module 2.1 Epidemiology of influenza

Introduction

The current mortality rate of seasonal influenza and pneumonia in Australia is 2800 deaths per year.6

If Australia was to experience a pandemic similar to the 1918 Spanish flu and we were not prepared to respond, scientists have estimated that 40% of the Australian population could show signs of infection during the pandemic, ie. around 8.5 million Australians.6 However, if we can respond effectively it is estimated we could reduce the number affected from 40% to 10%.

The Australian Commonwealth Government has developed a series of ‘assumptions’ as to how the pandemic virus may present and progress. Once a pandemic emerges, these ‘assumptions’ will be rapidly reviewed to ensure an appropriate response.

Assumptions cover:

• clinical picture
• mode of transmission
• virus survival
• disease dynamics
• pharmacological and nonpharmacological interventions.

Learning objectives

On completion of this module you will be able to:

• identify the current ‘assumptions’ of a pandemic virus
• recognise the difference between signs and symptoms of the common cold and influenza (‘red flags’)
• describe the modes of transmission of influenza virus.

Influenza symptoms

Influenza symptoms develop 1–3 days after the patient becomes infected and include:

• fever, chills and sweating
• sore throat
• weakness
• headache and generalised muscle and joint pains (legs and back)
• a nonproductive cough that can later become severe and productive.

Influenza versus the common cold

Influenza is more than a ‘bad cold’.

• The flu causes a high fever; a cold sometimes causes a mild fever
• Cold symptoms last 1–2 days; the flu can last up to a week
• Muscular pains and shivering attacks occur with the flu, but not with a cold
• Flu starts with a dry sensation in the nose and throat; colds cause a runny nose.
Red flags

Patients who have a FEVER and any one of the following influenza symptoms need a medical assessment to ascertain: ‘Could this be influenza?’ Practice staff need to be aware of the influenza ‘red flag’ symptoms of:

- difficulty in breathing
- chills and shivering
- muscle aches and pains
- sore throat
- dry cough
- stuffy or runny nose
- extreme tiredness.

(Note: as pandemic influenza emerges, a more specific case definition will be provided by health authorities)


- Maximum incubation period could be 7 days (usually 1–3 days)
- Contacts may need to be quarantined for 7 days after last exposure
- Droplet and contact spread will be the major modes of transmission, but aerosol transmission will occur
- The standard isolation period for an ill person is 7 days or until resolution of fever (if that period is longer)
- People of all ages could be infectious a day or more before the onset of symptoms
- The virus can survive on:
  - hard nonporous surfaces for up to 48 hours
  - cloth, paper and tissues for up to 12 hours
  - surfaces contaminated with blood or faeces for up to 5 days
  - unwashed hands for up to 30 minutes
- Predominant presenting symptoms during a pandemic are respiratory symptoms and fever, usually accompanied by systemic symptoms such as myalgia (muscle aches) and fatigue (tiredness), although other symptoms such as diarrhoea may occur
- Fever may not be present in the elderly and atypical presentations may be more common at the extremes of age
- Effective infection control practices, good hand hygiene, social distancing and early isolation of cases, quarantine of contacts, antiviral medication, and border control measures will reduce the spread of the virus
- In the pandemic alert phase all staff and patients at risk should consider seasonal influenza vaccination to reduce the overall pool of circulating seasonal virus (thus decreasing potential for diagnostic confusion) and pneumococcal vaccination, which may reduce the complications of secondary infection in cases of pandemic influenza.
Transmission

The high infectivity of the influenza virus, coupled with the short incubation period and the period of viral shedding, account for the rapid dissemination of the influenza virus.

- Primary mode of spread (transmission) is by large respiratory droplets propelled up to 1 m from a coughing or sneezing infected person and being deposited on the mouth, nose or eyes of another person (mucous membranes)
- Spread is also by direct or indirect contact, when a person touches respiratory droplets that are either on another person or an object and then touches their own mouth, nose or eyes
- Airborne (small particle) spread can occur in the general practice setting by producing aerosols during the use of nebulisers, oxygen administration and intubation. These procedures should not be undertaken without appropriate protection of PPE.

Task box

Schedule a staff meeting to educate staff on:
- the variance between symptoms of influenza and the common cold, often called the ‘flu’. Document the differences and display in reception for easy reference
- the different transmission routes of the influenza virus. Discuss and document the methods to reduce the risk of transmission.

Read: Appendix 4 Spacer versus nebuliser use for the treatment of asthma and reducing the risk of aerosol transmission during an influenza pandemic

Further reading

**Introduction**

Planning is the best way to mitigate the potentially serious consequences of an influenza pandemic. Pandemic planning is a continuous and evolving process. It is important that general practice planning and government planning are integrated.

The aim of pandemic preparedness is to protect Australians and to reduce the impact of a pandemic. The goal of the health sector is to minimise the impact of an influenza pandemic both on the health of the public, and the health sector.

**Learning objectives**

On completion of this module you will be able to:

- understand levels of government planning and the integrated role of general practice
- identify Australian pandemic phases
- identify the public health units that your practice will report to and seek advice from.

The WHO has a set of pandemic phases that describe the global situation. Australia uses the same numbering system as the WHO, however, the Australian pandemic phases are designed to describe the situation in Australia and to guide Australia’s response. Australian and WHO phases may not therefore always be the same. The Australian pandemic phase describes where the virus is, whether overseas or in Australia.
## Australian pandemic phases

The description of each phase and key actions by the health sector that occur by phase are shown in Table 1.

### Table 1. Key actions by phase

<table>
<thead>
<tr>
<th>Australian phase</th>
<th>Description</th>
<th>Key actions</th>
</tr>
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</table>
| ALERT OS3        | A novel virus with pandemic potential causes severe disease in humans who have had contact with infected animals. No effective transmission between humans | • Alert: increased vigilance for cases and increased monitoring of the virus (to look for genetic mutations in the virus)  
• Support the response to ‘control the source’ and ‘protect humans’ in affected countries. Working with the agricultural sector in overseas affected countries to reduce the amount of pandemic potential virus circulating in animals and to protect humans from infection  
• Prepare: increased pandemic preparedness activities |
| DELAY OS4/OS5/OS6| Novel virus has not arrived in Australia  
**OS4** Small cluster of cases in one overseas country  
**OS5** Large cluster(s) of cases in only one or two overseas countries  
**OS6** Large cluster(s) of cases in more than two overseas countries | • Delay entry of the virus to Australia with border measures  
• Support the response to avert a major outbreak in the affected country. Try to avert a pandemic by rapid intervention in the affected areas  
• Increased vigilance for cases (overseas and domestic) and increased monitoring of the virus (to look for genetic mutations in the virus)  
• Escalate preparedness activities for possible pandemic (move from ‘preparedness’ to ‘readiness’)  
• Stand down the response if the pandemic is averted before it arrives in Australia |
| CONTAIN 6a       | Novel virus has arrived in Australia causing small number of cases and/or small number of clusters | • Contain the establishment of the pandemic strain in Australia  
• Ensure the health system is best able to cope with an influenza pandemic |
| SUSTAIN 6b       | Novel virus is established in Australia and spreading in the community | • Sustain the response while we wait for a customised pandemic vaccine to become available. Minimise transmission and maintain health services |
| CONTROL 6c       | Customised pandemic vaccine becomes widely available and is beginning to bring the pandemic under control | • Control the pandemic with vaccine  
• Careful downscaling of response as pandemic brought under control, to an eventual standing down of control measures in the recovery phase |
| RECOVER 6d       | Pandemic controlled in Australia but further waves may occur if the virus ‘drifts’ and/or is re-imported into Australia | • Recover: restore the health system and return to ALERT phase as quickly as possible  
• Enhanced vigilance for a subsequent wave: increased vigilance for cases and increased monitoring of the virus (to look for genetic mutations) |

Source: AHMPPI, 2008

*At the time of publication, Australia is in pandemic phase ALERT OS3
General practice pandemic preparedness

The main strategy for practice preparedness is to develop a practice pandemic plan that:

- clearly outlines the roles of health services and its staff during a pandemic
- describes effective communication strategies to utilise existing health networks and available infrastructure
- documents infection control polices and processes for the protection of staff and patients
- identifies contingency arrangements for business continuity
- identifies contingency arrangements for patients with particular needs
- identifies triage algorithms for the management of suspected and known cases.

Flu clinics

All state and territory health department planning has identified a role for the establishment of flu clinics in the community. These clinics will be established to help reduce the spread of infection in the community by keeping potentially infectious patients separate from other patients.

The aim of flu clinics is to enhance rapid access for patients to clinical diagnosis and specimen collection. The location and range of services offered by these clinics will be made available at the time of a pandemic by state and territory health departments via public communication pathways.

Resources

The National Action Plan for Human Influenza Pandemic outlines how commonwealth, state and territory governments will work together to protect Australia against the threat of an influenza pandemic and support the Australian community should one occur:


The health sector pandemic preparedness and response is outlined in the AHMPPI, 2008.

The health sector strategy:

www.flupandemic.gov.au
Introduction
The development of triage protocols will provide practice staff with a tool to screen patients for avian influenza (ALERT OS3 phase) and pandemic influenza (DELAY OS4/5/6 onward). Early recognition of patients with suspected influenza will minimise the transmission of the virus and ensure that patient health needs are met.

Definitions used by public health authorities to identify cases of pandemic influenza may change at different phases of a pandemic, as knowledge about the disease increases. General practice needs to maintain good communication pathways with state and territory health authorities to ensure timely notification of any changes to case definition or clinical management.

Learning objectives
On completion of this module you will be able to:

- understand the role of triage in screening patients suspected of avian and pandemic influenza
- develop your specific practice triage policy
- describe clinical protocol in the management of suspected cases of avian and pandemic influenza.
The role of triage
A triage screening protocol needs to be supported by training all staff in:

- signs and symptoms of influenza
- appropriate questions to screen patients
- notification and referral pathways to appropriate health authorities
- isolation methods (eg. social distancing)
- use of PPE.

Questions to ask at reception
Reception staff can ask questions in a manner that is reassuring, as well as providing reasons for the questioning and privacy assurance if required. Practice information leaflets and notices in the waiting room can provide information that will further support the appropriateness of triage questions.

Questions to ask patients can be thought of in three stages:

- routine questions asked of all patients
- questions asked when the patient indicates signs or symptoms consistent with an infectious disease
- questions asked of patients when the practice suspects a local outbreak of an infectious disease (eg. measles or a suspected case of pandemic influenza).

Examples of questions to ask
‘Could you please give me an indication as to your health need so that I can ensure that I give you the most appropriate appointment?’

‘You say that you are unwell, can you give me further information as to what you are experiencing? Do you have a fever, rash, cough, diarrhoea or vomiting?’

‘So that our doctors can provide the best possible care, can you give me an indication of the nature of your visit?’

‘You probably know that there is an issue with flu at the moment. Could you tell me if you have a fever, muscle aches or cough, or have recently returned from overseas?’

‘Would you mind if I asked a couple more questions, as the information will help us care for you?’

Triage ALERT OS3
During pandemic phase ALERT OS3, triage questions need to specifically enquire as to a history of recent travel in an avian influenza infected area.

Case example
A patient requesting an appointment declares fever and one other influenza symptom. Reception staff ask: ‘Have you recently returned from an avian influenza affected area overseas?’

If the patient answers ‘YES’:

- organise an immediate medical appointment for assessment; in an isolated consulting room or a planned home visit
- advise the patient to call just before arrival at the practice and use alternative entrance and spare room (if possible) and ask the patient to keep a distance from other people
• alert the clinical team of a patient attending with symptoms of influenza
• when the patient arrives, provide a surgical mask, tissues, alcohol hand gel, and a pedal operated bin for disposal of used tissues; instruct on cough etiquette
• position the patient at least 1 m from other patients (social distancing), or if possible in a separate waiting area
• explain to the patient why this is important and offer reassurance.

Clinical assessment is guided by advice given by your state or territory health authority. The current recommended protocol is:
• contact state or territory health authority to report a suspected case and identify if the patient meets current case definition
• take advice and action recommended by the health authority
• clinician to put on PPE, examine the patient and collect clinical and travel history
• remove and dispose of PPE, strictly following protocol, to reduce the risk of cross contamination.

Triage DELAY OS4/5/6
In addition to actions for ALERT, during pandemic phase DELAY OS4/5/6:
• patients will be screened for influenza symptoms and recent travel history to areas where pandemic influenza has occurred
• names of patients who may have been in contact (less than 1 m) with the patient will need to be recorded for possible contact tracing purposes.

Triage CONTAIN 6a, SUSTAIN 6b, CONTROL 6c, RECOVER 6d
During the CONTAIN 6a phase, the pandemic virus has entered Australia but is not yet widely distributed. SUSTAIN 6b and CONTROL 6c phases will see the pandemic become more widely established and control occurring with implementation of vaccine. Triage protocols during CONTAIN, SUSTAIN, CONTROL and RECOVER will need to be adapted and advice taken from appropriate health authorities.

Clinical management during these phases will depend on re-evaluation of the pandemic planning ‘assumptions’.

Patient education
Displaying signs on the front door of the practice, in the waiting area, in consulting and treatment rooms, and in allied health consulting areas, will help to alert patients to:
• hand hygiene
• cough etiquette
• signs and symptoms of infectious disease to be aware of
• how to put on and remove a surgical mask to reduce the risk of cross contamination.

Communicate to patients that your practice is prepared for an emerging pandemic. Explain that if they present with influenza-like symptoms there will be some changes to their health assessment and management. Reassure patients that these changes will provide the best possible protection for them, other patients and practice staff.
Staff education

All members of the practice team will require training in triage protocols. Plan staff meetings with opportunities to review current and future triage planning as a pandemic develops.

When developing staff and patient education, fact sheets and posters can be downloaded from the following websites:

- www.flupandemic.gov.au

Also check available government resources for patient education and signage, and your state health authority website.

Case study

Ben was originally born in China and has been studying in Australia as an international university student for the past 4 years. He recently returned home during semester break to visit his aging and frail grandmother, who sadly died soon after he arrived in his home village. Upon returning to Sydney, he felt unwell. Ben rang his local medical clinic and requested an appointment; he described his fever and extreme tiredness.

The receptionist, Sarah, remembered the pandemic training staff had undertaken at their last team meeting. She asked Ben: ‘Have you recently travelled overseas?’ Ben explained his recent trip. Sarah asked Ben for a telephone number where he could be contacted and arranged for Dr Phil to call him back. After a telephone consultation it was arranged for Ben to attend the clinic. He would enter the clinic from the back door, put on a surgical mask and would be seen in the consulting room that was not in use the next day. Dr Phil, also wearing a surgical mask, consulted with Ben and took a verbal medical and travel history. Before performing a physical examination, Dr Phil rang the public health unit for advice as to the current case definition and if it was appropriate for him to take nasal and throat swabs.

Task box

Document your triage policy for pandemic phase ALERT OS3 (Australian pandemic phase).

Further reading

Module 4.1 Contact tracing

Introduction

During a pandemic, vigilance in detection and immediate reporting of suspected cases of avian and pandemic influenza is critical. A person is classified a ‘contact’ if they have been in close contact with a person who has been diagnosed with avian or pandemic influenza and therefore has the potential of becoming infected. The exact definition of a contact depends on the nature of the illness and the phase of the pandemic.

It is important to be aware of the changes of ‘case definition’ as a pandemic develops. The case definitions used by public health authorities will change at different phases of the pandemic as knowledge about the disease increases.

Learning objectives

On completion of this module you will be able to:

• identify the role of contact tracing
• understand the need for mandatory reporting of patient details if requested by public health authorities.

Practice staff may be asked to supply to health authorities the name and contact details of patients who have been in close contact with a patient with suspected avian or pandemic influenza. Patient confidentiality is a core element to the management of patient health. However, during a pandemic confidentiality and privacy may be overridden by public health concerns and mandatory reporting requirements.

• From DELAY OS4/5/6 onward, authorities will try to identify people suspected of having the pandemic strain. (Note: once a case is confirmed in Australia we move to CONTAIN.) Those in recent close contact with suspected cases will also need to be identified.

• During CONTAIN 6a contact tracing will be intensive. All efforts will be made to identify and quarantine people who have had contact with infectious cases, eg. home, work and school contacts. During this phase general practices may assist with the identification of possible contacts.

• During SUSTAIN 6b contact tracing and quarantine will likely be limited to people who share a home with an infected case.
Case study

Australia has moved to pandemic phase CONTAIN 6a. The first cases of pandemic influenza have been confirmed in South Australia.

Sally, 45 years of age, has been travelling with a group in South Australia. She has returned with flu-like symptoms. Sally has presented to her doctor, who felt that Sally had a high suspicion of pandemic influenza. On reporting his suspicion to the public health unit, Dr Metre was advised to obtain contact details of other members of the group Sally had been travelling with. Sally provided what details she could, which were then passed on to the health unit to commence contact tracing.

Sally was advised that all the people she had been in contact with would be informed of their risk, advised to remain in quarantine until Sally had a confirmed diagnosis, and that they may be prescribed antiviral medication. Sally was also advised to isolate herself in her home, and her family and friends that she had been in contact with would also need to be quarantined until confirmation of her diagnosis. The practice nurse provided information to Sally and her family on how to monitor Sally’s health.

Task box

Identify the contact details of your state or territory public health authority. Display in an easily accessible position at reception.
Module 4.2 Home visits

Introduction
During an influenza pandemic, providing health care for all patients in the practice may not be possible. Patients might require assessment and management in their own home and require nonhealth support services to do so.

State and territory health authority planning will differ across state borders, but each jurisdiction will nominate a level of service delivery and health care to patients within their own home. It is important for practices to be aware of what assistance state or territory health authorities, as well as other state government agencies and nongovernment agencies, will plan to deliver. Plan your practice strategy in alignment with state and territory based plans.

Patients may need to be reviewed in their home due to illness, frailty, disability, or anxiety over attending the practice and the potential exposure to pandemic influenza. Patients who have mild symptoms, where there is little concern about the medical condition at the time of clinical assessment, could be monitored by the practice team in home isolation. Telephone consultations may form part of medical management.

Learning objectives
On completion of this module you will be able to:
• identify the contents in a home visit kit to manage the risks of cross infection when attending to patients in their home
• develop a practice policy that will provide personal safety and reduction in risk to staff and patients during home visits.

A practice policy for the management of home visits will need to consider:
• How the practice identifies its ability and willingness to provide patients with home visits during a pandemic?
• Under what circumstances and what geographical area will the practice do home visits?
• Which practice staff will attend to home visits (eg. doctor or practice nurse)?
• What equipment and PPE supplies will be required for a home visit bag?
• How to manage the disposal of clinical waste?
• Who will be responsible for checking and re-stocking the home visit bag?
• How will the details of the visit be recorded in the patient file?

In managing patients in their home consider:
• assistance with activities of daily living to allow the patient to stay in their home during the isolation or quarantine period
• patient education about infection control measures to reduce the spread of the virus to other household members or visitors.
A practice ‘home visit’ kit will need to include:

- thermometer (tympanic or skin)
- gloves
- gowns
- P2 masks
- surgical masks
- eye wear (preferably disposable)
- yellow infectious waste bags for disposal of PPE and clinical waste
- alcohol hand gel
- specimen collection equipment (eg. swabs, transport bags, labelling)
- information sheets on isolation, quarantine, use of masks, social distancing, cough etiquette, health management education, referral and contact details.

Case study

Australia is now in pandemic phase CONTAIN 6a. Pandemic virus is spreading throughout Australia.

The Mountain Gate Medical Practice has a number of patients in home isolation or quarantine. Dr Hallow has a team of three doctors and two practice nurses. A roster has been established where one of the doctors sees the patient for an initial home visit and medical assessment, with the practice nurses performing follow up telephone consultations. A home visit bag has been set up which includes examination equipment, PPE, yellow infectious waste bags and patient information sheets. Louise, the practice manager, has the responsibility of cleaning and restocking the bag after each home visit.

Working with the practice medical supplier, they have made up packs of gloves, masks, and alcohol hand gel to give to patients in isolation.

The patients are very appreciative of the medical and emotional support that the practice has been able to provide. Every day the patients receive a telephone call from the practice nurse to review how they are going.

Task box

Develop your practice home visit policy and identify the role of PPE in protecting staff and reducing the risks of cross infection when attending to the health needs of patients with suspected avian or pandemic influenza.
Module 5

Principles of infection control

Introduction

Basic infection control measures have been identified as effective in reducing the spread of influenza virus. Simple measures such as hand washing, wearing a mask, and isolation of potentially infected patients are effective in preventing the spread of respiratory virus infections.

Not every situation has the same level of infection risk and the risk is likely to change as a pandemic progresses.

Reviewing the physical layout of your clinic to accommodate isolation and social distancing measures will help to reduce contact between potentially infected and noninfected patients.

All practice staff require training to ensure competency in the correct application, removal and disposal of personal protective equipment (PPE).

Learning objectives

On completion of this module you will be able to:

- describe the principles of infection control that will protect the health of staff and patients
- describe the correct protocol for applying, removing and disposing of PPE
- describe the role of hand hygiene, cough etiquette and social distancing
- describe the practice cleaning policy (the environment, equipment, all surfaces and spills management).
Infection control

Infection control is a broad term covering the principles and procedures necessary to prevent the transmission of infectious diseases.

Infection control requires:

- education on the principles of infection control so that all practice staff can demonstrate an understanding of the various infectious agents, their modes of transmission, and appropriate work practices to prevent further spread
- infection control risk assessments, conducted regularly, to review work practices to ensure infection control measures are part of daily practice.

Lessons learnt from the SARS outbreak reaffirm that following the correct protocol of application and removal of PPE will reduce the risk of cross contamination to both staff and patients.

Practice checklist

- Develop infection control policies and protocols that address:
  - cleaning the practice environment and equipment
  - appropriate management of spills
  - clinical waste management; segregation, storage and disposal
- Order and store appropriate supplies of PPE and disposable consumables:
  - provide tissues and no-touch receptacles for used tissue disposal
- Provide conveniently located dispensers of alcohol based hand rub:
  - near each work station
  - in patient waiting areas
  - in consulting, treatment and allied health areas
  - in reception and staff meeting areas
- Place signage in the practice to educate and alert staff and patients. This will assist with compliance with infection control policy and awareness of potential exposure and risk
- Educate and train staff in:
  - hand hygiene, cough etiquette and social distancing
  - correct application, removal and disposal of PPE
  - the role of standard and additional precautions.

Standard precautions

Standard precautions are work practices that are used consistently to achieve a basic level of infection control. They are precautions that:

- help protect staff and patients from acquiring and transmitting infection, and
- are used by staff involved with patient care.
Standard precautions include the use of:
- hand hygiene
- PPE as appropriate
  - mask
  - goggles/face shield
  - gowns
  - gloves
- aseptic techniques to reduce the number of micro-organisms and the risk of transmission
- safe sharps management
- safe spills and clinical waste management
- appropriate laundering of linen
- environmental and instrument cleaning using appropriate cleaning products
- appropriate reprocessing of re-usable equipment and instruments.

The role of additional precautions

Additional precautions are implemented when a patient is known or suspected to be infected with micro-organisms that cannot be contained by standard precautions. Additional precautions are tailored to the specific infectious agent concerned and may include measures to prevent airborne, droplet or contact (direct or indirect) transmission.

Additional precautions are always used with standard precautions:

Contact precautions
- Gloves and gown or apron
- Hand hygiene

Droplet precautions
- Surgical mask and protective eye wear (for influenza)
- Hand hygiene

Airborne precautions
- P2 masks and protective eye wear (for influenza)
- Hand hygiene.

When contact with a patient suspected of having pandemic influenza is anticipated, a combination of all three additional precautions may be required. The level of additional precautions required is determined by the degree and type of contact anticipated.

Additional precautions may include the use of:
- wearing P2 or surgical masks
- long sleeved gowns
- gloves, and
- eye wear (goggles or face shield)

to protect against all transmission modes: contact (direct or indirect), droplet, airborne; all of which are relevant in the protection against transmission of influenza.
Hand hygiene and respiratory (cough) etiquette

Hand hygiene is an essential element of infection control because hands are a common source of transmission of micro-organisms. Gloves are not substitute for hand cleaning. Easy access to hand hygiene facilities (hand washing or alcohol based hand gels) encourage staff to regularly perform hand hygiene (Figure 1).

Cough etiquette includes:

- covering coughs and sneezes – by use of a tissue, or by coughing or sneezing into the upper sleeve
- correct disposal of used tissues into a lined waste container (eg. foot pedal bin marked ‘clinical waste’)
- correct hand hygiene after coughing or sneezing.

Waste management

Waste management policies include:

- use of standard precautions including PPE when handling waste products
- correct segregation of waste into two streams:

  **Clinical waste**
  - used masks, tissues and PPE
  - discarded sharps in a correct container
  - human tissue (excluding teeth, hair, nails, urine, faeces)
  - materials containing free flowing or expressible blood
  - cytotoxic, pharmaceutical and chemical waste

  **General waste**
  - office waste
  - kitchen waste
  - urine, faeces, teeth, hair, nails
  - sanitary napkins, tampons
  - disposable nappies

Figure 1. Recommended technique for all hand hygiene agents

Reproduced with permission. The College of Physicians and Surgeons of Ontario. Infection control in the physician’s office, 2004
Principles of infection control

Module 5

- used tongue depressors
- disposable vaginal specula, cervical cytology spatulas and brushes
- nonhazardous pharmaceutical waste

• clinical waste containers and storage
  - lined leak proof containers
  - clinical waste bags must be yellow with easily identified biohazard signage
  - when collecting clinical waste you should wear gloves and a gown
  - clinical waste should not be decanted

• facilitate adherence to respiratory (cough) etiquette by ensuring availability of:
  - each patient could be provided with a small plastic bag to place their used tissues in. This bag could then be disposed of when the patient leaves the practice
  - tissues, masks and clearly labelled no-touch waste containers (eg. pedal operated lid) for disposal. The containers should be labelled ‘for used tissues’. Ensure appropriate signage is available to remind patients of good respiratory hygiene practice.

Personal protective equipment

• Gloves
• Long sleeved gowns, and if required, the addition of water impermeable aprons
• Masks (P2 and/or surgical masks)
• Protective eye wear (goggles or face shields).

Applying PPE
1. Wash and dry hands (use soap and water or alcoholic hand rub)
2. Mask
3. Protective eye wear
4. Long sleeved gown, tied up at the back
5. Gloves, taking care to tuck the cuffs of the gown into the gloves.

Removing PPE
1. Remove gloves inside out. Dispose immediately into waste container
2. Clean hands
3. Remove gown, taking care not to touch surfaces exposed to contamination. Dispose of disposable gown into labelled clinical waste disposal container
4. Clean hands
5. Remove protective eye wear using the arms or straps of the frame. Place disposable goggles/face shield into labelled clinical waste disposal container. Clean and disinfect re-usable goggles/face shield before re-use
6. Clean hands
7. Remove mask, down and away from face, taking care to handle by the strings only. Dispose of mask into waste container labelled ‘clinical waste disposal container’
8. Clean hands.

Cleaning hands
**P2 and surgical masks**

- P2 masks and eye covering are recommended to be used by all staff required to be in close (within 1 m) contact of a suspected influenza patient who is NOT wearing a surgical mask.
- Surgical masks and eye covering are recommended to be used by all staff required to be in close (within 1 m) contact of a suspected influenza patient (wearing a surgical mask).
- P2 masks need to be correctly fitted to provide a facial fit to the wearer that ensures inhaled and exhaled air travels through the filter medium.
- There is no one mask brand or size that fits everyone. Every staff member will need to try different brands and sizes to ensure a correct fit.
- Surgical masks can be used by patients while in the clinic. This enhances the protection provided by social distancing.
- Change a mask when it becomes moist or soiled. The mask should never be re-applied after it has been removed.
- Do not leave a mask dangling around the neck.
- Before applying a mask, hands need to be cleaned.
- Before removing and discarding a used mask, hand hygiene must be performed.

**Removing a P2 or surgical mask**

Correct removal of a used mask is important to prevent the risk of transmission of infection. Remove the mask handling only the elastic or strings. Dispose of the mask into labelled waste disposal containers.

Always perform hand hygiene before removing your mask. Always remove a mask down and away from your face to avoid potential exposure to mucous membranes.

**Eye wear – goggles or face shields**

- Eye wear (goggles, face shields) are used by staff when there is risk of splashing or spraying of blood or body fluids (e.g., venepuncture, cleaning instruments, risk of droplet transmission).
- Eye wear needs to be clear, antifogging, distortion free, close fitting, and ideally, closed at the sides.
- When wearing goggles or a face shield it is important not to touch the goggles or face shield.
- Staff who wear spectacles need to consider the risk of spray or splash and use goggles in addition to their spectacles.

**Removing and disposing of eye wear**

Correct handling of used goggles/face shields is important to prevent transmission of infection:

- take care to remove goggles using the stems only
• if disposable, discard into labelled clinical waste disposal container
• if re-usable, wash with soap and water, and dry before re-use.
• wear PPE when washing eye wear.

**Gowns**

Gowns should be worn when there is risk of soiling clothing from splashes of blood or body fluids, or when there is a risk of contact transmission of micro-organisms. Gowns need to be:
• disposable
• long sleeved
• cuffed, and
• secured at the back.

**Fitting a protective gown**

The gown is put on with the opening at the back. The tapes are secured to prevent the gown opening.

**Removing and disposing of a protective gown**

• The tapes are undone and the gown removed inside out, taking care not to touch the outside of the gown
• Gowns need to be disposed of into labelled clinical waste disposal containers.

**Gloves**

• Gloves should never replace the need for hand hygiene
• Gloves should be worn when contact with respiratory secretions or other body fluids is anticipated
• Gloves should always be replaced between different patient contacts
• Always perform hand hygiene after glove removal.

**Types of gloves**

• Sterile gloves are used for procedures requiring sterility (eg. surgical procedures)
• Nonsterile gloves are used for other procedures when there is risk of exposure to patient blood or body fluids, or risk of contact exposure to disease, but where sterility is not required
• General purpose utility gloves (kitchen gloves) are used for cleaning (eg. surfaces and instruments).

**Fitting protective gloves**

• Put on gloves ensuring a seal between the cuffs of the gown and gloves
• Change your gloves after:
  – contact with each patient
  – if gloves are damaged during a procedure
  – on completion of tasks
  – before handling objects used by other practice staff who may not be wearing gloves (eg. telephones, pens).
Removing and disposing of protective gloves

- Gloves are removed inside out and held by the edge to minimise contamination of hands
- Gloves are disposed of into labelled clinical waste disposal containers
- Hands need to be washed when gloves are removed.

Linen

It is recommended to use disposable paper sheeting as an alternative to linen. Paper sheeting used on examination tables/couches should be changed after each patient. The use of PPE (gloves, gowns, masks, eye wear) is recommended when handling paper sheeting or linen that might be contaminated with respiratory secretions from patients with suspected pandemic influenza. Take care when removing linen to avoid shaking the linen and propelling virus particles into the air.

Cleaning of the practice: environment, equipment and surfaces

Detergents used for cleaning instruments is satisfactory for environmental cleaning. Mildly alkaline detergents in the pH range of 8.0–10.8 are preferred over neutral pH detergents as alkalinity improves the cleaning efficacy of the detergent.

The recommended protocol is to clean with detergent and water and wipe surfaces dry. Effective cleaning consists of:

- mechanical action
- detergent and water
- drying surfaces thoroughly
- to prevent generation of dust particles, ‘wet’ dusting rather than ‘dry’ dusting is recommended.

What needs cleaning?

All frequently touched surfaces including: door handles, floors, bench tops, sinks, desks, telephones, office and medical equipment (eg. stethoscopes).

Plan the frequency of cleaning and the use of appropriate cleaning products.

There will be times that unscheduled cleaning needs to occur. For example, a consulting area where a patient with suspected influenza has been isolated, examined and assessed.

Read: Appendix 4 Spacer versus nebuliser use for the treatment of asthma and reducing the risk of aerosol transmission during an influenza pandemic

Task box

Schedule a practice team meeting to demonstrate to all staff the correct protocol to apply, remove and dispose of PPE. Staff need to have an opportunity to practise the protocol, identify where their technique needs improvement, and gain confidence in their technique; therefore reducing the risk of cross infection.

Further reading

Module 5.1 Checking and testing the fit of P2 masks

Introduction
During a pandemic there will be times that staff will need to wear a P2 mask. Wearing a mask correctly will provide protection against infectious airborne particles. There are two methods to ensure that your P2 mask is correctly fitted: fit checking is done every time you put a mask on; and fit testing is a one off method to measure the effectiveness of the fit of the mask.

Learning objectives
On completion of this module you will be able to:
• understand the difference between ‘fit checking’ and ‘fit testing’ a mask
• describe how to ‘fit check’ a mask.

Checking the fit of P2 masks
A ‘fit check’ must be performed EACH time a mask is worn. This checks that the mask is correctly sealed around the face. If the mask is not correctly fitted, there is a potential for exposure to infectious airborne particles.

To ‘fit check’:
• check that the mask is covering the face from under the chin to the bridge of the nose
• check that the mask is not too high on the bridge of the nose and interferes with the wearing of protective eye wear
• using fingers, mould the mask around the nose and cheek bones, making sure the edges are well sealed and fitted against the face
• if wearing prescription eye wear, put these on before the protective eye wear.

Now proceed to ‘fit check’:
• breathe in and out with both normal breathing and deep breathing
• move head side-to-side and up and down
• check for any air escaping around the sides, top and bottom of mask; eye wear should not fog; there should be no feeling of passage of air over the eyes.

Testing the fit of P2 masks
There are two ‘fit testing’ methods:
• qualitative, often referred to as the ‘hood method’, and
• quantitative.
(Note: neither of these ‘fit testing’ methods may be readily available in primary care in the event of a pandemic)
Qualitative method
This method uses an enclosed transparent hood, testing solution and atomiser. The effectiveness of this test relies upon the person’s ability to taste either a sweet or bitter solution.

Advantages of the qualitative method
- Relatively inexpensive to purchase (approximately $700 per kit) and easily transportable
- Can be purchased and used across a number of practice sites.

Disadvantages of the qualitative method
- Results are subjective and rely on the person tested being able to taste a solution that is aerosolised within the hood
- Procedure can be unpleasant and messy
- Testing can be time consuming with each tester being able to test around three people per hour.

Quantitative method
This method requires an instrument that measures the concentration of microscopic particles found behind the P2 respirator mask, which then compares this to the concentration in the ambient air. This calculation is called the ‘fit factor’.

Advantages of the quantitative method
- Produces objective test results by using an instrument to measure the particle count behind the mask
- Provides an electronic record that can be stored and printed
- Can be used as an educational tool to demonstrate the effectiveness of the fit of the mask.

Disadvantages of the quantitative method
- Expensive to purchase (approximately $14 000) and cumbersome to transport.

Task box
Schedule a team meeting and get all staff to ‘fit check’ P2 masks. Ensure the correct method of positioning the mask, perform a ‘fit check’, then ensure correct removal and disposal of the mask.
Module 5.2 Isolation and quarantine

Introduction
Patients who have identified influenza symptoms need to be isolated and potential contacts quarantined. The purpose of isolation and quarantine is to reduce the possibility of further transmission (spread) of disease to the community. Minimising the contact between infected and noninfected people will reduce the opportunity for virus transmission.

Infection control principles used in health care settings also apply in domestic settings. As the most efficient modes of influenza spread are droplet and contact spread, the use of modified precautions that focus on preventing droplet and contract spread are recommended for isolation. That is, surgical masks, social distancing and hand cleaning.

Learning objectives
On completing this module you will be able to:
- describe the role of isolation and quarantine in reducing the risk of influenza transmission (spread)
- describe the support that your practice can provide to patients isolated and/or quarantined in their home.

The decision framework that identifies a person as a ‘contact’ is likely to change once the transmission characteristics of a pandemic strain are known.

A contact is a person in close contact with a ‘probable’ case or a ‘confirmed’ case during the infectious period.

The contacts of ‘probable’ or ‘confirmed’ cases’ during the infectious period could include:
- household members
- close workplace contacts
- members of a case’s school class or child care group
- passengers and crew travelling on an aircraft for flights >5 hours duration with a ‘probable’ or ‘confirmed’ case seated in the same row or within two rows in front of and behind the case.

Isolation
Isolation of a minimum of 1 m between patients with suspected influenza and those without symptoms is required. The person in isolation should practise good personal hygiene (eg. covering coughs and sneezes, disposing of tissues properly, washing hands regularly). The person in isolation should also wear a surgical mask for 48 hours after commencement of antiviral treatment.

People living in the same house as the person in isolation will need to limit the amount of contact they have with that person. Consider the following:
- staying in a different room (eg. sleeping in a separate bedroom)
- shared spaces (eg. kitchen, bathroom) should be well ventilated, ie. keep windows open
- cleaning the environment regularly to prevent indirect transmission of the virus
- all members of the household should wear masks for at least 48 hours after influenza case has started treatment; and ensure correct disposal of used tissues and masks
- avoiding direct contact with body fluids. If contact occurs, perform hand hygiene immediately
- performing hand hygiene by washing with soap and water or an alcohol based hand rub.
Quarantine

People in quarantine may be asked to monitor their temperature. Fever is defined as ‘a temperature greater than or equal to 38 degrees Celsius’. Patients will require education on how to use a thermometer and how often they should take and record their temperature.

The Australian Commonwealth Government has produced a checklist for individuals and families outlining items to have on hand for an extended stay at home. Items include: perishable and nonperishable foods and medical, health and emergency supplies. The checklist is available at www.pantrylist.com.au/.

Task box

Develop a patient handout that details how patients can self monitor their temperature while in home quarantine.

Develop a practice policy that details the support the practice will provide for people in home isolation and/or quarantine.

Further reading and resources

Fact sheets to help the public understand self management during a pandemic can be found at:

- www.betterhealth.vic.gov.au
Communication

Introduction
Communication is a key component of pandemic planning – a two-way communication pathway for information between health professionals, government decision makers and the general public. Communication strategies need to be adaptable and reliable in a changing health environment such as during a pandemic.

Learning objectives
On completion of this module you will be able to:

- identify the communication pathways between: your practice and the government; your practice and your patients; within your practice team
- describe specific methods of communication that your practice will utilise during a pandemic.

If a suspected case of avian or pandemic influenza presents to your practice, public health authorities will need to be immediately contacted and the case reported. The public health authority will provide advice as to the management of the patient’s health needs that relate to the current pandemic phase and the case definition.

The Commonwealth Government Department of Health and Ageing has developed a coordinated and consistent communications strategy for the health sector regarding avian and pandemic influenza. The communications strategy is designed to be flexible: to adapt and expand to accommodate new policy measures, developments in the disease threat, and to ensure communications effectively address changing information needs. In addition, state and territory health authorities will communicate with the public and general practices about local arrangements such as location of ‘flu clinics’ and vaccination services.
Your practice will be a vital source of information for patients such as:

- what symptoms people should be aware of
- home quarantine and isolation support services
- access to antiviral medications and PPE
- referral to additional facilities in their state or territory.

All communication methods that your practice utilises will need to consider barriers that may prevent the message being received such as:

- cultural backgrounds and linguistic diversity
- vision impairment
- hearing impairment
- vulnerable groups (eg. the homeless).

Within your practice consider two-way communication pathways between:

- practice management and staff
- practice staff and state or territory health authorities
- practice staff and referring hospitals
- practice staff and other local services (eg. pharmacists)
- practice staff and patients
- practice staff and laboratory networks (local and state reference laboratories).

Consider a range of communication methods such as:

- practice website
  - upload information to inform your patients as to how your practice is working toward being pandemic prepared
  - notify patients of health alerts and health management
- patient information leaflets
- ‘on hold’ telephone call waiting message
- phone answering machine message
- external building signage
- internal building signage.

**Task box**

Develop a ‘pandemic notice board’ in your practice that will be dedicated to pandemic planning. Use it as an educative resource for the practice. Your notice board could be a physical wall space, web based or paper based.

Develop a resource that will work for your team and in the context of your practice.

**Further reading**

Introduction

Laboratory diagnosis will be important in the early phase of a pandemic to distinguish avian or pandemic influenza from other respiratory virus infections. Early clinical diagnosis and specimen collection will assist the understanding of the epidemiology of the influenza strain.

The role of antiviral medication will be better understood once a pandemic has emerged and more knowledge is gained as to the particular virus strain. As Australia moves to CONTAIN phase, all identified cases of pandemic influenza will be offered antiviral medication and the role of pre- and post-prophylaxis defined.

Note: While state and territory public health authorities have developed pandemic preparedness plans they may differ across state borders. It is important to review your state and/or territory planning to ensure your practice planning integrates with your health jurisdiction.

Learning objectives

On completion of this module you will be able to:

- describe the swab collection protocol for laboratory confirmation of suspected avian and pandemic influenza
- describe the role of antiviral medication.

As influenza virus infection cannot be reliably diagnosed on clinical features alone, confirmation by laboratory testing will be crucial in the early stages of a pandemic. Laboratory diagnosis is based on polymerase chain reaction (PCR) testing of nasal and throat swabs. This swab collection poses a risk of aerosol transmission and therefore health care providers must wear appropriate PPE when collecting specimens.
Recommended protocol for swab collection

- Patients suspected of having avian or pandemic influenza are to wear a surgical mask that is removed just before swab collection procedure
- The clinician is to put on PPE (P2 mask, gloves, gown, eye wear, preferably disposable) before taking swabs and examining the patient
- The patient will need to remove their surgical mask for swab collection, hence it is vital that the clinician is wearing a P2 mask and protective eye wear, as swab collection could cause coughing or sneezing by the patient and therefore generate aerosol production
- Collect two swabs for PCR. Use plain or flocked swabs (e.g. swab used for chlamydia testing) moistened with sterile water or a viral swab in gel transport medium)
  - nasal swab: insert swab into the nostril (only as far as the anterior end of the nasal turbinate) parallel to the palate, and leave in place for a few seconds. Slowly withdraw using a rotating motion. Specimens from both nostrils are obtained with the same swab
  - throat swab: both tonsils and the posterior pharynx are swabbed with the same swab (Note: Nasopharyngeal aspirates or nasal washes are not recommended as they both generate aerosols)
- After swab collection and examination of the patient is completed, remove and dispose of PPE in the correct manner.
- Patient to continue wearing a surgical mask while in the clinic.

Antiviral medications

The Australian Commonwealth Government has established a National Medical Stockpile which includes antiviral medicines, PPE and other stores likely to be needed in a pandemic.

Antiviral medications play a role in the treatment of pandemic influenza and pre- and post-exposure prophylaxis. Currently, the Australian Government’s strategy is to use antiviral medications as part of the broader response to a pandemic and to use stocks strategically:

- Tamiflu® (oseltamivir), an oral preparation for patients over 12 months of age, and
- Relenza® (zanamivir), an inhalant for patients 5 years of age and over.

During a CONTAIN 6a pandemic phase, all identified cases will be offered antiviral medication. Postexposure prophylaxis is likely to be offered to household contacts as well as work and school based contacts.

During a SUSTAIN 6b phase, there will be more available information about the effectiveness of antivirals and clinical indications will be reviewed. If antivirals are shown to be effective, high risk household contacts will be offered postexposure prophylaxis.

In the health care setting pre-exposure prophylaxis antiviral medication would only be provided to health care workers who have continuous frontline exposure to infectious cases. Such cases would include when the patient cannot wear a surgical mask, and particularly, when aerosol generating procedures on known infectious patients might be needed on a regular basis.

Task box

Schedule a clinical team meeting to discuss swab collection and clinical management of patients.

Further reading

Module 7.1 Immunisation

Introduction

The annual seasonal influenza vaccine will not protect an individual against a pandemic influenza strain. Nevertheless, inter-pandemic vaccination for seasonal influenza should be highly encouraged so that the total amount of circulating influenza virus in the community is reduced. This will also reduce diagnostic confusion between cases of seasonal and avian or pandemic influenza.

Pneumonia can be a severe illness and a complication of influenza infection. During the inter-pandemic phase, pneumococcal vaccine is recommended for at-risk groups, according to recommendations in the National Health and Medical Research Council (NHMRC) Immunisation Handbook (9th edition).

Learning objectives

On completion of this module, you will be able to:

- identify the role of seasonal influenza, candidate and customised pandemic vaccine during a pandemic.

There are three distinct ‘influenza scenarios’ of relevance, and it is vital that practice staff are mindful of this: seasonal influenza, avian influenza, and pandemic influenza.

- Seasonal influenza occurs each winter. Most people experience 1–2 weeks of symptoms, which although unpleasant, are not usually life threatening, except in the very young or in people with chronic health diseases.

- Epidemic influenza occurs when a new highly pathogenic more severe influenza strain emerges, resulting in increased mortality and morbidity, especially in at-risk groups such as the elderly, the young and the chronically ill.

- Pandemic influenza occurs when a new highly pathogenic influenza strain emerges with high mortality and morbidity and spreads globally.

Candidate pandemic vaccines are based on a viral strain thought to have ‘pandemic potential’. The virus strain from which these types of vaccines are made is unlikely to be an exact match to the strain that eventually causes the pandemic. If these vaccines are used, they may reduce the severity of illness in those who become infected, or prevent infection in some people, but not to the extent of a customised pandemic vaccine. They may also ‘prime’ the immune system – potentially shortening the amount of time it takes to mount an immune response to the customised vaccine, thereby possibly decreasing the number of doses of customised vaccine required. The advantages of candidate pandemic vaccines is that they can be made and stockpiled ahead of time and therefore would be available for use from the DELAY phase. Australia has a small stockpile of H5N1 candidate pandemic vaccines, which may be used if the emerging virus is a H5 subtype.

Customised pandemic vaccine describes a vaccine that is based on the actual pandemic viral strain – a specific, customised vaccine against the pandemic virus. As this vaccine is based on the actual pandemic virus, production of such a vaccine can only begin once the virus has emerged. It is likely that customised pandemic vaccines will provide a significant level of protection against both infection and the development of severe illness due to the virus.
Seasonal influenza vaccine can reduce the incidence of circulating seasonal influenza virus and therefore the risk of diagnostic confusion and demands on our health system during a pandemic. All practice staff and patients should be offered immunisation against seasonal influenza, and if appropriate, pneumococcal vaccine. Some patients will be eligible to access government funded vaccine, but many will need to be encouraged to see the cost as an investment in their health.

When a pandemic arrives in Australia, the availability of seasonal influenza vaccine may be limited. At this stage it will be necessary to prioritise remaining stocks of seasonal influenza vaccine to high risk groups.7

A practice policy that will provide a systematic approach to immunisation needs to address:

• the aims of the policy
• the target of the policy
• the evidence to support the implementation of the policy
• the barriers to a successful immunisation program and how they can be managed
• which team members, and within what role, will contribute to the implementation of the policy.

Further reading

• The Australian immunisation handbook

• National Institute of Clinical Studies. Vaccinating against influenza in ‘at-risk’ groups. Evidence-practice gaps report
7.2 Use of multidose vials

**Introduction**

When developed, the customised pandemic vaccine distribution will be managed by state and territory health authorities. The vaccine is likely to be delivered in two doses, delivered from a multidose vial (MDV). Planning is for every Australian to have a complete course of the vaccine. General practice involvement in vaccination programs may be substantial, depending on the local situation.

General practice staff need to be familiar with the risks and protocols of safe vaccine delivery. The use of MDVs has been identified as an area of potential danger to the public. Failure in separating clean from contaminated areas and following safe injection practices has resulted in patient-to-patient blood borne transmission.8

**Learning objectives**

On completion of this module you will be able to:

- identify the risks in delivering vaccines to patients from a MDV
- understand the steps required to ensure safe delivery of vaccines from a MDV.

**Recommended procedure for single dose extraction**

1. Perform hand hygiene and prepare a clean work area
2. Confirm compliance to vaccine cold chain principles
3. Record the date of opening on the MDV
4. Wipe the diaphragm of the MDV with a 70% alcohol swab
5. Using an aseptic ‘no touch’ technique insert a sterile drawing up needle and syringe into the diaphragm of the MDV
6. Draw up the single dose as required
7. Remove the drawing up needle and discard appropriately
8. Attach a new sterile administration needle
10. Dispose of sharps appropriately
11. On completion clean and wipe down preparation area
12. Perform hand hygiene
13. Discard contents of the MDV if:
   - sterility has been breached
   - vaccine expiry date has been reached, or
   - more than 1 week has passed since date of first opening, or
   - the maximum time allowed as per product recommendations has passed.

Note: Sharps disposal as per RACGP Infection control standards for office based practices. 4th edn. Safe sharps management, Section 2, chapter 3, p. 30–31.
**Recommended procedure for multi dose extraction**

1. Assess the number of doses that is required to be drawn up for the planned immunisation session and ensure sufficient supplies of:
   - the vaccine
   - an alcohol swab
   - single use sterile and appropriate sized drawing up needle
   - single use sterile and appropriate sized administration needles
   - single use sterile and appropriate sized syringes
   - a clean labelled container with lid for storage of doses. Record on the container:
     - date and time of extraction of the of the doses from the MDV, AND
     - use-by-date of the vaccine

2. One person should prepare the extraction of doses from the MDV in an environment that is free from distraction and interruption

3. Perform hand hygiene and prepare a clean work area

4. Record the date of opening on the MDV

5. Wipe the diaphragm of the MDV with a 70% alcohol swab

6. Use an aseptic ‘no touch’ technique insert into the diaphragm of the MDV a new single use sterile drawing up needle for the extraction of doses

7. Draw up each single dose required into separate new sterile syringe(s) and cap each with a new sterile administration needle

8. When the planned number of doses have been extracted, remove the drawing up needle and dispose of appropriately

9. Store the prepared doses in the labelled container with a lid

10. Store under appropriate cold chain conditions if immediate use is not anticipated (eg. in a monitored vaccine refrigerator at 2–8 degrees or in an insulated container with a cooler block for shorter periods)

11. Store the remaining contents of the MDV in a monitored vaccine refrigerator at +2–8 degrees

12. On completion, clean and wipe down preparation area

13. Perform hand hygiene

14. If the MDV needs to be re-accessed, repeat steps 3–13.
**Recommended procedure for injection**

1. Perform hand hygiene
2. Alcohol swabs are not essential to prepare the skin before injection
3. Use additional PPE if clinically indicated
4. Gloves are not recommended for routine immunisation service providers; however, in a pandemic influenza environment, a P2 mask, eyewear, gloves and gown should be used
5. Perform injection following recommended injection technique as per the Australian Immunisation Handbook. 9th edn. Part 1: Vaccination procedures, p. 1–67
6. Discard used equipment appropriately
7. Perform hand hygiene.

Note: Sharps disposal as per RACGP Infection control standards for office based practices. 4th edn. Safe sharps management, Section 2, chapter 3, p. 30–31.

*Australian Immunisation Handbook. Section 1.4.1 Occupational health and safety issues. 9th edn states that gloves are not routinely recommended for immunisation service providers*

**Anaphylaxis**

The availability of protocols, equipment and drugs necessary for the management of anaphylaxis should be checked before each vaccination session. An anaphylaxis response kit should be on hand at all times and should contain:

- adrenaline 1:1000 (minimum three ampoules – check expiry dates)
- minimum of three 1 mL syringes and 25 mm length needles (for IM injection)
- cottonwool swabs
- pen and paper to record time of administration of adrenaline, and
- laminated copy of ‘Recognition and treatment of anaphylaxis’.

**Valid consent**

Principles of valid consent need to be followed. Consent may be given either in writing or verbally, but must meet the criteria for valid consent. Evidence of verbal consent should be documented in the clinical records.

**Task box**

Develop a practice policy on vaccine administration from a MDV. Consider principles of infection control, cold chain, anaphylaxis and cross contamination of the MDV.
Contact state and territory public health authorities for further information.

Australian Capital Territory 02 6205 2155

New South Wales Contact details for the 17 public health offices in NSW Area
Health Service Areas can be found at www.health.nsw.gov.au/publichealth/Infectious/phus.asp

Northern Territory 08 8922 8044

Queensland 13432584 or 13HEALTH

South Australia 08 8226 7177

Tasmania 1800 358 362

Victoria 1300 651 160 or after hours through the paging service
1300 790 733

Western Australia 08 9388 4830 or 08 9328 0553 (after hours)

These contact details can periodically change. It is important that you identify your state and territory public health authorities and keep their current contact details easily accessible.

Further reading

• The Australian immunisation handbook. 9th edn

• Strive for 5. National vaccine storage guidelines

• Infection control standards for office based practices. 4th edn. Safe sharps management.

• The Australian immunisation handbook. 9th edn. 1.3.1 Pre-vaccination procedures, p. 8

• The Australian immunisation handbook. 9th edn. 1.3.3 Valid consent, p. 12.
Introduction
Workplace absenteeism due to staff illness and other factors during a pandemic is inevitable, and continuation of core business will be a major challenge for all business sectors. Estimates suggest that businesses should plan for 30–50% staff absences at the peak of a pandemic.11

Learning objectives
On completion of this module you will be able to:
• identify risks to business continuity
• understand the critical steps in planning for business survival.

A strategic approach to business continuity will identify team infrastructure and business systems that require implementation or adaptation. For example:
• employers
  – have a legal obligation to provide and maintain a safe workplace and must take steps to minimise the risks associated with a pandemic and involve staff in the process
  – develop other ways of running the business, including considering alternative work practices
• practice teams need to plan how to deal with these risks.
Key areas for business planners

Reducing the likelihood of staff exposure to influenza virus

- Educate staff
  - in the correct use, application, removal and disposal of PPE
  - ensure infection control practices are part of every day practice
- Develop and implement practice specific policies to support
  - human resource management
  - the provision of safe health care to patients
- Address occupational health and safety issues
  - maximising staff safety
  - analysing the risk to staff health and wellbeing.

Managing staff illness and absenteeism

- A dedicated staff member to oversee staff work rosters
- Consider:
  - staggered working hours
  - after hours clinic rosters
  - pooling staff resources with neighbouring primary care providers
- Identify core roles required to keep the essential functions of the business running
  - what functions are critical for practice survival? Which staff members provide these functions? Which staff members can multitask to replace staff lost through absenteeism?
- Anticipate employee fear and anxiety and plan communications to both staff and their families
- During a pandemic, staff will need to be screened for ill health and advised not to attend work if they have symptoms of influenza.

Maintaining service and business delivery

- Collaborate with government public health authorities, your local division of general practice, the RACGP
- Develop alternative delivery and communication systems
  - business website
  - telephone hot line
  - patient leaflets
- Ensure stock supplies of medical equipment, vaccinations, PPE, office supplies.

General practices will need to identify their ‘critical breaking point’. This is when an organisation can no longer maintain available services in a safe manner due to identified risk in workplace health and safety. This could be due to insufficient staffing levels due to loss of staff through absenteeism or the disruption of services or resources on which the organisation is dependent.

Part of a business continuity plan is to examine how to best communicate the organisation’s preparedness for responding to a pandemic to staff, patients, clients and the community.
Questions for your business planning meeting

• If required, who can work from home?
• Who will need IT infrastructure at home (e.g., computer updates) to make this possible?
• Who are the essential team members who need to work in the practice?
• Which staff can be cross trained so that clinical and administrative roles can be performed across practice teams?

Preparing a business for a pandemic

Step 1
Establish a pandemic planning team for the business to coordinate and monitor influenza pandemic issues and to advise on relevant developments.

Step 2
Identify critical business processes and rank them in order of importance.

Step 3
Identify the essential physical, human and financial resources needed to continue critical business processes.

Step 4
Develop contingency plans for continuation of critical business processes at less than full capacity. In doing this, you plan for a situation where 30–50% of staff are absent at the peak of the pandemic and prepare for a second and third wave of absenteeism. Consider contingency plans that might include training staff in alternative roles and making arrangements for staff to work from home. For example, doctors in quarantine can still do reports or telephone triage or patient telephone follow up.

Step 5
Develop written standard policies and procedures so that all practice staff know how to perform different tasks.

Step 6
Update employee personal and contact information, including emergency contact telephone numbers and next of kin. Establish policies for employee leave, compensation, how to deal with those exposed to pandemic influenza and those who become ill (e.g., immediate mandatory sick leave).

Step 7
Develop communication systems. Communicate pandemic planning to staff and develop protocols for communications.

Step 8
Enhance IT networks to ensure they are capable of supporting any contingency plans such as working from home, and establish mechanisms for staff communication such as a website and hotlines.

Step 9
Review insurance coverage for a pandemic. Is there adequate coverage for business cessation, voluntary closure, mandatory closure, loss of income, or liability for spread of disease among staff.
Step 10
Check what other health services will be available in your area and note the DoHA hotline number 1800 004599 and website for updated information www.flupandemic.gov.au.

Finances
Some businesses may be placed under financial stress in a pandemic due to the potential disruption to normal activity. Maintaining a healthy reserve of cash may be a safe method for ensuring the business can meet any short term financial obligations. Extra funds may be required over the duration of the business downturn to compensate for a drop in operating profits and to maintain business liquidity.

Plan for the impact of a pandemic on your business

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<thead>
<tr>
<th>Tasks</th>
<th>Not started</th>
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<tbody>
<tr>
<td>Identify a pandemic coordinator and/or team with defined roles and responsibilities for preparedness and response planning</td>
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<tr>
<td>Identify essential employees and other critical inputs (eg. suppliers) required to maintain business operations by location and function during a pandemic</td>
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<tr>
<td>Train and prepare your workforce so that staff can perform other roles and multitask</td>
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<td>Develop and plan for scenarios likely to result in an increase or decrease in demand for your products and/or services during a pandemic (eg. establishment of a flu clinic)</td>
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<tr>
<td>Determine potential impact of a pandemic on business financials using multiple possible scenarios</td>
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<tr>
<td>Determine potential impact of a pandemic on business related travel (eg. quarantine, border closures)</td>
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<tr>
<td>Find up-to-date, reliable pandemic information from public health units, emergency management and other sources and make sustainable links (eg. local hospital, pathology services)</td>
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<tr>
<td>Establish an emergency communications plan and revise periodically. This plan includes identification of key contacts (with back-ups), chain of communication (including suppliers and customers), and processes for tracking and communicating business and employee status</td>
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<tr>
<td>Implement an exercise/drill to test your plan, and revise periodically</td>
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### Establish policies to be implemented during a pandemic

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<th>Tasks</th>
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<tr>
<td>Establish policies to be implemented during a pandemic</td>
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<tr>
<td>Establish policies for employee compensation and sick leave absences unique to a pandemic (eg. nonpunitive, liberal leave), including policies on when a previously ill person is no longer infectious and can return to work</td>
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<td>Establish policies for flexible worksite (eg. telecommuting) and flexible work hours (eg. staggered shifts)</td>
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<tr>
<td>Establish policies for preventing influenza spread at the worksite (eg. promoting respiratory hygiene/cough etiquette and prompt exclusion of people with influenza symptoms)</td>
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<td>Establish policies for employees who have been exposed to pandemic influenza, are suspected to be ill, or become ill at the worksite (eg. infection control response, immediate mandatory sick leave)</td>
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<td>Establish policies for restricting travel to affected areas, evacuating employees working in or near an affected area when an outbreak begins, and guidance for employees returning from affected areas</td>
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<td>Set up authorities, triggers and procedures for activating and terminating the company’s response plan, altering business operations (eg. shutting down operations in affected areas), and transferring business knowledge to key employees</td>
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Allocate resources to protect your employees and customers during a pandemic

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<tr>
<td>Provide sufficient and accessible infection control supplies (eg. hand hygiene products, tissues and receptacles for their disposal) in all business locations</td>
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<tr>
<td>Enhance communication and information technology infrastructure, as needed, to support employee telecommuting and remote customer access</td>
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Communicate to and educate your employees

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<tr>
<td>Develop and disseminate programs and materials covering pandemic fundamentals (eg. signs and symptoms of influenza, modes of transmission), personal and family protection and response strategies (eg. hand hygiene, coughing/sneezing etiquette, contingency plans)</td>
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<td>Anticipate employee fear and anxiety, rumours and misinformation and plan communications accordingly</td>
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<tr>
<td>Ensure that communications are culturally and linguistically appropriate</td>
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<tr>
<td>Disseminate information to employees about your pandemic preparedness and response plan</td>
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<tr>
<td>Provide information for the at home care of ill employees and their families</td>
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<td>Develop platforms (eg. hotlines, dedicated websites) for communicating pandemic status and actions to employees, vendors, suppliers and customers inside and outside the worksite in a consistent and timely way, including redundancies in the emergency contact system</td>
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<tr>
<td>Identify sources for timely and accurate pandemic information (communication pathway) and resources for obtaining medical supplies (eg. PPE, medical consumables, vaccines and antivirals)</td>
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Coordinate with external organisations and help your community

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<tr>
<td>Collaborate with insurers, health planner, and major local health care facilities to share your pandemic plans and understand their capabilities and plans</td>
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<tr>
<td>Collaborate with federal, state and local public health agencies and/or emergency responders to participate in their planning processes, share your pandemic plans, and understand their capabilities and plans</td>
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<tr>
<td>Communicate with local and/or state public health agencies and/or emergency responders about the assets and/or services your business could contribute to the community</td>
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<td>Share best practices with other businesses in your community, chambers of commerce and associations to improve community response efforts</td>
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Adapted from: Pandemic business checklist. Available at www.pandemicflu.gov/plan/businesschecklist.html#1.1

Task box

Document your business survival plan. Consider:

- reducing the likelihood of staff exposure to infectious virus
- managing staff illness and absenteeism
- maintaining services and business delivery.

Further reading

- Pandemic planning in the workplace. Commonwealth of Australia, 2007

- Australian Government Department of Innovation, Industry, Science and Research
Resources

- The RACGP. Pandemic resources, including posters to support general practice in educating patients and staff on infection control and the use of PPE. Available at www.racgp.org.au/pandemicresources
  - for Ontario, the SARS outbreak was a public health emergency without precedent. Recognising the tremendous efforts made by all the people involved, it is clear that SARS exposed a general lack of preparedness for managing health emergencies. This report contains valuable insights into the challenges faced by the Ontario health workforce
  - this study utilised semi-structured interview methodology to explore GPs views regarding their role in responding to pandemic influenza, practice preparedness and planning issues, and the expectations and requirements of GPs for provision of professional services during a pandemic. The participants were 60 Australian GPs, purposively selected to maximise diversity within the sample
  - this Cochrane systematic review scanned 2300 titles, excluded 2162 and retrieved the full papers of 138 trials. This study reviewed the evidence of effectiveness of interventions to interrupt or reduce the spread of respiratory viruses
  - this study utilised a multi-method study methodology to analyse 89 publicly available jurisdictional plans. The framework identified critical shortcomings in available plans from Australia, England, USA, New Zealand and Canada
  - this study assessed transmission reduction potential provided by personal respirators, surgical masks and home made masks when worn by healthy volunteers and a simulated patient
Resources

  – this study reviewed the Cochrane Airway Group Trials Register and the Cochrane central register for controlled trials to access the effects of holding chambers (spacers) compared to nebulisers for the delivery of beta agonist for acute asthma

  – this qualitative study involved semi-structured interviews carried out among South Australian GPs and explores their perceptions of preparedness for an influenza pandemic, the changes they would make to their practice, and the ethical justifications for their planned actions

• Ethical considerations in developing a public health response to pandemic influenza. Available at www.who.int/csr/resources/publications/WHO_CDS_EPR_GIP_2007_2c.pdf
  – this report addresses critical ethical questions that arise in pandemic influenza across the areas of planning, building capacity and responding; and obligations that health care workers have to work, notwithstanding risks to their own health and the health of their families.

The majority of these recommended readings can be accessed through the weblink provided. All recommended reading material is also available from the RACGP John Murtagh Library. College members will need to login to the website using their username and password to activate the weblinks to the reading lists. For nonmembers, the readings can be accessed through the library at a charge. Visit www.racgp.org.au/library/nonmembersforcharges.
References

APPENDIX 1: Influenza pandemic planning workbook

Pandemic phase ALERT OS3
(Current Australian pandemic phase)
Human infection with a novel influenza strain overseas but no human-to-human spread, or at most, rare instances of spread to a close contact.

While there is little evidence of human-to-human transmission of avian influenza, people returning from areas affected by avian influenza may come to your practice unwell or worried about having been in contact with avian influenza.

During the ALERT phase it is important to consider planning for the next phase; it will be too late once a pandemic starts.

**Action:**
- Appoint a staff member as the key person in your practice for the coordination of influenza pandemic planning

**Name of coordinator:**
________________________________________________________

☐ Action completed ✓ box

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The influenza virus

Influenza is an illness of the respiratory tract caused by one of a number of influenza viruses. The current circulating strain of H5N1 virus has been identified in humans where there has been close contact with sick or dead birds, or their secretions. Pandemic influenza is potentially caused when a type A influenza virus goes through a variation (antigenic shift) and the community has no immunity.

**Read:** Module 2 The influenza virus

**Read:** Module 2.1 Epidemiology of influenza

**Action:**
- A team meeting has been scheduled to educate all practice staff in the:
  - signs and symptoms of influenza
  - the differences between symptoms of influenza and the common cold
  - transmission and communicability of influenza

☐ Action completed ✓ box
Government planning
The Australian Government has developed the *Australian health management plan for pandemic influenza* (AHMPPI) and the *Guidelines for the management of pandemic influenza in primary health care settings* (‘Primary care annex’). These documents detail the government planning for a national and primary health care response to a pandemic. Each Australian state and territory health jurisdiction also has plans that outline the operational aspects of responding to an influenza pandemic. Plans may vary by jurisdiction.

**Read:** Module 3 Government planning

**Action:**
- The influenza pandemic coordinator has read and is familiar with the fundamental principles of government planning (commonwealth, state, territory and local government)
- Provide a brief overview of government planning to your practice staff

Date of staff meeting: ____________________________

☐ Action completed  ✓ box

Government health authorities have committed to providing:
- ongoing advice on reporting requirements, case and contact definitions
- ongoing advice about distribution of antiviral medications and personal protective equipment (PPE)
- ongoing advice regarding what infrastructure is in place in your local area to manage suspected pandemic cases
- ongoing advice on the capacity of laboratories to perform testing on specimens collected from patients, and
- undertaking contact tracing in the early stages of a pandemic.

Divisions of general practice and The Royal Australian College of General Practitioners (RACGP) will form part of the communication network by informing practices when the government releases a pandemic alert notification.

**Action:**
- Practice contact details provided to the local division of general practice
- Practice contact details provided to the RACGP (to receive RACGP information email details to: friday.fax@racgp.org.au)
- Contact details for state/territory public health authority displayed in prominent areas of the practice (reception, treatment room, consulting rooms)

Practice contact details provided to local division of general practice. Date: ________________

Practice contact details provided to the RACGP. Date: ________________

Contact details of public health authority recorded and displayed in:

<table>
<thead>
<tr>
<th>Area</th>
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<tbody>
<tr>
<td>Reception</td>
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<tr>
<td>Treatment room</td>
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<tr>
<td>Consulting rooms</td>
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☐ Action completed  ✓ box
**Triage**

Avian influenza in humans is not as infectious as pandemic influenza and transmission requires close and sustained contact with sick or dead birds or their secretions. A patient presenting to the practice with suspected avian influenza may experience influenza-like symptoms and describe close and sustained contact with sick birds, or they could have had contact overseas with a human case (eg. family members have shown human-to-human transmission), or laboratory worker working with H5N1 in Australia.

Read: Module 4 Triage

**Action:**
- Document your triage policy for pandemic phase ALERT OS3
- Schedule staff training in the triage policy
- Document questions to be asked at reception and the expected staff response and the responses required
- Display your triage plan in reception and distribute to all clinical staff

Triage policy documented and filed. Date: _______________ Location: ____________________

Review date of triage policy _____________________________

Staff meeting scheduled to educate all staff in triage policy

Date: _______________

☐ Action completed ✓ box

**Infection control**

Practice staff will require training in infection control measures. Simple measures such as hand washing, wearing a mask, and the isolation of potentially infected patients are effective in preventing the spread of respiratory virus infections.

Read: Module 5 Principles of infection control

Read: the RACGP Infection control standards. 4th edn. Chapter 5, section 1, pages 12–19

**Action:**
- Document your infection control policy
- A team meeting has been scheduled to inform your staff of:
  - hand hygiene, cough etiquette and social distancing methods
  - appropriate and correct use of PPE (application, removal and disposal)
- PPE supplies have been ordered and stored where easily accessible
  - inform all staff of where PPE is stored

Staff meeting scheduled to educate all staff on hand hygiene, cough etiquette and social distancing. Date: ___________

Staff meeting scheduled to educate all staff on appropriate and correct use of PPE. Date: ___________

Name of supplier of PPE _______________________________

Identify where packs of PPE are located in the practice ____________

☐ Action completed ✓ box
Practice cleaning
Cleaning is an important infection control measure. Effective cleaning consists of the combination of mechanical action, detergent and water, and drying. The practice plan or policy will outline:

- the protection of staff (vaccination and safe work practices)
- cleaning products to be used
- frequency and procedures for scheduled cleaning
- procedures for unscheduled cleaning.

Read: Module 5 Principles of infection control
Read: the RACGP Infection control standards, 4th edn. Chapter 2, section 3, pages 37–45

Action:
- Document your cleaning policy
- A team meeting has been scheduled to inform your staff of the cleaning policy

Cleaning policy documented and filed.

Date: _________________
Location: _________________________
Review date of cleaning policy _______________________
Staff meeting scheduled to educate all staff in practice cleaning policy

Date: __________________________

Action completed

Waste management
During a pandemic the amount of waste produced may be substantial. Handling waste correctly will reduce the risk of transmission of infection. Staff require an understanding of standard and additional precautions to reduce the possibility of cross infection. Waste management includes the collection, segregation and disposal of waste.

Action:
- Document your waste management policy
- A team meeting has been scheduled to inform all staff on the waste management policy

Waste management policy documented and filed.

Date: _________________
Location: _________________________
Review date of policy _______________________
Staff meeting scheduled to educate all staff in waste management policy

Date: __________________________

Action completed
**Isolation**
The role of isolation is to reduce the possibility of transmission (spread) of disease. Patients who are ill require isolation methods to reduce the risk of spread of influenza.

**Read:** Module 5 Infection control

**Action:**
- A team meeting has been scheduled to inform your practice staff of isolation and social distancing methods to be implemented in your practice

Staff meeting scheduled to educate all staff on isolation methods

Date: __________________

☐ Action completed ✓ box

**Patient education**
Patients will require ongoing and current information as a pandemic emerges. This includes initial information about the practice’s preparedness activities, and self management at home in later pandemic phases.

**Read:** Module 5.2 Isolation and quarantine

**Action:**
- signage has been placed in patient waiting areas, and consulting and treatment rooms to alert patients to:
  – signs and symptoms of influenza to be alert for
  – social distancing
  – correct use of surgical masks
  – hand hygiene and cough etiquette
- Check available government resources for patient education and signage

Staff meeting scheduled to inform staff of signage and its purpose

Date: __________________

☐ Action completed ✓ box
Influenza pandemic planning

Module 1

APPENDIX 1: Influenza pandemic planning workbook

Communication
Communication is a key component in pandemic planning. Communication needs to be adaptable and reliable in a changing health environment such as a pandemic.

Read: Module 6 Communication

Action:
- Document a communication policy that details a strategic approach to communicating to:
  - patients
  - staff within your practice
  - public health units
  - key external providers of service and supplies
- Identify the location of your practice pandemic ‘notice board’
  - Is it a physical wall space?
  - Is it web based?
  - Is it paper based?
  - Another form __________________
- Check available government resources for patient education and signage

Staff meeting scheduled to inform staff of communication policy

Date: ________________

☐ Action completed ✓ box

Vaccination
Seasonal influenza vaccination will not protect an individual against a pandemic influenza strain. However, vaccination for seasonal influenza is highly encouraged to reduce circulating influenza virus in the community and the chances that seasonal influenza will be confused with an outbreak of a novel strain. Pneumonia is a serious complication of influenza infection, particularly in the elderly and those at risk of respiratory disease. Pneumococcal vaccination is recommended for all at risk groups.

Read: Module 7 Clinical management

Read: Module 7.1 Immunisation

Action:
- Seasonal influenza and pneumococcal vaccine have been ordered and a staff and patient vaccination program planned
- Practice vaccination policy has been written

Staff meeting scheduled to inform all staff of the rationale in recommending influenza and pneumococcal vaccination to staff and patients

Date: __________________________

☐ Action completed ✓ box
Business survival
General practice will require the capacity to respond to the health needs of patients while ensuring both the protection of staff and business continuity. Workplace absenteeism due to staff illness and other factors is inevitable, and during a pandemic continuation of core business will be a major challenge.

Read: Module 8 Planning for business survival

Action:
Meetings scheduled to develop business contingency planning:
• Management of staff illness and absenteeism
  Date: _________________

• Maintaining service and business delivery
  Date: _________________

• Strategic planning of financial obligations
  Date: _________________

• Inform external stakeholders of your business planning
  Date: _________________

☐ Action completed ✔ box
**Pandemic phase DELAY OS4/OS5/OS6**

DELAY OS4/OS5/OS6 marks the move from ‘pandemic alert’ to ‘pandemic threat’ and indicates the start of an influenza pandemic.

DELAY OS4/OS5/OS6 indicates that the novel virus has not arrived in Australia but large clusters of cases have been identified overseas. Border measures will be implemented to delay entry into Australia and to try to avert a major outbreak. There will be raised awareness in patients due to increased media attention and government announcements.

Pandemic preparedness activities move from ‘preparedness’ to ‘readiness’. This is a time for practice staff to review all policies and increase vigilance for cases of suspected pandemic influenza.

**Action:**

Inform staff of the epidemiology of the outbreak overseas and the implications for change in policy and clinical work. Review all practice policies and protocols that relate to pandemic preparedness in line with government policies:

- triage policy, including screening questions for front reception
- isolation and quarantine policy
- communication strategies

Confirm that all practice staff are:

- aware of patient management/referral pathways, and all clinical staff are aware of:
  - pathology swab collection protocol
  - patient referral and reporting pathways

Review levels of PPE stocks and review staff training in application, removal and disposal of PPE:

- staff to attend refresher course on infection control and the use of PPE

☐ Action completed ✓ box
Pandemic phase CONTAIN 6a
Novel virus has arrived in Australia causing a small number of cases and/or small number of clusters.

Pandemic phase SUSTAIN 6b
Novel virus established in Australia and spreading in the community.

Pandemic phase CONTROL 6c
Pandemic vaccine widely available and bringing pandemic under control.

Pandemic phase RECOVER 6d
Pandemic controlled in Australia but further waves may occur.

Once a pandemic virus has arrived in Australia, it is believed that the infection could be contained to a small number of areas if control measures are implemented appropriately and early.

CONTAIN 6a could last for a number of weeks, particularly if the pandemic virus is not highly infectious and control measures are effective. Conversely, this phase could be relatively short if the pandemic virus is highly infectious and/or implementation of control measures are delayed.

It is important to ensure practices have access to current health information from appropriate public health authorities. Changes in pandemic phases may change:
- clinical management
- referral pathways
- vaccine and antiviral medical protocols.

Role of general practice
Some practice staff may decide to opt out of working; but for many this will not be an option that they are comfortable with or able to choose. General practices need to discuss and plan for these situations. Absenteeism of staff due to sickness or family commitments will put pressure on the practice’s ability to be at full functioning capacity.

The roles and responsibilities of general practice during a pandemic will vary depending on circumstances and location. Some doctors may need to work in a different capacity, such as at designated ‘flu clinics’.

Referral pathways will be changed as very sick patients may overwhelm hospitals and more home care will be required for mildly sick or terminally ill patients.

Anxiety and associated behaviours
Anxious patients may behave aggressively or be driven by fear to make extraordinary demands on both clinical and nonclinical staff. Training for staff may include strategies for dealing with these behaviours.

Practice staff may be scared, ill, or feel vulnerable. Work rosters will need to be adjusted to cope with absenteeism due to fear, sickness, family needs or choosing to work in other capacities outside of the practice.

Read: Appendix 2 Managing the health of the practice team
Read: Appendix 3 Risk management
Grief and loss
During this phase of a pandemic, grief and loss will affect patients, staff, their families and their friends. At a time when all resources will be at capacity level, it is important that staff recognise their role in offering support and counselling. Professional counselling services may not be available. Staff may be the only support for patients and other practice staff. This will require special effort by the practice team to support each other in what will be a very stressful period.

Pandemic influenza vaccine
When a pandemic influenza vaccine is made available, state and territory health departments will be responsible for the management of vaccine services. General practice may supplement vaccine delivery programs. Practice staff involved in vaccinating patients will need to be competent in multidose vial use when dispensing pandemic vaccines.

Communication
Communication between government health jurisdictions and health care providers will be vital to:
• Monitor the number of new infections and ensure appropriate planning measures are in place
• Sustain a coordinated response strategy between all levels of government, the health sector, and the community
• Access current public health directives from commonwealth, state and territory health departments.

Action:
Inform all staff of the epidemiology of the outbreak and the implications for change in policy and clinical work
• Review protocols:
  – triage
  – clinical management of patients in their homes
  – clinical management of patients in the clinic
  – communication strategies
  – palliative care for patients
  – reporting deaths to health authorities
  – managing transfer to mortuary facilities
  – contingency planning if no mortuary facilities are available
• Capacity within the practice:
  – staff rosters to facilitate the separation of clinical management of pandemic influenza and noninfluenza patients
  – review physical layout of the clinic
  – monitor levels of PPE
  – plan patient flow and management of patient waiting areas, consulting and treatment areas
  – consider alternative strategies for waste disposal (collection services may be overwhelmed and beyond capacity)
• Vaccine management:
  – review training and protocols in use of multidose vial vaccine delivery (risk analysis)
  – review vaccine cold chain and anaphylaxis protocols

☐ Action completed ✓ box
Checklist for current pandemic phase ALERT OS3

☐ Staff have been briefed on pandemic phases and understand the impact of each phase and the practice’s response plan

☐ Staff are aware of influenza-like illness symptoms (‘red flags’) that alert them to suspect a case of avian influenza (ALERT OS3) and pandemic influenza (DELAY OS4/5/6)

☐ Staff are aware of the difference in symptoms for influenza and the common cold

☐ The triage policy directs staff actions when a patient identifies influenza-like illness symptoms with recent travel overseas and close contact with sick birds

☐ Staff understand the role of hand hygiene, social distancing methods and cough etiquette

☐ Staff understand the rationale for requesting a patient to wear a surgical mask

☐ Stocks of PPE have been ordered and staff know where they are located for easy access

☐ Staff are competent in the application, removal and disposal of PPE

☐ Staff know where to locate the contact details for your public health authority and in what situation the practice would need to contact them for advice

☐ Staff understand the responsibility they have in preparing your practice for a pandemic

☐ Clinical staff know the clinical management and swab collection protocol for patients with suspected avian or pandemic influenza

☐ All staff understand the practice waste policy and can identify the risks to staff when handling infectious waste

☐ All staff understand the practice cleaning policy, including cleaning solutions used for surface cleaning

☐ Posters and signage are in place to reinforce pandemic planning messages for staff and patients

☐ A business survival plan has been developed
Managing the health of the practice team

Introduction
During a pandemic, health care teams will provide care and treatment to patients with pandemic influenza, support families during anxious times, and maintain essential health services to patients not affected by the pandemic virus; patients with chronic disease.

During a pandemic, 30–50% of the workforce may be absent from work due to personal illness, quarantine, the need to care for others, or fear of getting infected at work. Employers have a legal obligation to provide and maintain a safe workplace and must take steps to eliminate or control the risks associated with a pandemic.

Learning objectives
On completion of this module you will be able to:

- identify strategies to support and manage staff fear and anxiety
- describe the development of team culture in your practice.

Pandemic planning may require practice staff to change their approach or actual practice in the workplace. Change management entails thoughtful planning and sensitive implementation, and above all, consultation with, and involvement of, the people affected by the changes.

Not all staff will welcome change. Implementing regular practice team meetings to keep staff informed with current practice policy development may help break down any barriers to change.

Change checklist

- Engage the team through education and lead by example
- Generate activities to promote a team approach.

In preparing for an influenza pandemic, many professional and ethical issues will need to be considered. Staff may find these changes stress provoking because they are a change in accepted work practices. Providing the rationale and an opportunity to discuss these issues at a team level will support the change.
Privacy and confidentiality for staff and patients
During a pandemic, confidentiality and privacy may be in conflict with public health concerns. Contact tracing may mean that patient information will need to be passed on to third parties.

Duty of care and reciprocity
The SARS influenza outbreak identified that health care workers are at greater risk of becoming infected. Clinical and nonclinical staff working in general practice will need to balance their duty of care to patients with their duty to protect themselves and their families. Staff may decide that the risks are too great for them to continue working. It is important to identify risks staff may face and manage those risks to ensure staff and patients are protected.

Consider the psychosocial needs of staff and discuss with them ways they can seek support to deal with any anxieties or fears they may have. This may be as simple as setting up a peer support program in your practice for people to discuss their concerns.

Many freedoms that we have come to accept and value may be restricted during a pandemic. The ‘right’ of the individual will be balanced against the benefit for the community. Home quarantine may be forced upon people; there may be restrictions on mass gatherings such as religious and social celebrations; movement interstate and overseas; and closures of child care and educational institutions.

Principles to guide decision making in pandemic planning
1. Act on the best available evidence
2. Ensure transparency of decision making
3. Maintain open and regular communication
4. Protect workers involved in providing care
5. Be sensitive to cultural requirements and practise inclusive decision making
6. Be accountable and responsible
7. Embed consultation, review and responsiveness in the decision making process.

Case study
Monica has worked at the Moray Medical Centre for nearly 10 years. She has always loved her job as medical receptionist. It is a very busy job, but she has always enjoyed the patient contact and being part of the practice team. Over the past few months she has attended many staff meetings as the practice worked toward the development of their pandemic practice plan. Monica has been concerned that she will be in the front line if there is a pandemic.

Every time a person comes into the clinic and coughs at reception she feels anxious. Always asking the question: ‘Could this be pandemic flu?’

Patients are asking lots of questions about the possibility of a pandemic, especially now that they have posters explaining how to wear masks in the waiting room.

Monica spoke with her practice manager and the principal doctor and expressed her concerns.

Reference
Risk management

Introduction

General practice has existing policies and procedures that assist in providing a framework to safeguard against error. As practice staff develop further understanding of the challenges in providing safe care to patients at a time of a pandemic, it is important to identify any vulnerability in practice systems and processes.

This module is based on: Infection control standards for office based practices. 4th edn. Appendix 14 Infection control and risk management. South Melbourne: The RACGP, 2006.

Learning objectives

On completion of this module you will be able to:

- gain an understanding of the role of risk assessment and risk analysis as a means of creating a safe workplace for staff, and the provision of safe care for patients.

Steps for risk management

- Communicate and consult – with the practice team, patients and their families, and the community
- Establish the context – the nature and size of the risk is affected by the context
- Identify risks – What? When? Where?
- Analyse risks – increase the understanding of which risks need to be managed
- Evaluate risks – evaluate which risks need to be managed
- Treat risks – act on identified priority risks
- Monitor and review – check the progress and the risk, has it changed?
- Record key information.
Step 1 – Communicate and consult

Develop ongoing communication with those in the practice who ‘need to know’ as the practice plans a response to an emerging influenza pandemic:

- doctors
- nurses
- practice managers and front office staff (reception)
- allied health workers
- business manager
- cleaners.

Communication with those likely to be affected helps staff and patients to understand the basis on which decisions are made, and the purpose of particular actions:

- all members of the general practice team
- patients and their families
- members of the community.

Good communication across the practice also helps identify risks, as people will have different perceptions of the risk based on the role they play. Different people will also have a range of ideas about how to reduce and manage risks.

Case study

Australia has been in the DELAY phase. The Chief Medical Officer has declared that Australia has moved to CONTAIN 6a pandemic phase. Public health authorities have notified the practice via fax.

The practice will need to communicate this information to all practice staff, patients, and relevant outside providers. The practice calls a staff meeting to review and update:

- the practice pandemic response plan
- two-way communication pathways to
  - public health units
  - patients
  - staff within the practice
  - outside providers (suppliers, contractors).
Appendix 3

Step 2 – Establish the context
The nature and size of the risk is affected by the context in which the practice operates. The external environment plays a role, for example:

- access to public health units
- poor infrastructure in the local community, eg. local government cannot maintain services to the frail and elderly; food supplies are at risk due to failures in transport capacity.

Other factors that can influence the context of the risk include the:

- equipment – access to supplies of PPE
- people – staff adequately trained in infection control
- processes – the use of nebulised oxygen delivery and the possibility of aerosol transmission of influenza virus
- culture of the practice – one that encourages rather than discourages identification of risks and then implements appropriate risk management processes.

All these factors, individually and together, affect the nature and likelihood of risk.

Financial risks that might lead to cost cutting or skimming on equipment and surveillance may also be important factors in increasing the risk of transmission of infection, such as not purchasing appropriate PPE or investing in staff training.

Step 3 – Identify risks
The basic questions in this step of the process are:

- What can happen?
- When and where?
- How and why?

Step 3 involves developing a comprehensive list of the sources or risks, and the events that might prevent, delay or increase the achievement of effective management of the risk. In considering ‘what can happen’, reflection on the range of activities undertaken in the practice and any associated risk is useful. For example, the possible routes of transmission of influenza virus.

In terms of ‘when and where’, walk around the practice and consider what risks arise (eg. what risks arise in the waiting area, the treatment area). Reflect on the risks that arise from home visits or when particular patients are at the practice (eg. small children or the immunosuppressed). This could be accomplished as part of the practice’s occupational health and safety hazard identification and risk control processes.

In terms of ‘how and why’, consider previous ‘near misses’, where infection almost occurred, but something or someone prevented it, or any episodes of cross infection, eg. suspected cases of chicken pox or measles.
Some sources of risk are common such as:

- inadequate hand hygiene
- poor respiratory (cough) etiquette
- lack of effective triage protocols
- high workload, stress and fatigue.

**Step 4 – Analyse risks**

In analysing risk, the purpose is to increase the understanding of what risks need to be managed and appropriate and cost effective ways of managing these risks. Generally, there are two dimensions of risk that need to be considered:

- magnitude of impact (what degree of impact would occur)
- likelihood (how likely is the event and its associated consequences).

Initial screening helps identify risks that require closer attention.

Doctors, other health professionals and practice staff need to consider and discuss the nature, magnitude and likelihood of the risks of cross infection in each particular setting. There are situations where doctors and other health professionals may have different opinions about the risk and therefore their approach to that risk. Where possible, discussions must occur before an event so that a consistent approach can be decided upon before an incident occurs. This can be addressed by practices developing and implementing policies based on accepted guidelines; look for the evidence.

Consider the basis for differences in risk rating (eg. where one doctor feels an event is more likely to occur than his/her peers). The differences in perception could result in different approaches within the practice, which may increase risk.

**Step 5 – Evaluate risks**

Evaluating risk is about combining the information about the context of the organisation with the level of risk. This step involves considering options – which risks need to be actively managed, why and how; and which risks will be ‘tolerated’, ie. what risk a practice believes is minimal.

Doctors, other health professionals and practice staff are understandably concerned about prioritising which improvements they should make. This is not an attempt to focus on everything; rather, it is to identify, critically appraise, and grasp the significance of critical elements of information about what is happening within the practice.

One way of prioritising is to use an ‘ease impact analysis’. First, look at causes (or problems) that might be easy to fix. These are where you can get a ‘quick win’. Consider putting aside for a moment those that are hard to fix, except perhaps if the risk is high or potentially catastrophic.

Second, look at improvements that will make a substantial impact. This approach can be shown in a simple matrix where each potential solution is slotted into one of four quadrants (*Table 1*).
Step 6 – Treat risks, identify potential safeguards

Most practices have existing policies, procedures and equipment that can assist in providing safeguards against error. Despite this, a reassessment of the situation, for example, after a ‘near miss’ can identify vulnerabilities in systems and processes.

Having taken account of all the relevant factors, it is important to act on identified priority risks.

Start with the potential solutions/safeguards that are easy to do and have a high impact (eg. repositioning sharps containers at point of use, locating alcoholic hand hygiene products in all patient care areas to improve hand hygiene compliance and reduce the risk of cross infection).

Then, give attention to those that are hard to do, but have a high impact.

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Table 1. Risk evaluation matrix

<table>
<thead>
<tr>
<th>Easy to do</th>
<th>Hard to do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has little impact</td>
<td>Has a high impact</td>
</tr>
<tr>
<td>Has a high impact</td>
<td>Has little impact</td>
</tr>
</tbody>
</table>

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Worked example

<table>
<thead>
<tr>
<th>Easy to do</th>
<th>Hard to do</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spray surfaces with a household disinfectant spray</td>
<td>Changing linen between every patient</td>
</tr>
<tr>
<td>No more effective than the use of detergent and water solution, spray or wipes</td>
<td>Linen is not a high risk cause of cross infection</td>
</tr>
<tr>
<td>Provide hand hygiene products in every clinical treatment area and consulting rooms</td>
<td>Educate potentially infectious patients to report their state before attending the practice (eg. measles)</td>
</tr>
<tr>
<td>Shown to improve hand hygiene compliance and reduce the risk of cross infection</td>
<td>Can reduce incidence of iatrogenic infection</td>
</tr>
</tbody>
</table>

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**Step 7 – Monitor and review**

Maintaining a focus on what is going beyond individuals by monitoring and reviewing vulnerabilities in the practice organisation helps address and prevent system failures. Examples include regular infection control audits, reviewing triage policy, and staff understanding of the use of PPE. Regular staff meetings that include a policy review agenda item help ensure that systems review and monitoring is a continuing general practice process.

An example of performance indicators can include staff adherence to hand hygiene protocols by:

- survey (direct observation) to monitor adherence to hand hygiene protocols
- monitoring the volume of hand hygiene products used over a period of time as an indirect indicator of hand hygiene.

Breaches in infection control procedures need to be reported to the person who has the responsibility to investigate the incident and institute appropriate measures to minimise the risk of recurrence. Acts of omission can also be considered to be a breach, i.e. when action should have been taken but was not.

**Step 8 – Record key information**

Record the ‘right’ information for the ‘right’ purpose. Ask: ‘What use will the practice make of this information?’

Recording information can provide a baseline on which to assess the effectiveness of your systems. This record may be in the form of an incident log. Recording and publishing case studies of near misses, and actual incidences and the practice response, may be useful to colleagues.

The record could include suggested changes, timeline for review of the changes, and the results of any review of the changes, to ‘fine tune’ practice activities. The RACGP publication *Using near misses to improve the quality of care for your patients* includes a more detailed example that may be of use.

**Further reading**


Spacer versus nebuliser use for treatment of asthma and reducing the risk of aerosol transmission during an influenza pandemic

During a pandemic the use of nebulisers will increase the risk of exposing patients and staff to transmission of the influenza virus.

Airborne (small particle) spread of the pandemic influenza virus may occur by aerosol transmission during the use of nebulisers. The production of aerosol release is likely to be minimised by the use of spacers.

Current use of spacers in general practice is sporadic. Rather than waiting until a pandemic emerges, the implementation of spacers in to current clinical management of patients with respiratory illness avoids the need to address the issue of nebuliser use during an influenza pandemic.

In acute asthma, inhaled beta 2 agonists are often administered by nebulisation to relieve bronchospasm. However, evidence indicates that metered dose inhalers (MDIs) with a holding chamber (spacer) can be equally effective and supports that spacers may have some advantages compared to nebulisers for children with acute asthma. The National Asthma Council Australia Asthma management guidelines recommend the use of MDIs and spacers as this regimen is at least as effective as a nebuliser for treating mild and moderate exacerbations of asthma in adults and in children aged 2 years and over.

When using nebulisers during an influenza pandemic, staff are advised to protect themselves with the appropriate use of personal protective equipment (PPE). The procedure should be undertaken in a room that can be easily cleaned (preferably one with natural ventilation). The administering health care worker should wear a P2 mask and eye protection. Other people should not enter the room unless wearing appropriate PPE. The room should be left vacant for 1 hour after the procedure then all horizontal and vertical surfaces should be cleaned. The cleaner should wear a surgical mask and eye protection.

There is a clear role for the use of spacers in reducing the risk of airborne spread of influenza virus while also ensuring provision of high quality evidence based care to patients presenting with respiratory symptoms due to bronchospasm. Patients who experience diminished effectiveness of MDI use because of poor co-ordination or physical incapacity (e.g. arthritis, weakness) also benefit from the inclusion of spacers in their respiratory management.
Spacers reduce the potential for cross infection and the need for regular maintenance required by nebulisers as well as reducing the oral side effects of steroid containing MDIs. Current availability of disposable paperboard spacers provide an obvious reduction in risk of transmission for staff and patients and helps address cost concerns of the use of spacers. Some polycarbonate spacers can be cleaned and sterilised but with the added risks of the extra handling required. Single patient use spacers that cannot be or are not sterilised should not be reused in the practice setting but discarded or given to the patient.

Clinical recommendations are that spacers should be used:
- by adults with poor coordination or physical incapacity impairing their use of an MDI
- by children of all ages (with a mask for those aged up to 2 years and mouthpiece for those aged 2–5 years)
- during an acute asthma attack.

Further information

References
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional precautions</td>
<td>In addition to standard precautions to protect against droplet, airborne and contact transmission</td>
</tr>
<tr>
<td>AHMPPI</td>
<td>Australian Health Management Plan for Pandemic Influenza</td>
</tr>
<tr>
<td>Airborne transmission</td>
<td>Transmission by air of infectious agents</td>
</tr>
<tr>
<td>Alcohol hand wash</td>
<td>A waterless, alcohol based hand cleaning agent</td>
</tr>
<tr>
<td>Aseptic technique</td>
<td>A set of specific practices and procedures performed to minimise contamination and cross infection</td>
</tr>
<tr>
<td>Avian influenza (H5N1)</td>
<td>Influenza type A virus affecting mainly birds, but passable to humans after close contact with sick or dead birds or their secretions. It causes severe influenza-like symptoms and may result in death. Commonly known as ‘bird flu’</td>
</tr>
<tr>
<td>Case definition</td>
<td>Method by which a person who is considered directly affected by an outbreak is defined. Criteria for a case definition might include a clinical test or other characteristics</td>
</tr>
<tr>
<td>Clinical waste</td>
<td>Hazardous waste capable of causing infections</td>
</tr>
<tr>
<td>Clinical annex</td>
<td>AHMPPI: Interim national pandemic influenza clinical guidelines</td>
</tr>
<tr>
<td>Contact</td>
<td>A person that has been associated with an infected person and had opportunity to acquire infection</td>
</tr>
<tr>
<td>Contact transmission</td>
<td>Transmission of an infectious agent by person-to-person contact (direct) or via a contaminated inanimate object (indirect)</td>
</tr>
<tr>
<td>Cough etiquette</td>
<td>Coughing related behaviour that reduces the risk of respiratory infection transmission</td>
</tr>
<tr>
<td>Droplet transmission</td>
<td>Transmission of infectious agents in droplets</td>
</tr>
<tr>
<td>Epidemiology</td>
<td>The study of factors affecting the health and illness of populations, and the application of this study to the control of health problems</td>
</tr>
<tr>
<td>Hand hygiene</td>
<td>Hand related cleaning behaviours aiming to reduce the risk of disease transmission</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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</tr>
<tr>
<td>Infection control annex</td>
<td>AHMPPI: Interim infection control guidelines for pandemic influenza in healthcare and community settings</td>
</tr>
<tr>
<td>Immunity</td>
<td>The body’s response to infection; refers to both cell and antibody mediated immune responses</td>
</tr>
<tr>
<td>Incubation period</td>
<td>The time elapsed between exposure to an organism and the first appearance of symptoms and signs. For influenza it is 1–3 days</td>
</tr>
<tr>
<td>Infectious</td>
<td>Capable of spreading disease or disease capable of spreading. Also known as communicable</td>
</tr>
<tr>
<td>Influenza</td>
<td>Influenza, commonly known as ‘flu’, is a highly contagious disease of the respiratory tract caused by any one of a number of types of influenza virus. Influenza is typically a seasonal infection being most common in winter</td>
</tr>
<tr>
<td>Isolation</td>
<td>Separating infected, or potentially infected, individuals from noninfected people for the period that they are infectious</td>
</tr>
<tr>
<td>Micro-organisms</td>
<td>Organism too small to be seen by the naked eye. Includes bacteria and viruses</td>
</tr>
<tr>
<td>Morbidity rate</td>
<td>A measure of the number of people clinically affected by a disease in a defined population</td>
</tr>
<tr>
<td>Mortality rate</td>
<td>A measure of the number of deaths in a defined population</td>
</tr>
<tr>
<td>Novel virus</td>
<td>A new virus not previously causing disease in humans</td>
</tr>
<tr>
<td>P2 mask</td>
<td>A mask that provides a facial fit to the wearer that ensures inhaled and exhaled air passes through the filter medium</td>
</tr>
<tr>
<td>Pandemic</td>
<td>A large scale epidemic that spreads through human populations across a large region, or worldwide</td>
</tr>
<tr>
<td>Pathogen</td>
<td>An infectious agent capable of causing disease</td>
</tr>
<tr>
<td>PCR</td>
<td>Polymerase chain reaction</td>
</tr>
<tr>
<td>Personal protective equipment (PPE)</td>
<td>Gloves, gowns, aprons, goggles, face shields, masks, worn to protect the wearer from infectious hazards</td>
</tr>
<tr>
<td>Primary care annex</td>
<td>AHMPPI: Guidelines for the management of pandemic influenza in primary health care settings</td>
</tr>
<tr>
<td>Prophylaxis</td>
<td>In infectious diseases, a therapeutic measure to prevent the development of a disease</td>
</tr>
<tr>
<td>Quarantine</td>
<td>Separation of people who have been exposed to disease to prevent the spread of disease and subsequent infection</td>
</tr>
<tr>
<td>RACGP</td>
<td>The Royal Australian College of General Practitioners</td>
</tr>
<tr>
<td>SARS</td>
<td>Severe acute respiratory syndrome</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
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<td>---------------------</td>
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</tr>
<tr>
<td>Social distancing</td>
<td>Reducing normal physical and social interaction in order to slow the spread of a pandemic throughout society. Social distancing measures include school closures, cancellation of public events and encouraging people to stand or sit back from each other</td>
</tr>
<tr>
<td>Standard precautions</td>
<td>In infection control, these are methods and practices to prevent infection from blood and body fluids that are potentially infectious</td>
</tr>
<tr>
<td>Surgical mask</td>
<td>A barrier covering the nose and mouth used in infection control to protect mucous membranes from accidental splashes or sprays of respiratory secretions</td>
</tr>
<tr>
<td>Suspected case</td>
<td>A person who meets the case definition before confirmation of the diagnosis</td>
</tr>
<tr>
<td>Triage</td>
<td>The classification and allocation of treatment to patients presenting for treatment according to a system of priorities</td>
</tr>
<tr>
<td>Viral shedding</td>
<td>When a virus begins to multiply making it transmittable</td>
</tr>
<tr>
<td>Virus</td>
<td>An infectious agent that is unable to grow or reproduce outside a host cell</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
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</tbody>
</table>