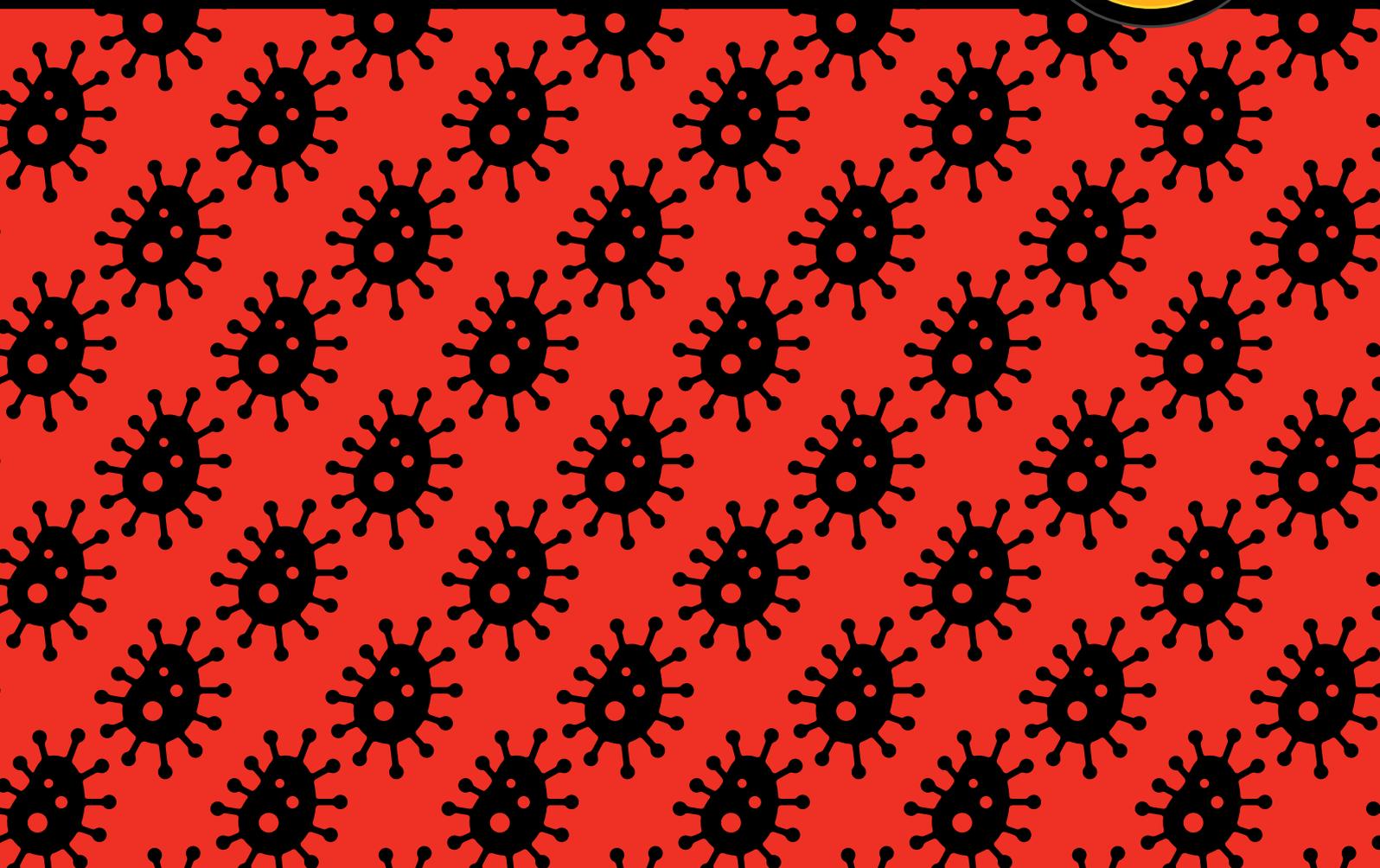


Managing pandemic influenza in general practice

A guide for prevention, preparation, response and recovery

2nd edition, updated June 2017

Pandemic flu kit



Managing pandemic influenza in general practice: A guide for preparation, response and recovery.

2nd edition

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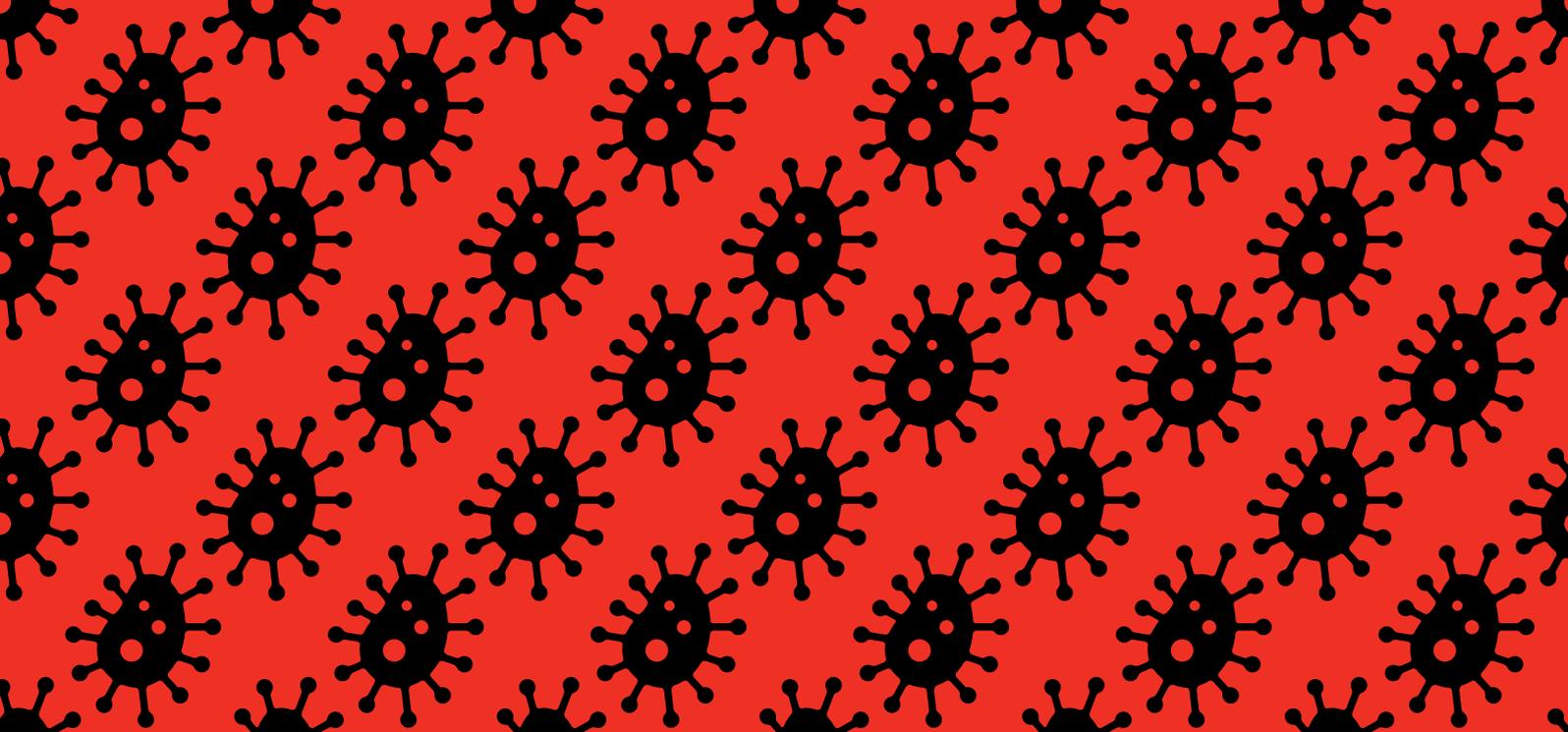
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We recognise the traditional custodians of the land and sea on which we work and live.



RACGP
Royal Australian College of General Practitioners

*Managing pandemic
influenza in general
practice*

**A guide for prevention, preparation,
response and recovery**

2nd edition, updated June 2017

Foreword

The outbreak of an infectious disease such as pandemic influenza will challenge all facets of Australia's already stretched health system. General practitioners (GPs) and practice teams play an integral role in providing essential health services to patients and supporting public health goals in disease control.

When faced with a disease outbreak like a pandemic, the community will turn to general practice. To ensure the continuation of high-quality clinical care to patients, it is vital that practices have an up-to-date pandemic plan in place so they are prepared, well stocked and ready to respond.

The Royal Australian College of General Practitioners (RACGP) is committed to supporting GPs and practice teams in delivering quality healthcare.

Practices that are prepared for a pandemic are more likely to have effective continuity of care arrangements for their patients while ensuring that business operations continue to run as smoothly as possible.

Furthermore, practices that have a pandemic response plan in place will ultimately be better positioned to meet the health needs of their community.

We would like to thank the people and organisations listed in the acknowledgements for their dedication and support. We particularly would like to thank members of the Pandemic Taskforce and RACGP staff for their efforts in contributing to the development of this innovative resource.

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Chair
RACGP eHealth and Practice Systems Committee

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Acknowledgements

The Pandemic flu kit (PFK) and supplementary resources were first developed in 2008 by the RACGP. Following a review, a second edition of the PFK was released in 2014 under the guidance of the project's steering committee, the Pandemic Taskforce.

The RACGP received project funding from the Department of Health's Office of Health Protection to develop the second edition of the PFK.

The RACGP undertook an extensive consultation process to develop this resource and would like to thank those who offered ideas and suggestions and those who provided feedback on drafts. This collective effort has resulted in the production of a comprehensive suite of resources that provides general practices with practical advice on how to best prepare for and respond to an influenza pandemic.

This resource was updated again in 2017 so that the overall structure works through, in order, the four steps of pandemic management: prevention, preparedness, response and recovery (PPRR).

The RACGP would particularly like to thank those involved in the development of the original version of this document:

- Dr Penelope Burns (Chair, Pandemic Taskforce)
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- RACGP Aboriginal and Torres Strait Islander Health
- APNA
- AAPM
- Australian Medicare Local Alliance
- All other GPs and practice staff who provided feedback during the consultation process.

Executive summary

This document, *Managing pandemic influenza in general practice: A guide for prevention, preparation, response and recovery*, is part 1 of the RACGP's Pandemic flu kit (PFK). Parts 2 and 3 of the PFK are listed below.

- Part 2: *Implementation guide*
- Part 3: *Pandemic influenza toolkit*

The aim of the PFK is to provide the general practice team with the information to build knowledge and competency in managing the impact of a pandemic influenza. Details about each of these documents are available in [About the Pandemic flu kit](#) on page 9.

While influenza is the most likely pandemic that general practice will respond to in Australia, this resource is a useful adjunct to preparing for and managing other pandemics. These resources align with Australia's national health sector plan, the Department of Health's Australian Health Management Plan for Pandemic Influenza (AHMPPI), and are based on the principles of an all-hazards approach to emergency risk management for health. Additionally, these pandemic resources build upon the lessons learned from the 2009 influenza A (H1N1) pandemic.

The resource is based on a risk management approach which covers the four cyclic stages of an emergency or disaster: prevention, preparedness, response and recovery (PPRR). This approach to pandemic influenza allows general practices to develop flexible plans that suit their unique situation and that can be adjusted to meet the level of threat caused by the pandemic influenza.

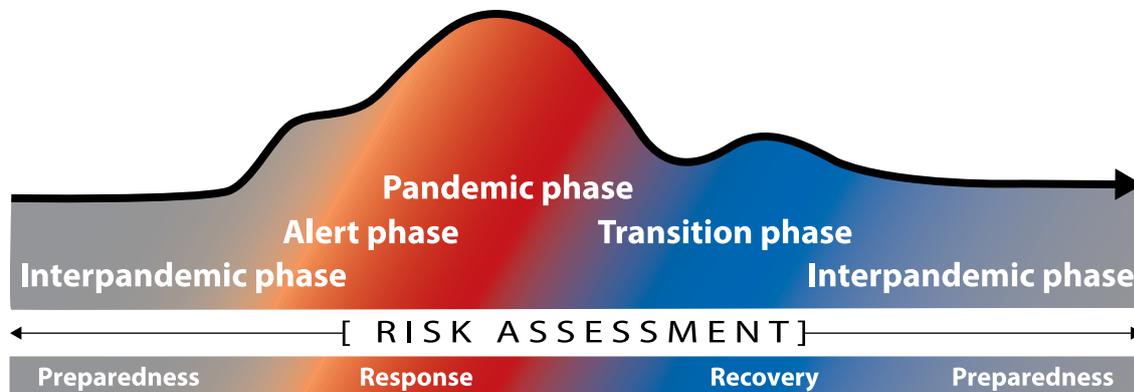
The principles covered in these resources can also be used to develop plans for other relevant infectious disease surges or pandemics. This may include severe acute respiratory syndrome (SARS), Middle Eastern respiratory syndrome coronavirus (MERS-CoV), measles, or a currently unknown future virus.

While these resources touch on all four stages of PPRR, the primary focus is on preparedness and response as these stages require a greater need for planning and coordination.

These stages of planning and management align with the World Health Organization (WHO) continuum of pandemic phases (refer to Figure 1):

1. Interpandemic phase – between pandemics
2. Alert phase – when a new subtype has been identified and increased vigilance and risk assessment are warranted
3. Pandemic phase – a period of global spread of a new subtype as indicated by global risk assessment based on virologic, epidemiologic and clinical data
4. Transition phase – when global risk drops, promoting step-downs in response activities.

Phases of pandemic influenza and the stages of management can change rapidly and often overlap. In a country the size of Australia, it is likely that different geographical regions will be in different pandemic phases at any one time.

Figure 1. The continuum of pandemic phases*

*This continuum is according to a 'global average' of cases, over time, based on continued assessment and consistent with the broader emergency risk management continuum.

Reproduced with permission from the World Health Organization. Pandemic influenza risk management: WHO interim guidance. Geneva: WHO, 2013. Available at http://www.who.int/influenza/preparedness/pandemic/GIP_PandemicInfluenzaRiskManagementInterimGuidance_Jun2013.pdf?ua=1

Part A – Introduction

Pandemics are unpredictable but recurring events that can have consequences on human health and economic wellbeing worldwide. Advanced planning and preparedness are critical to help mitigate the impact of a pandemic.¹

All pandemics differ – not only from each other, but also in impact across countries and communities. This makes them difficult to predict and therefore to prepare for. One of the most important lessons learned from the 2009 influenza A (H1N1) pandemic was that planning must be flexible to accommodate the biological variations in the clinical picture and potential uniqueness of each pandemic scenario. This will enable resources to be effectively directed to achieve optimal outcomes.²

The H1N1 2009 pandemic increased knowledge and understanding of the influenza virus at the human–animal ecosystem interface. Although the 2009 pandemic was of low severity compared with those of the 20th century, it was the first opportunity to implement pandemic plans in response to a real threat.³ It also demonstrated that many countries' national and regional response plans were geared towards a high-severity pandemic only and were not adaptable to a more moderate event. Some plans were considered overly rigid and the responses were not appropriate for a more moderate event.¹ Since 2009, capability to respond to pandemic influenza has improved in many countries.⁴

The 2009 pandemic revealed that the majority of patient management was undertaken by the primary care sector.^{5,6} National and state planning is necessary; however, practices need their own local and flexible pandemic plans.

The 2009 experience assisted the general practice community to strengthen preparedness for future pandemics. Six major themes are considered to be essential for successful pandemic preparedness – communication, coordination, capacity, adaptability/flexibility, leadership and mutual support, which are collectively represented by the acronym CALM.³

The RACGP's pandemic resources provide practices with information across these themes for use in developing integrated but practice-specific pandemic preparedness and response plans.

1. About pandemic influenza

1.1 What is influenza?

Influenza is an illness of the respiratory tract caused by one of a number of influenza viruses. There are three virus types: influenza A, B and C. Influenza C causes only mild and usually sporadic respiratory illness.

Regional and widespread epidemics are most often attributed to influenza A or B. Influenza A – which is found in humans and animals – causes the most severe disease and is the only type known to cause influenza pandemics.

Influenza A and B viruses have two main proteins on the outside of the virus: haemagglutinin (HA), which helps the virus enter the host respiratory cells, and neuraminidase (NA), which facilitates the release of virus particles from infected host cells. These proteins (also called antigens) are used in naming various viruses; for example, H5N1 is avian influenza or 'bird flu'. H1N1 is also known as 'swine flu' and was the cause of the 2009 pandemic.

Influenza viruses have a high mutation rate – where the H and N antigens undergo change. Small mutations (called antigenic drift) are common and virus change is seen every one to two years. These changes are the cause of seasonal flu epidemics. The changes to the virus mean that little immunity is gained from previous infection, exposure or vaccination. This is why a new seasonal influenza vaccine is required each year.

Large mutations (called antigenic shift) cause the emergence of a new virus and the potential for a pandemic as there is no immunity in the population. Without any immunity, the virus can spread quickly from person to person, worldwide.

Three distinct influenza scenarios may be encountered in general practice.

- Seasonal influenza, which occurs each winter. Most people experience one to two weeks of symptoms that are unpleasant but not usually life-threatening, except in the very young, pregnant women, or people with chronic health diseases.
- Epidemic influenza, which occurs when a new highly pathogenic and more severe influenza strain emerges. This can result in increased mortality and morbidity in local populations, especially in at-risk groups.
- Pandemic influenza, which occurs when a new highly pathogenic influenza strain emerges and spreads globally.

1.2 How do seasonal influenza and pandemic influenza differ?

Seasonal influenza and pandemic influenza cause the same (or very similar) signs and symptoms. However, how often the influenza occurs, who gets ill and the severity of the disease may be quite different. Table 1 shows similarities and differences between seasonal and pandemic flu.

Seasonal influenza imposes a moderate but variable burden every year. The WHO estimates that seasonal influenza causes between 250,000 and 500,000 deaths worldwide each year.⁷

Unlike seasonal influenza, it is impossible to predict when and where the next pandemic will start, how quickly it will spread and what impact it will have on public health. The majority of deaths from seasonal influenza occur among people aged 65 years or older, but in a pandemic the proportion of deaths among the young increases.⁸

Table 1. Similarities and differences between seasonal and pandemic flu

Seasonal flu	Pandemic flu
Happens annually, usually in winter	Rarely happens (approximately every 30 years – three times in the 20th century)
Usually some immunity is built up from previous exposure	People have little or no immunity because the virus is new (hence no previous exposure)
Usually only people at high risk (eg infants, elderly, immunocompromised, chronic illness such as chronic obstructive pulmonary disease [COPD]) are at risk of serious complications	Healthy people may be at higher risk for serious complications and even death
Vaccination is available for annual flu season	Vaccination is unlikely to be available in the early stages of a pandemic
Adequate supply of antivirals is usually available	Effective antivirals may be in limited supply
Symptoms include fever, sore throat, weakness, headache, joint and muscle pain and cough	Symptoms may be more severe
Usually causes minor impact	May cause major impact on general public, including travel restrictions, closure of schools and businesses
Deaths occur each year (ranged from 12,000 to 56,000 flu-related deaths in the United States between 2010 and 2016)	Potential for higher death rate

Adapted and reproduced with permission from Centers for Disease Control and Prevention (CDCP).
Available at www.cdc.gov/flu/pandemic-resources/basics/about.html

As was seen with the 2009 H1N1 pandemic, high death rates are not necessarily a feature of all influenza pandemics. Australia experienced 20-fold less mortality than several countries in the Americas.⁸

A number of factors may influence the mortality rate, including:

- the strength (virulence) of the virus
- the number of people infected
- the vulnerability of the affected populations
- implementation of public health mitigation strategies
- the effectiveness of preventive measures
- the number and duration of pandemic waves
- influenza vaccination coverage in preceding seasons
- the use of antivirals (where indicated)
- access to intensive care.

At a national level, Australia experienced only a mild pandemic with H1N1 causing fewer deaths than seasonal influenza.⁹ However, not all Australians were affected equally. Aboriginal and Torres Strait Islander peoples were found to be more vulnerable than the general Australian population. Aboriginal and Torres Strait Islander peoples had a mortality rate six times higher than non-Indigenous Australians.² Research suggests that Aboriginal and Torres Strait Islander peoples may be particularly vulnerable to future infections (eg H7N9) due to a lack of pre-existing T-cell immunity.¹⁰

1.3 How does a pandemic occur?

A pandemic is a global infectious disease outbreak. The term 'pandemic' relates to how the disease spreads, not how widespread it is or how many deaths occur (eg cancer is widespread and kills many people but is not a pandemic).

From studies done by the WHO, pandemic influenza develops in three stages (also refer to Figure 2).

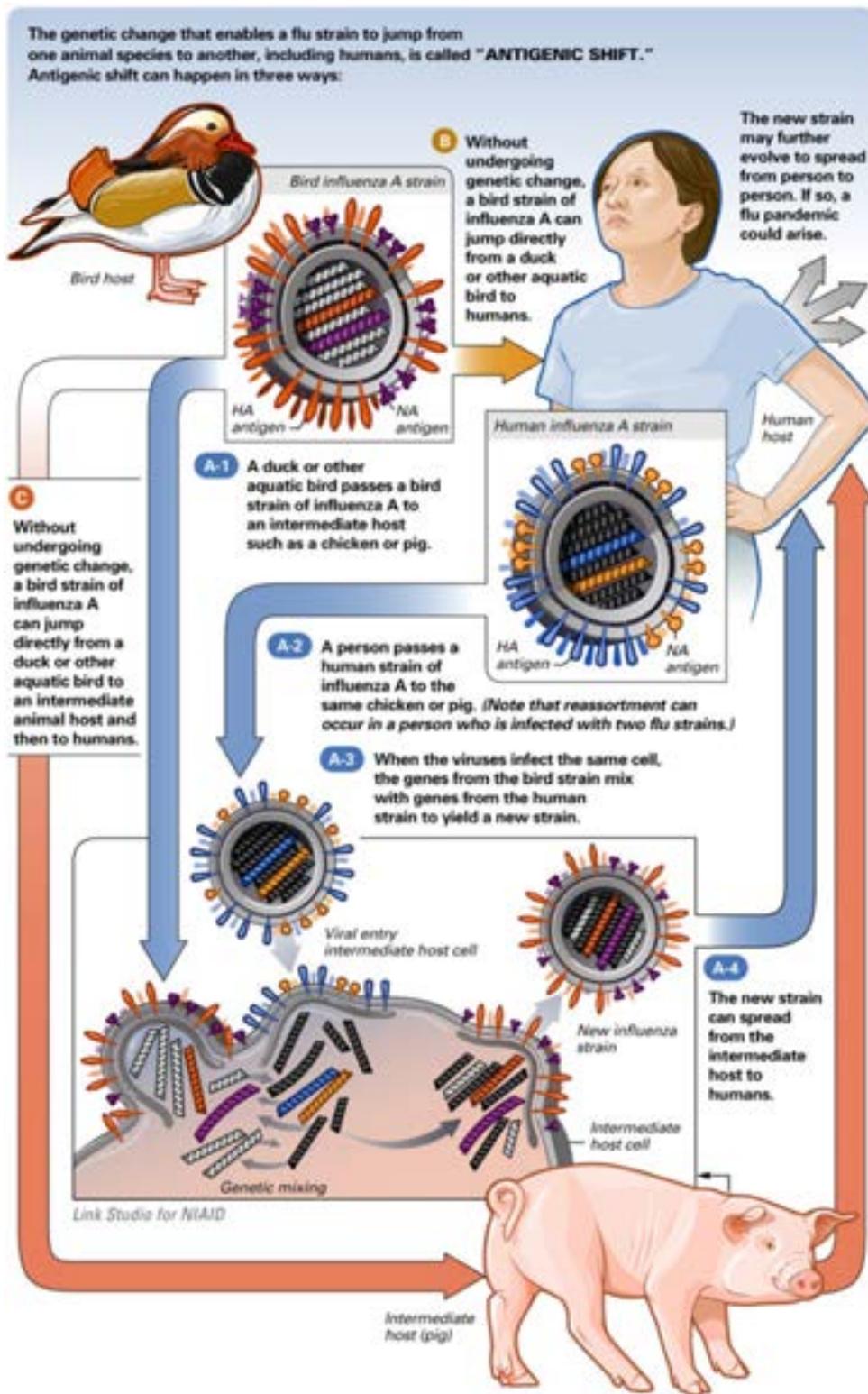
Stage 1: An influenza virus in an animal develops the ability to infect humans and cause serious disease. During this phase, the virus is not able to transmit efficiently between humans. Contact with infected animals is needed for human infection to occur.

Stage 2: Following a genetic change, the virus becomes more efficient at passing from human to human, first within small groups (eg families or community networks) and later over wider, but still localised, areas.

Stage 3: Finally, the virus is able to transmit readily between humans. It spreads rapidly due to a 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.

Novel influenza viruses such as avian influenza (H5N1) continue to circulate globally and are a potential source for a pandemic.

Figure 2. Antigenic shift of the flu virus



Courtesy: National Institute of Allergy and Infectious Diseases (NIAID).

1.4 What are the symptoms?

Influenza symptoms develop one to three days after the patient becomes infected and can 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.

These symptoms can last up to approximately one week.

Influenza is more than a 'bad cold'. Colds cause a runny nose and occasional mild fever but no muscle pains. Colds usually last one to two days.

1.5 How is it transmitted?

The influenza virus is highly infectious. It also has a short incubation period (likely one to three days, maximum seven days) and a period of viral shedding (when a person can infect others – one day before symptoms and up to seven days after onset of illness in adults, and up to 21 days in young children).¹¹ These factors account for the rapid spread of the influenza virus.

The primary mode of transmission is by large respiratory droplets, which can be propelled up to one metre from an infected person who is coughing or sneezing, onto the mouth, nose or eyes of another person.

Spread of the virus can also occur by direct or indirect (fomite) contact, when a person touches respiratory droplets on another person or an object and then touches their own mouth or nose.

Airborne transmission of small particles can occur in the general practice setting by particles being dispersed during the use of nebulisers, oxygen administration and intubation. These procedures should not be undertaken without appropriate personal protective equipment (PPE).

Evidence shows that physical barriers (especially hand hygiene, wearing a mask, and using social distancing or isolation of potentially infected people) are effective in preventing the spread of respiratory virus infections.¹²

Animal studies on transmission of influenza viruses have pointed to a number of environmental factors, including relative humidity and temperature.¹³

1.6 Influenza vaccination

Vaccines are the leading pharmacological intervention for limiting the impact of pandemic influenza in the community.¹⁴

While pandemic influenza vaccines are only available some months after an outbreak starts, seasonal influenza vaccinations are developed each year. Candidate pandemic vaccines are also available for particular strains.

Seasonal influenza vaccination will not protect an individual against a pandemic influenza strain. However, it can reduce circulating influenza virus in the community and the chances that seasonal influenza will be confused with an outbreak of a novel strain.

The current immunisation guidelines outlined in the National Health and Medical Research Council (NHMRC)'s *Australian immunisation handbook* (10th edition) encourages seasonal influenza vaccinations. The handbook is available at www.health.gov.au/internet/immunise/publishing.nsf/content/handbook10-home

Influenza vaccine is the only vaccine reformulated each year to optimise the match between vaccine and circulating virus strains. The WHO issues recommendations for the different strains of influenza viruses (type A and type B) to be included in the vaccine based on the prevailing strains in the northern and southern hemispheres. Once the recommendation is made, vaccine producers require at least six months to manufacture and distribute the vaccine.¹⁵ Unfortunately, not all influenza vaccines (especially influenza A) have high vaccine effectiveness.¹⁶

The development of a universal vaccine that is long lasting and not subject to antigenic modifications still remains the ultimate goal.¹⁷

1.7 What has been the impact of previous influenza pandemics?

There were three influenza pandemics during the 20th century.

Spanish flu (H1N1) swept across the world in three waves in 1918 and 1919. It caused an estimated 50 million deaths worldwide (1–2% of the global population) and approximately 10,000 Australians died. The highest number of deaths was in young and healthy people aged 15–35 years; pregnant women were especially vulnerable.

Asian flu (H2N2) in 1957 caused approximately two million deaths worldwide. During the first wave, school children, young adults and pregnant women were mainly affected. In the second wave, the elderly had the highest death rates.

Hong Kong flu (H3N2) occurred in 1968 and 1969 and caused approximately one million deaths worldwide. It mainly affected the elderly.

Along with millions of deaths, these influenza pandemics caused social disruption and profound economic losses worldwide.

The first influenza pandemic this century was in 2009; it was referred to as 'swine flu' (H1N1). The virus contained genetic material of swine, avian and human origin.¹⁸ The virus has also been isolated in turkeys, cats and domestic ferrets.¹⁹ While the infection rate was high, there was a comparatively low mortality rate (18,449 laboratory-confirmed deaths as of 31 August 2010 by the WHO).⁸

However, laboratory-confirmed deaths greatly underestimate the real mortality burden; for example, deaths from secondary bacterial infections and exacerbation of pre-existing chronic conditions are not recorded as being in any way related to influenza infection.⁸

Global mortality estimates by the Global Pandemic Mortality project suggest that there were between 123,000 and 203,000 pandemic respiratory deaths for the last nine months of 2009 (which is approximately 10-fold higher than the WHO mortality count). The majority (62–85%) were attributed to persons under 65 years of age.⁸

1.8 What can we predict about the next influenza pandemic?

There are more factors that are not known about a future influenza pandemic than that are known (refer to Table 2). This uncertainty makes preparedness particularly challenging.

While the 2009 pandemic was considered mild, future emerging pandemic virus strains may be highly pathogenic.¹⁸ The impact of a future pandemic will depend on its transmissibility and severity.²⁰

Table 2. What can and cannot be assumed about future influenza pandemics

What can probably be assumed or predicted	What cannot be assumed
<ul style="list-style-type: none"> • Mode of transmission (droplet or contact) • Incubation time (likely to be short) • When a person becomes infectious • Clinical presentation (influenza symptoms) • The general effectiveness of standard precautions (hand hygiene, cough etiquette) 	<ul style="list-style-type: none"> • Virulence • Age groups with most transmission • Who will be the most susceptible • Precise periods of viral shedding in different age groups • The severity of the pandemic and fatality rates • How well immunity occurs • Precise clinical case definition and complicating conditions • Whether the new virus will dominate over seasonal type A influenza • Susceptibility or resistance to antivirals • Effectiveness of drug and non-drug interventions • Safety of drug interventions

Adapted and reproduced with permission from European Centre for Disease Prevention and Control (ECDC). Available at www.ecdc.europa.eu

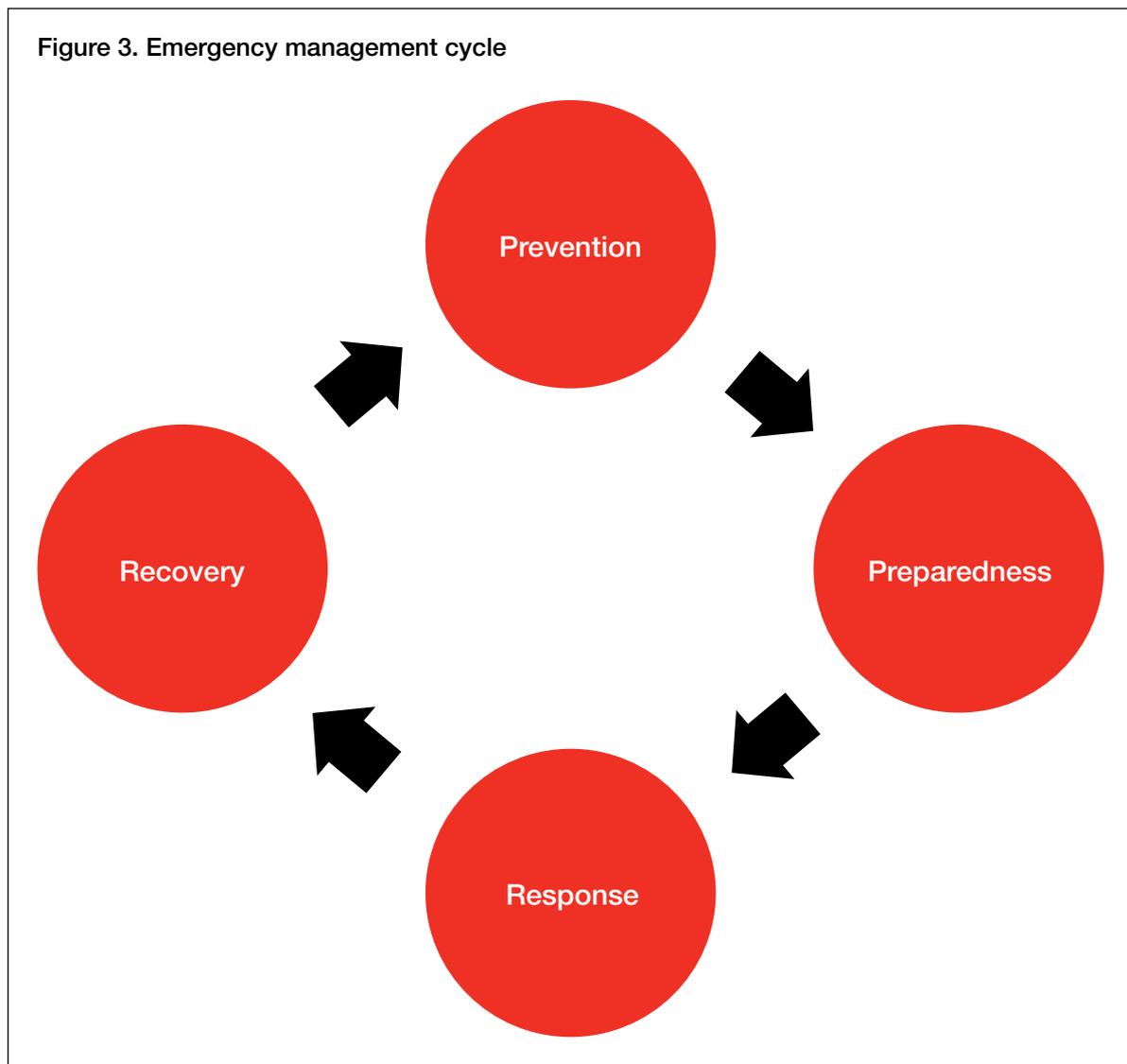
2. About the Pandemic flu kit

The **Pandemic flu kit** (PFK) is a set of documents designed to help general practices prepare for and manage an outbreak of pandemic influenza. The PFK comprises three modules: *Managing pandemic influenza in general practice: A guide for preparation, response and recovery*; the *Implementation guide*; and the *Pandemic influenza toolkit*.

2.1 Managing pandemic influenza in general practice: A guide for preparation, response and recovery

The guide (this document) contains current evidence-based information about pandemic influenza and includes comprehensive information regarding PPRR principles and activities. Figure 3 shows this cycle.

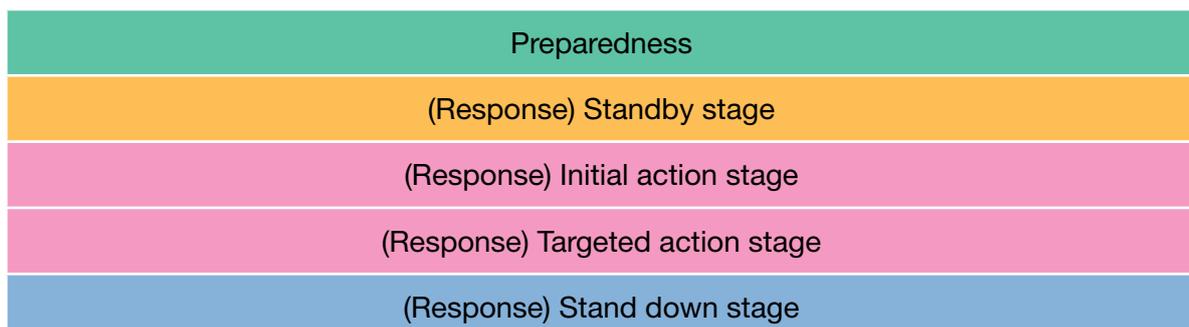
Figure 3. Emergency management cycle



2.2 Implementation guide

This is a shorter document in flipchart format that contains clear tangible actions specifically aligned with pandemic stages (including colour coding) as outlined within the AHMPPI.

The key stages of this resource include the following.



2.3 Pandemic influenza toolkit

The Pandemic influenza toolkit is a collection of operational documents developed to support general practices in their preparedness and response efforts. The toolkit comprises pandemic planning templates, checklists, triage algorithms, scripts and downloadable posters.

By completing the planning templates and using the additional resources, practices will have developed a pandemic plan that is individually tailored to their practice.

3. Prevention, preparedness, response, recovery

Parts B, C and D of this guide provide an overview of the key areas of PPRR. These key areas are consistent with Australia's overall strategic approach to emergency management.

In general practice, prevention and preparedness activities should form part of everyday practice. The more prepared a practice is, the more effective their overall response and recovery effort will be. While it is widely recognised that general practice services are extremely busy, it is strongly recommended that practices take time to undertake rigorous preparedness activities.

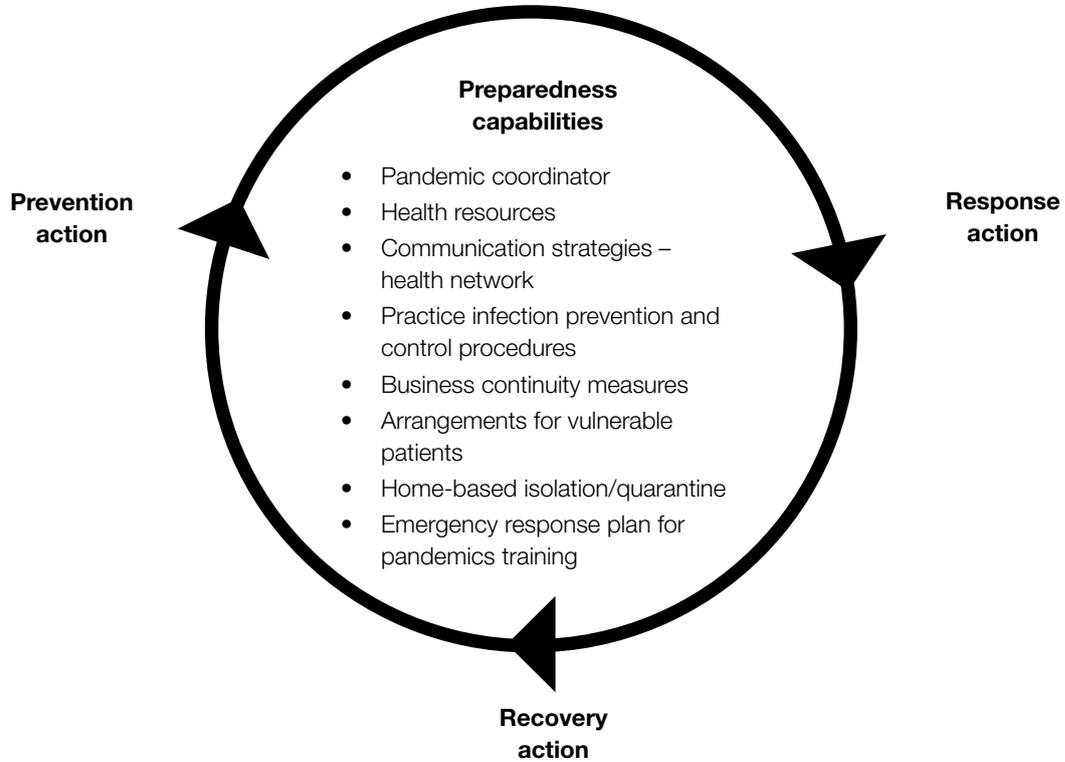
It is recommended that practices develop a plan that is reviewed annually. It is suggested that this is done every February, so that practices are also prepared for the regular flu season.

General practices will implement their response strategies just prior to and during a pandemic. The level of response required will be dependent on the current pandemic stage as determined by the Australian Government. The response chapter of this guide provides advice regarding the key response activities that practices should undertake during a pandemic. The *Implementation guide* provides direction regarding the specific tasks to undertake during the relevant stages of the pandemic (as outlined in the AHMPP).

During the recovery phase, practices should assess the impacts of the pandemic and reflect on what was managed well or poorly during their response efforts. Practices can then incorporate all learnings into future pandemic planning (preparedness stage). As described earlier, preparedness activities are crucial and help ensure the effectiveness of a practice's response efforts.

Figure 4 shows how preparedness is central to all other pandemic activities. In the context of pandemic influenza, preparedness is the capability to 'prevent, protect against, respond quickly to, and recover from health emergencies, particularly those whose scale, timing, or unpredictability threatens to overwhelm routine capabilities'.²¹

Figure 4. Preparedness capabilities



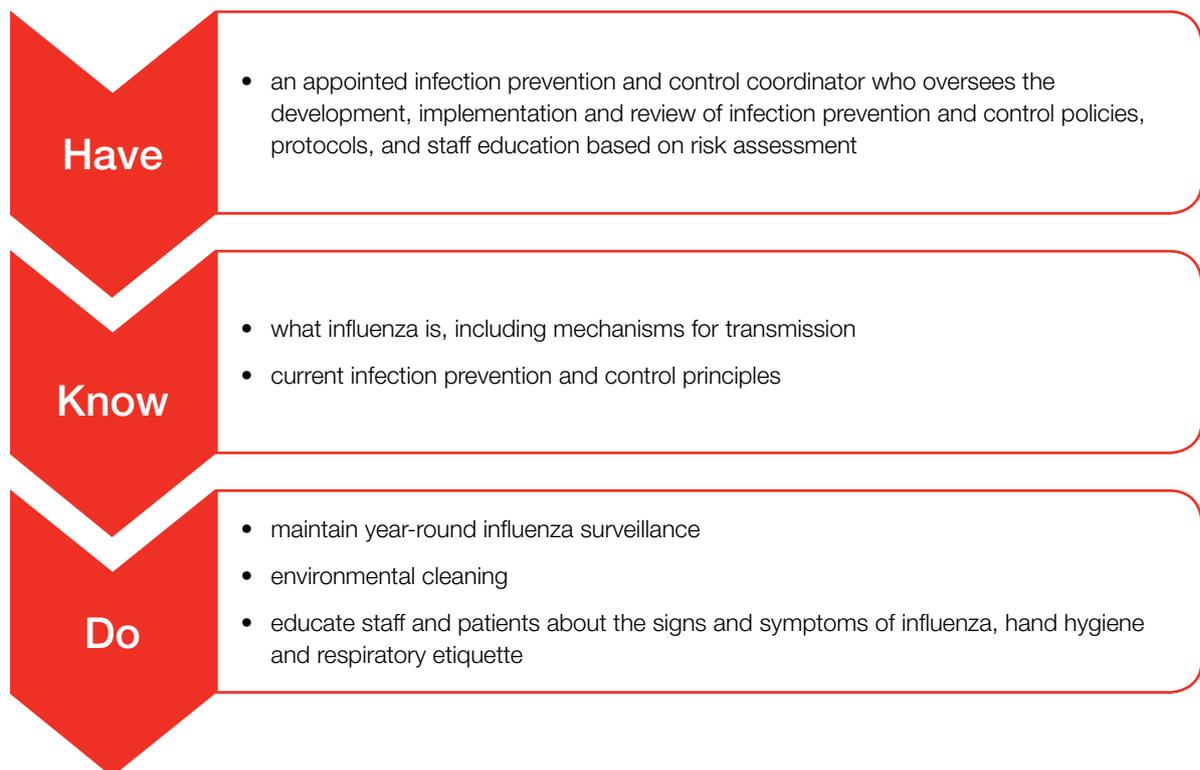
Part B – Prevention and preparedness

1. Prevention

Preventing the emergence of a novel virus capable of causing a pandemic is practically impossible. However, implementing evidence-based infection prevention and control strategies can vastly mitigate the impact of all infections, including a pandemic.

The prevention stage for pandemic influenza focuses on actions to identify and manage risks. Prevention activities for general practices should be integrated into and become part of everyday practice.

During the prevention stage, general practices will need to:



Essential resources:

- *NHMRC's Australian guidelines for the prevention and control of infection in healthcare*
- *RACGP's Infection prevention and control standards for general practices and other office-based and community-based practices (5th edition)*
- *RACGP's Guidelines for preventive activities in general practice (9th edition) (Red Book)*
- ASPREN – The national GP disease surveillance network

1.1 Infection prevention and control

General practices can reduce the risk or prevent the transmission of infectious diseases by embedding infection control measures in everyday practice. All GPs, clinical staff and non-clinical staff should have a good understanding of infection control principles.

1.2 Standard precautions

Standard precautions are applied to the care of all patients. Hand hygiene is a key standard precaution.

Standard precautions should be used routinely and consistently to achieve a basic level of infection prevention and control when staff are likely to be in contact with:

- blood
- other body fluids, secretions or excretions, except sweat (eg urine, faeces)
- non-intact skin
- mucous membranes.

In preparing for a pandemic, practices may wish to scale up the use of standard precautions. For example, providing conveniently located dispensers of alcohol-based hand sanitiser near each workstation, in patient waiting areas, in consulting and treatment rooms (including allied health rooms) and in reception and staff meeting rooms.

Additionally, practices may prohibit staff from wearing ties to prevent the spread of infection.

Refer to the RACGP's *Infection prevention and control standards (5th edition)* for more information.

1.3 Transmission-based precautions

Transmission-based precautions (previously known as additional precautions) are used where patients have suspected or known infectious conditions.

To minimise the spread of influenza, contact, droplet and airborne precautions (transmission-based precautions) are used in addition to standard precautions.

- **Contact precautions** are used to prevent both direct and indirect contact transmission. Contact precautions involve the use of gloves, gowns and distancing. Gloves need to be worn for all manual contact with patients, associated equipment and the immediate environment. A water-impermeable apron or gown needs to be worn if clothing could be in substantial contact with the patient or their immediate environment.
- **Droplet precautions** are used to minimise transmission of droplets generated by coughing, sneezing and talking. Droplet precautions involve the use of surgical masks (worn by staff and patients), protective eyewear (goggles or face shield) and distancing. Patients should be asked to observe respiratory (cough) hygiene.
- **Airborne precautions** may be used to minimise transmission of micro-organisms suspended in the air. Airborne precautions involve the use of P2/N95 masks, protective eyewear (goggles or face shield) and minimising exposure time to other patients (eg scheduling influenza patients at the end of the day, distancing, home visits). Where possible, avoid aerosol-generating procedures such as nebulisers. Additionally, preference should be given to the use of spacers for the delivery of salbutamol when needed.

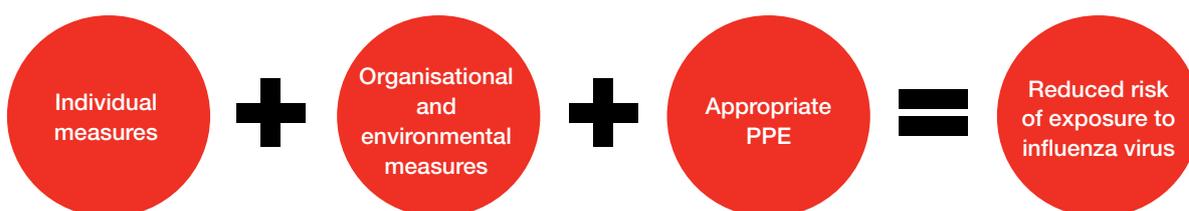
Refer to the RACGP's *Infection prevention and control standards (5th edition)* for more information.

1.4 Implementing infection prevention and control measures

Prevention of infection and disease transmission relies on the implementation of effective infection prevention and control measures. These measures can be viewed as three separate components: individual measures, organisational and environmental measures, and PPE.



The implementation of all three components will help to reduce the risk of practice staff and patients being exposed to the influenza virus; an individual component will not be effective if undertaken/used in isolation (eg PPE only).



Preparing for the management of outbreaks of respiratory (and other) infections should focus on good governance with planned, practiced and habitual infection prevention and control measures, and a stepwise response according to the extent and severity of the outbreak.²²

Practice staff should be familiar with infection prevention and control principles and how to appropriately scale usual measures in response to an outbreak of disease.

1.5 Individual-based precautions

Staff education on preventing the spread of infection

All members of the practice team need to be educated about their role in preventing the spread of infection.

Education includes the teaching of the principles of infection prevention and control, including the various infectious agents, their modes of transmission, appropriate work practices for infection prevention and control, and what personal protection is required and when to use it.

All staff need to demonstrate competency (appropriate to their role) in:

- identifying the signs and symptoms of influenza
- hand-hygiene procedures
- standard precautions
- transmission-based precautions
- managing blood and body fluid spills

- managing blood or body fluid exposure
- waste management
- principles of environmental cleaning and reprocessing medical equipment
- notification and referral pathways to appropriate health authorities
- where to find information on other aspects of infection control and pandemic protocols in the practice.

Understanding why precautions (such as masks) are used and the factors that have an impact on their effectiveness is critical to ensuring that staff are adequately protected, comfortable and can perform their jobs.¹³

During a pandemic, roles within the practice team may change. Some staff will need to multitask and take on additional responsibilities. This may mean additional training in infection prevention and control practices.

For more information about hand hygiene, refer to an online hand-hygiene course at www.hha.org.au/learningpackage/olp-home.aspx

Patient education on preventing the spread of infection

Patient education and engagement is vital for effective pandemic management. The public needs to be empowered to take responsibility for their own health.²³ Educating patients on the issues around pandemics increases awareness of risks, engenders cooperation, facilitates co-ownership and commitment, and assists in the prevention of transmission and complications.

Patients should be educated about infection prevention and control strategies (eg cough etiquette, hand hygiene) and be encouraged to report any potential infectious disease to practice staff as soon as possible. Research shows that providing information about influenza prevention at the community level can help reduce severe and complicated cases of influenza requiring hospitalisation.²⁴

During flu season and/or the standby stage, it is recommended that practices display posters to remind patients of the importance of handwashing and cough etiquette. The posters can be accessed on the [RACGP's emergency response](#) web page.

Seasonal vaccinations

Seasonal influenza vaccines are 'safe and efficacious and have the potential to prevent significant annual morbidity and mortality' according to the WHO.²⁵ It is recommended that general practices encourage influenza vaccinations for all staff and patients as per the NHMRC's *Australian immunisation handbook* (10th edition).²⁶ This serves as an effective measure to reduce transmission of influenza.

Seasonal influenza vaccination uptake is low among healthcare workers. After the 2009 H1N1 pandemic, Mexico was the only country that experienced a significant increase in uptake of seasonal influenza vaccination.²⁷ The most common reasons for healthcare staff rejecting vaccination are fear of adverse events, doubt regarding efficacy, believing to be part of a low-risk group and believing that influenza is not a serious illness. The main predictor of vaccine uptake is previous influenza vaccination.²⁸ Strategies to improve vaccination rates include in-practice vaccination programs for staff, use of practice 'champions', electronic databases to track vaccinations, and marketing campaigns.^{29,30}

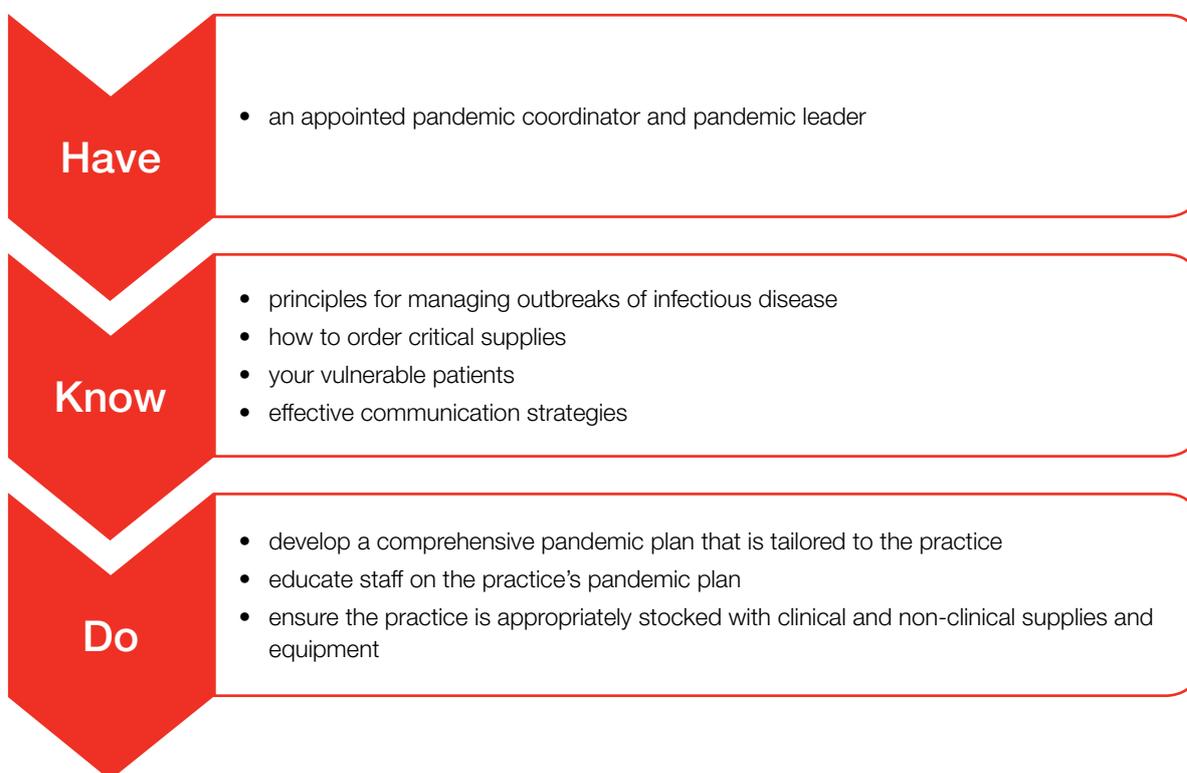
2. Preparedness

As with prevention activities, preparedness activities should be standard in general practices. However, preparedness is more about building the capacity to prevent, protect against, recognise and respond effectively to pandemic influenza (ie to reduce the impact of the disease).

Planning and preparation are not quick processes and need to occur well in advance of a pandemic. In the case of pandemic influenza, being well prepared is likely to minimise the number of people affected, protect critical infrastructure and essential services, and improve the health outcomes of those affected. Lessons learnt from previous disease outbreaks should be incorporated into current plans.

Plans developed for pandemic influenza can easily be used more broadly for other new, highly transmissible or severe communicable diseases.

During the preparedness stage, general practices will need to:



2.1 Planning for a pandemic

The main strategy for practice preparedness is to develop a pandemic plan for the practice that identifies key risks and key tasks, and clarifies key roles and responsibilities. The plan explains how the practice intends to operate before and during a pandemic.

The most useful plans offer a framework that can be adapted to accommodate pandemics of varying impact.³¹

A comprehensive and useful pandemic plan:

- clearly identifies the pandemic leader and pandemic coordinator and outlines the responsibilities for these roles and other practice staff (these two roles may be undertaken by the same person)
- lists essential pandemic resources including key stakeholders, such as hospitals and diagnostic services
- describes effective communication strategies to use existing health networks and available infrastructure

- documents infection control policies and identifies triage algorithms for the management of suspected and known cases
- identifies contingency arrangements for business continuity, including planning for absenteeism and use of alternative work processes (eg work from home, e-consulting, hospital in the home, flu clinics and re-arrangement of workflow)
- identifies contingency arrangements for patients with particular needs (eg vulnerable groups, patients with comorbidities)
- outlines the support the practice will provide for people in home isolation and/or quarantine.

Once the plan has been developed, it is crucial that staff are aware of the plan and receive appropriate education and training.

2.2 Roles and responsibilities

Strong leadership and good governance are key requirements for effective preparedness.

National arrangements, organisations and committees

The Australian Government provides leadership for overall pandemic coordination and communication efforts, and helps other public and private agencies and organisations by providing guidance and planning assumptions, and by making appropriate modifications to laws or regulations to enable an appropriate pandemic response.¹

The federal government collects information on suspected cases of pandemic influenza in a coordinated manner by liaising with state, territory and local governments. It also coordinates appropriate public health responses according to the pandemic plan.

To ensure a comprehensive understanding of the emergency plan and management processes, it is important to firstly understand the roles and responsibilities that the different agencies and organisations play.

For further information about these roles and responsibilities, refer to:

- The RACGP's *Managing emergencies in general practice: A guide for preparation, response and recovery*, Appendix 1
- The Department of Health's *Australian Health Management Plan for Pandemic Influenza (AHMPPI)*

Pandemic coordinator

The first step in preparing for a pandemic is appointing a pandemic coordinator. This person should have a level of experience and knowledge that allows them to act on all practice activities related to pandemic planning. The same person could take on the dual role of pandemic coordinator and infection prevention and control coordinator. Practices may consider appointing a deputy coordinator for back-up.

If your practice is larger, you might choose to appoint a pandemic committee with a chairperson and representatives from other disciplines. This approach means that the source of knowledge does not lie with one person. This is particularly important if there are staff changes or if committee members become unwell or unavailable during a pandemic. If your practice appoints a pandemic committee it is important to hold regular meetings with an agenda, written minutes and action items.

Key activities for the pandemic coordinator include:

- reviewing relevant and current materials such as the RACGP's emergency planning and pandemic resources, AHMPPI, and relevant state or territory pandemic plans
- holding regular practice team meetings to discuss pandemic planning and management
- developing a flexible plan for the management of pandemic influenza for the practice
- identifying barriers to an effective response (eg difficulties obtaining PPE and antivirals, or lines of communication between practices and government health departments)

- subscribing to and monitoring appropriate communication networks regarding Australian pandemic alerts (eg the [RACGP health alerts](#) and the [Department of Health](#) website)
- maintaining close contact with key stakeholders
- communicating and coordinating with other healthcare and community organisations
- obtaining regular advice from state and territory governments regarding the management of pandemics
- maintaining the practice's stock of PPE
- providing the practice team with ongoing training regarding the plan, including mini-drills and 'dry runs'.

The pandemic coordinator may not be the person who takes the lead during a pandemic. Practices may also appoint a pandemic leader to assume leadership during a pandemic response. This role is discussed in Part C – Response.

2.3 Organisational and environmental measures

Risk assessment and management

Risk identification and management is a fundamental aspect of a high-quality, resilient and sustainable practice. This applies to all aspects of the practice including infection protection and control.

When planning for a pandemic the risk factors regarding the disease should be taken into account. This includes transmission, virulence, morbidity and mortality. Further, the vulnerabilities and risk factors particular to each practice should be taken into account. This includes size of the practice team, patient cohorts, access to additional resources, patient flow within the practice, and financial restraints. Additionally, practices should work to address extraneous risk factors which commonly include inadequate hand hygiene, poor respiratory etiquette, lack of effective triage protocols and increased workload, which may result in stress and fatigue.

Together, these provide the context of the risk.

The disease-specific factors will not be known until the time of the outbreak (and may change rapidly during the outbreak). Potential areas of risk in terms of practice systems and processes can be identified during the preparedness phase and reviewed in the event of a pandemic threat.

During the preparedness phase, it is recommended that the pandemic coordinator undertake an assessment of all the possible risks to the practice and identify appropriate strategies to manage them. Once risks are identified, they are analysed for their magnitude of impact and their likelihood of occurring.

Doctors and other health professionals may have different opinions about risk and may therefore disagree about the appropriate approach to mitigate that risk. Professionals should engage in discussions before an event to decide and agree on a consistent approach. Developing policies founded on evidence-based guidelines can help address any difference of opinion regarding risk.

Risks are then evaluated and prioritised. This includes determining which risks need to be actively managed (why and how) and which risks will be 'tolerated' (ie what risk a practice believes is minimal).

Once all relevant risk and other factors have been identified, practice staff should implement the actions identified to mitigate risks. For example, place alcohol-based hand sanitiser in all patient care areas to improve hand hygiene and reduce cross-infection.

All protocols and procedures to manage risk should be documented, monitored and regularly reviewed.

Execution of mini-drills could be conducted (depending on time and human resource availability) to investigate the practical and logistical barriers of some of the actions proposed. Consider scenarios of pandemics with various severities and formulate some options and innovative solutions for handling these scenarios.

Refer to the RACGP's [Infection prevention and control standards \(5th edition\)](#) for further information regarding risk assessment and management.

2.4 Business continuity

A pandemic business continuity plan sets out how to prepare for a pandemic and continue to operate during and after the disaster. General practices require the capacity to respond to the health needs of patients while ensuring both the protection of staff and business continuity – which may include periods without any external assistance or supplies. In the event of a pandemic, it may be days before any information, advice, assistance or awareness of an issue occurs and is acted upon by authorities.

As part of pandemic planning, the pandemic coordinator should schedule a meeting to develop the business contingency plan. The plan needs to consider:¹

- the critical functions that need to be sustained (including periods without supplies)
- the personnel, supplies and equipment vital to maintain critical functions
- staff absenteeism and how to mitigate its impact on critical functions
- clear command structures, delegations of authority and orders of succession
- the stockpiling of strategic reserves of supplies, material and equipment
- any services that could be downsized or closed
- assigning and training alternative staff for critical posts
- establishing guidelines for priority of access to essential services
- the training of staff in workplace infection prevention and control, and communication of essential safety messages
- ways of reducing social contact (eg working from home and reducing the number of physical meetings and travel)
- the need for family and childcare support for essential workers
- the need for psychosocial support services to help workers to remain effective
- a plan for the recovery phase
- strategic planning of financial obligations
- how the practice will run during a pandemic and communicating this to staff, patients, clients and the community.

General practices need to identify their ‘break point’ – the point where 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 through absenteeism or the disruption of services or resources on which the practice depends.

Human resources management

Practices need to develop practice-specific policies to support human resource management and the provision of safe healthcare to patients. When planning a pandemic roster, practices should factor in changes in situation for employees. This may include:

- heightened distress during a pandemic
- pregnancy
- restrictions on travel
- staff absenteeism due to schools closing and lack of childcare.

Other factors, such as availability of PPE, vaccinations and antivirals, also affect the willingness of staff to continue to work through a pandemic.^{32–34} A high proportion of general practice respondents to an Australian study into attitudes to pandemic influenza indicated that they would need access to vaccines and antiviral medication for themselves and for their families, in order to consider treating patients.³³

Workplace absenteeism due to staff illness and other factors during a pandemic is inevitable.

It is important to establish contingency plans for continuation of critical business processes at less than full capacity. It is recommended that businesses plan for staff absences of 30–50% during a pandemic.³⁵ Identify the functions that are critical for practice survival and which staff members provide these functions.

A key to successfully navigating a business through a disaster is having some flexibility in the sharing of roles and tasks. Practice owners should consider:

- identifying staff members who can multitask to replace staff lost through absenteeism
- training staff in alternative roles
- flexible worksite (eg working from home) and flexible hours (eg staggered shifts)
- identifying additional human resources such as local hospital casual staff, recently retired GPs and nurses, and volunteers through local/state public health and emergency services.

Establish policies for employee compensation and sick leave absences unique to a pandemic, including policies on when a previously ill practice staff member is no longer infectious and can return to work. Practice owners should ensure there is a clear policy on the payment of staff who elect not to work during a pandemic. Practice owners should also ensure that staff are not discriminated against for choosing not to work during a pandemic, and conversely for electing to work and potentially being viewed as infectious.

Practices also need to consider how to manage practice staff who have been exposed to pandemic influenza, are suspected to be ill or become ill in the practice (eg infection control response, immediate mandatory sick leave). Practices should consider how they would manage employee evacuation.

Strategies to maintain procedural workflow

Practices should plan for possible practice modification during a pandemic. Strategies include:

- eHealth technologies (eg e-consultation, e-prescribing, e-referrals)
- postponement of non-essential/routine procedures/consultations.

Relationships and sharing resources

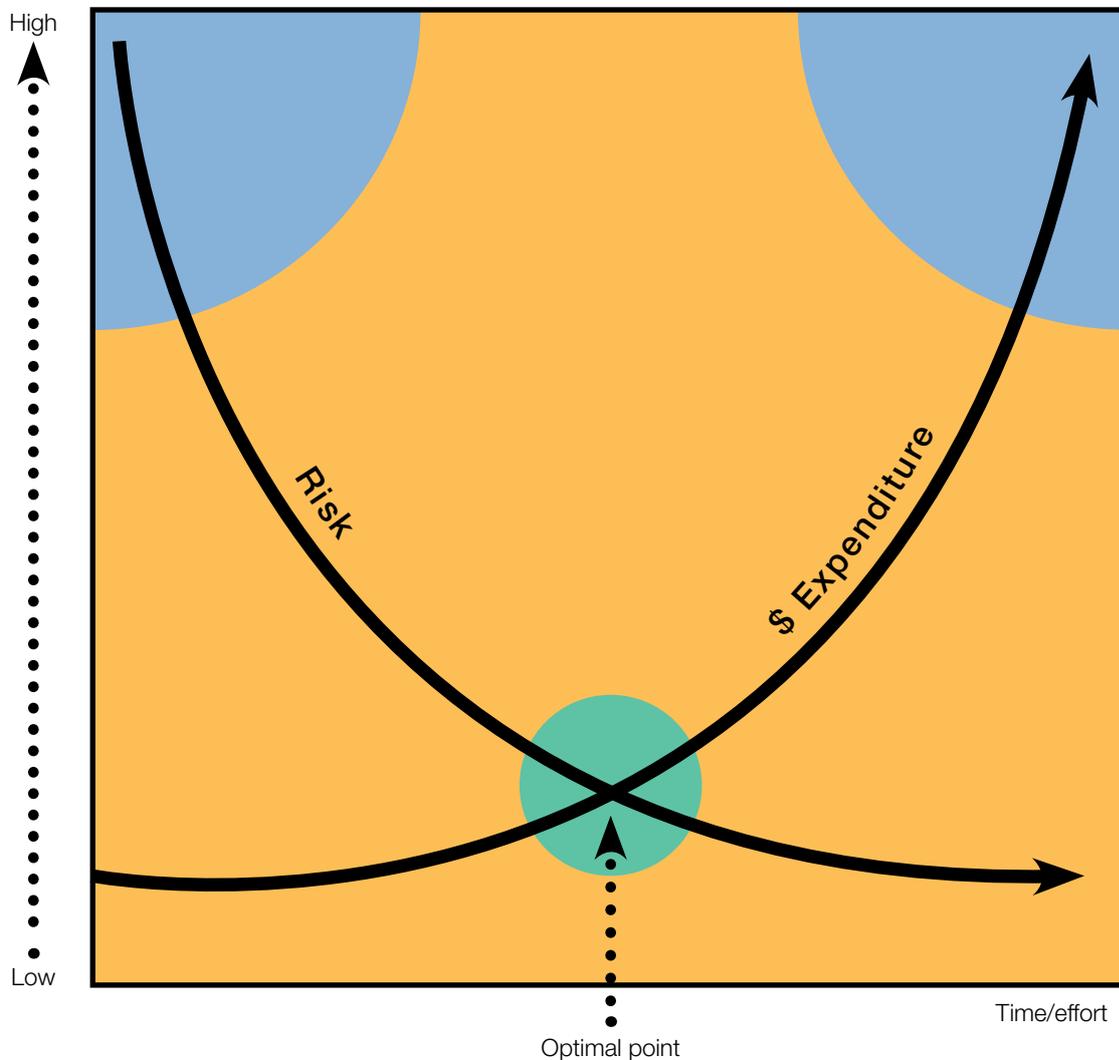
Providing healthcare and managing a business during a pandemic requires coordination and collaboration. Where available, practices could develop arrangements with other local practices and businesses. For example:

- local pharmacists, to ensure continuity of prescriptions for patients during a pandemic, particularly for patients living in residential aged care facilities
- local hospitals
- pathology services
- allied healthcare professionals
- local veterinary hospitals, which could provide additional PPE during shortages. These arrangements may be formal or informal, depending on local need.

Financial resourcing

The principle of ‘as low as reasonably practicable’ (ALARP) is a risk management concept that may be useful when assessing the optimum level of financial resourcing to allocate to preparedness activities (refer to Figure 5). This requires a vigorous risk assessment.

Figure 5. Risk versus expenditure based on the ALARP principle



Adapted and reproduced with permission from State Emergency Management Committee, Western Australia. Emergency Preparedness Report 2012. West Leederville, WA: SEMC, 2012. Available at www.oem.wa.gov.au/Documents/Publications/PreparednessReports/SEMC%202012%20Preparedness%20Report%20-%20PDF.pdf#search=ALARP

2.5 Communication

Large-scale emergencies such as pandemics require cooperation and communication between a number of agencies, groups, staff and individuals. Pre-established communication channels and positive working relationships allow orderly and organised flow of useful information.

Where staffing numbers permit, practices may consider appointing a communications coordinator in addition to the pandemic coordinator.³⁶ The communications coordinator would be responsible for developing a pandemic communications policy and reviewing communication plans periodically.

The plan should include:

- identification of key contacts (with back-ups)

- the chain of communication (including suppliers and customers)
- processes for tracking and communicating business and employee status.

Communicating with patients

All practices should prepare a list of vulnerable patient groups. This should be regularly updated and be readily available for use in case of any type of emergency.

Practices should plan and prepare for open, realistic and continuing communication with the public.³⁷ Patients need to know that their general practice is a reliable source of accurate, clear and concise, balanced and up-to-date information. The communication should also be consistent with reputable public health organisations such as the federal and state/territory health departments and the WHO.

Practices should clearly communicate to patients:

- what is known
- what is unknown
- what is being done
- when the next update will be released.

Methods of communication will vary depending on the practice and patient groups. By selecting a range of different communication methods during a pandemic, patient reach will be maximised and the load on more direct methods of communication such as phone and email will be lessened.

Examples of different communication methods include:

- posters and signs at the entrance to the practice and in the waiting room (refer to posters contained within the *Pandemic influenza toolkit*)
- fact sheets and brochures (health department literature given to patients at reception may help manage expectations)³⁶
- attachments to patient receipts
- waiting room videos
- podcasts played over an audio system in the waiting room
- bulk emails
- postal mail outs
- information on practice website
- credible websites with relevant information
- social media
- on-hold telephone call waiting messages
- phone answering machine message
- external building signage
- internal building signage such as a pandemic 'notice board' dedicated to pandemic planning and updates.

Communication topics include home care, how to prevent infection, when to call for an appointment, when to go to the emergency departments and when not to go, frequently asked questions, community-based resources and practice policies. Communications may also be used to provide regular updates that describe what we know, what we don't know, what we are doing and when the next update will be released.

Alarmist framing of health threats may be counterproductive.³⁸ When confronted with respected health authorities responding with alarm, people may panic, feel overwhelmed or lose respect for authorities if the threat does not materialise. These responses all prevent effective ongoing communication and action.

Patients should be informed of how they can obtain information and how they can protect themselves and their families if a pandemic should occur in their locality, what symptoms to look for, when to seek help, how to access home quarantine and isolation support services, and the use and availability of antiviral medications and PPE (as appropriate).

Ensure all communication methods with your patients take into consideration:

- cultural backgrounds (language differences) and cultural diversity
- vision impairment
- hearing impairment
- lack of literacy and numeracy
- technological capabilities.

Also consider patients who might be outside the usual systems, such as the homeless.

Social media

Social media includes social networking sites, blogs, forums and podcasts (live video and audio). Social networking has made significant contributions to emergency response and recovery in global disasters (eg information alerts and warnings). Australia's per capita use of social networking is among the world's highest.³⁹

Practices could investigate how social media can help communicate with patients during a pandemic. Note there are significant considerations regarding the use of social media, including privacy issues; consequently, any use of social media should be well planned and assessed for risk before implementation.

For more information, access the RACGP's *Guide for the use of social media in general practice*.

Communicating with other healthcare providers, agencies and authorities

Engaging with local agencies and services during the pandemic planning phase should help develop positive working relationships during an outbreak of infectious disease. Develop lists (electronic and hard copy) of important local contacts such as:

- state and territory health departments
- Primary Health Networks
- general practices
- community health services
- hospitals and pharmacies
- laboratories
- social support groups (including mental health support services, Aboriginal and Torres Strait Islander organisations, and culturally and linguistically diverse support groups and peak bodies).

The contact list should be available in both electronic form and hard copy (in case of an IT outage). Some organisations may not have the capacity to operate during a pandemic. This may mean an increase in workload for general practices that do continue to operate. Planning for this enables practices to factor in potential patient surges. Conversely, temporary flu clinics may be established in some areas during an influenza pandemic, which may decrease the practice's caseload.

Plan the type of communication strategy you will have with these organisations (eg emails, phone) and list the points of contact in each.

Practices must coordinate planning for pandemics with state and federal governments. The Australian Government has developed a coordinated and consistent communications strategy for the health sector regarding pandemic influenza. The communications strategy is designed to be flexible (to adapt and expand to accommodate new policy measures, or 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 flu clinics and vaccination services.

General Practice Round Table

The General Practice Round Table is a group made up of relevant professional groups and healthcare organisations. The group meets twice a year and:

- informs and provides advice to the Office of Health Protection on the role of primary healthcare in emergency preparedness and response management
- establishes agreed expectations of members and what they can and cannot do together
- develops the potential roles of GPs and general practices in different health emergency situations and how they can be best supported in these roles.

2.6 Clinical management

Preparing to manage cases of pandemic influenza

GPs play a major role in influenza epidemics and pandemics. Most people with an influenza-like illness are treated in general practice or by primary care doctors on duty in out-of-hours services.⁶

All staff need to be able to identify patients with possible influenza and institute the necessary alerts and patient management protocols. General practices may be the first to see a suspected pandemic influenza case.

Laboratory diagnosis is important in the early phase of a pandemic to determine the strain of influenza. Clinical staff need to know the processes of confirming cases of pandemic influenza, such as swab collection protocol. Discuss with the local pathology laboratory what processes the clinic staff need to know. This will include a review of collection and referral processes.

Point-of-care testing may become more useful as current technology (eg real-time polymerase chain reaction assays⁴⁰) become more widely available and cost effective. If point-of-care testing is to be used, staff will need training in collecting samples and running the test.

Clinical staff should demonstrate an understanding of the roles of seasonal, candidate and customised pandemic vaccines during a pandemic, as well as the role of antiviral medication.

During a pandemic, clinical staff may be required to deliver vaccinations from a multidose vial. The pandemic coordinator needs to ensure that the pandemic plan includes policies around safe delivery of vaccines from a multidose vial. Guidelines for the use of multidose vials will be released by the Department of Health and the RACGP during the pandemic. The policies should consider principles of infection control, cold chain, anaphylaxis and cross-contamination.

Preparing to manage vulnerable groups and patients with comorbidities

General practices will need to manage much more than influenza during a pandemic. Patients who might otherwise be managed in hospital or at other specialist facilities may not be able to access medical care as usual during a pandemic for reasons of increased caseload, quarantine or travel restrictions.

Certain patient groups are at higher risk. This might include people with chronic disease, Aboriginal and Torres Strait Islander peoples, people who take immunosuppressive medication, overweight and morbidly obese patients,^{41,42} pregnant women and young children.⁴³

Practices will need to identify at-risk patients and develop strategies to prevent infection and manage concurrent illnesses and conditions, should infection occur.

It will be important to ensure patients taking medications for chronic conditions have adequate supplies. This may mean providing prescriptions for more medication or organising alternative methods for repeat prescriptions.

Other healthcare providers such as antenatal and maternal health clinics and Aboriginal Health Services may not be able to provide patient care during a pandemic.

Practices could consider using telehealth services or phone consultations with other providers (eg other specialists and allied healthcare providers such as psychologists) to ensure continuity of care.

Preparing to manage patients at home

All practices should have a policy for the management of home visits. This should include:

- how the practice identifies its ability and willingness to provide patients with home visits during a pandemic
- under what circumstances and in what geographical area the practice will perform 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 disposal of clinical waste
- who will be responsible for checking and restocking the home visit bag
- how details will be recorded in the patient file.

Antivirals

The role of antivirals (if any) will be established once a pandemic has emerged and more knowledge is gained as to the particular virus strain.

The benefits and risks of antivirals in treating pandemic influenza should be carefully considered. Antiviral drugs given after patients show influenza symptoms may lessen symptoms and shorten the time of illness by one to two days. Antiviral drugs can have side effects and can become ineffective. There are also ethical considerations around the use of antivirals; for example, if antivirals are in limited supply, who should receive them?

During a pandemic, practices are advised to refer to the AHMPPI produced by the Department of Health for recommended treatment options.

The Australian Government has developed a stockpile of antivirals to be used in the event of a pandemic. The WHO and Australian Government will provide advice regarding recommended treatment options.

Generally, whether or not antivirals are used depends on:

- the likelihood that an individual with pandemic influenza disease will experience a medical benefit if provided antiviral medication¹
- the effectiveness of antivirals in preventing infection (including any evidence of antiviral resistance)

- the effectiveness of candidate and customised pandemic vaccine
- the protection offered by natural infection
- the availability of resources
- the anticipated length of time until the customised pandemic vaccine will become available.

During a pandemic, practices can obtain up-to-date information regarding new antiviral medications from state and territory health departments, the Department of Health and the RACGP.

Pandemic influenza vaccination

Pandemic influenza vaccination is unlikely to be available early in an outbreak. It is recommended that practices implement a system for checking with the Department of Health and state and territory health departments when a vaccine becomes available for distribution, as well as immunisation strategies.¹¹

It is important to know where and how to order supplies and any security issues for storage. Practices should consider their storage capacity for vaccines. If practices do not have capacity, it is suggested that they explore alternatives for safely storing and transporting vaccines within the safe temperature range of +2 °C to +8 °C (ensuring cold chain management).

A vaccine that gives good protection against a pandemic influenza virus can only be developed after the new strain of virus appears. It may take several months to produce a specific vaccination (called a customised pandemic vaccine) and initially it will be in short supply.

Early in a pandemic, a candidate pandemic vaccine may be used. Candidate 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. However, they may provide enough cross-protection (or 'priming' of the immune system) to prevent infection, decrease the severity of illness or reduce the number of doses of customised vaccine required.

The use of seasonal influenza vaccine can reduce the incidence of circulating seasonal influenza virus. This means that the risk of diagnostic confusion and demands on the health system during a pandemic may be reduced. When a pandemic arrives in Australia, the availability of seasonal influenza vaccine may be limited. At this stage it will be necessary to prioritise the remaining stocks of seasonal influenza vaccine to high-risk groups.

Systems for data collection

During the planning stage, the pandemic leader should be responsible for establishing and maintaining systems to collect influenza data within the practice. The pandemic leader should also ensure other clinicians and practice staff are educated about the process for collection of this data. Data collected will help provide an overall picture of affected areas and identify high-risk areas. This information may also help to assess if current supplies are adequate and if additional supports are required.

The RACGP and the Australian Government would like to see a system where adequately resourced general practices use the appropriate coding in their practice software to flag patients with influenza-like symptoms. During the standby stage, it is suggested that practices use this data to create weekly reports which are de-identified (only numbers are required) and report to their RACGP state/territory faculty office on a weekly basis. The faculty can then collate this information and report to the relevant state or territory health department, who would report to the Federal Government.

Infection prevention and control outside the practice

Practices need to ensure that provisions for these precautions are made for patients seen offsite (ie in home visits or visits to residential aged care facilities). Home visit kits must be appropriately stocked to manage patient needs and staff protection (eg with clinical waste disposal equipment).

Personal protective equipment

PPE is a first line of defence against the spread of viral infection, and an integral component of quality healthcare.^{13,44}

What PPE is required?

PPE is not a substitute for hand hygiene and cough etiquette and should be used in conjunction with individual, organisational and environmental measures.

The SARS outbreak demonstrated the importance of basic infection control precautions in healthcare facilities. Failing to take standard precautions can lead to transmission of disease.⁴⁴

Communicating with staff about PPE

All members of the practice team should be informed that PPE is available and where it is stored, as availability of PPE may influence the likelihood of work attendance during a pandemic.³²

Staff should know how to order more supplies and should establish contingency plans where primary sources become limited.

These communications might include:

- ensuring staff and patients understand how to put on, take off and dispose of PPE
- scheduling a team meeting and getting staff to fit and check P2/N95 masks
- consulting with local state or territory health departments about access to potential stockpiles, or communicating with alternative sources of PPE (eg veterinary hospitals).

The PPE appropriate for a pandemic includes:

- gloves
- disposable plastic aprons
- surgical masks
- P2/N95 masks (respirators)
- goggles/glasses
- face shields
- gowns.

Disposable PPE should be used because the influenza virus can remain infectious on surfaces for long periods of time.

General principles for PPE selection and use are that PPE should be:¹³

- appropriate to the occupational risk
- acceptable and usable by healthcare personnel in their daily tasks
- practical regarding issues of cost, time and training to use.

From a patient perspective, approaching someone wearing PPE can be very confronting. The use of PPE should aim to minimise negative interaction with or effects on patients and their families.¹³

Past events indicate that during a pandemic there is an increased demand for PPE, often resulting in a shortage of essential equipment. Where possible, practices should have appropriate stocks of clinical and non-clinical supplies to ensure continued provision of essential patient services and staff safety in the event of a pandemic.

How much PPE should a general practice have in stock?

Practices are responsible for sourcing and providing PPE for staff and patients within the practice. While there is a medical stockpile of PPE held by the national, state and territory governments, supplies are limited and access to the stockpiles should not be assumed.

Practices might consider maintaining a supply of hand-hygiene products, tissues and PPE for staff for the duration of a pandemic wave (approximately four weeks). This may be costly, so practices should factor this in during their preparations.

Practices need to consider if they have sufficient storage space to house the PPE. If necessary, they may consider relying on existing networks (eg a local pharmacy) to store supplies until required.

Stocks need scheduled checks, as some items are perishable. For example, P2/N95 masks have perishable elastic and an expiry period of five to seven years.

2.7 Mental health and psychological support

The focus of pandemic preparedness and response is typically on physical health. However, disease outbreaks can cause anxiety and stress and affect the mental health of patients and staff. Practices should also prepare to respond to the mental health and psychological needs of patients and staff during a pandemic.

As well as the disease itself, factors such as travel restrictions, school closures, requirement to take carer's leave, supply shortages and financial strain can exacerbate mental health issues. Further, people may experience difficulty accessing medical support due to high demand for services which may exacerbate anxiety.

Anxiety and stress can lead to changes in behaviour of staff and patients. Anxious and stressed patients may place extra demands on clinical and non-clinical staff in both the practice and home-care environments. Providing staff with training in the management of difficult and anxious patients is recommended. Staff will also have their own needs and concerns during this time. Providing care to infectious patients presents a range of potentially hazardous exposures for general practice staff.

Identify patient groups and staff who may need psychosocial support in preparing for a pandemic and prepare a document with links to the support organisations that could assist. These links might include home nursing services, meal services and social support services. Identifying referral pathways to culturally appropriate social services is also important.

The [Australian Psychological Society tip sheets](#) provide information about how to psychologically prepare for a disaster.

Part C – Response

Response occurs at the onset of an emergency. The level of response is likely to vary during the pandemic. Initially, pandemic cases may be sporadic, whereas during a peak, general practices may be inundated with patients with pandemic influenza.

Practices should implement their response strategies just prior to and during the pandemic. The action(s) required will depend on the current pandemic stage as determined by the Australian Government. These four stages are aligned with the Department of Health's AHMPPI:

(Response) Standby stage

This stage is triggered when a warning of a pandemic has been received by an appropriate authority. Practices should have an up-to-date plan in place so they are ready to respond appropriately

(Response) Initial action stage

This stage is triggered when a declaration of pandemic influenza has been made by an appropriate authority. Practices should put their pandemic plan in place and respond to healthcare needs of the local community

(Response) Targeted action stage

This stage is triggered when there is sufficient information collected during the initial action stage to help refine the pandemic response already implemented

(Response) Stand down stage

This stage is triggered when the Communicable Diseases Network Australia (CDNA) advises that the pandemic has reached a level where it can be managed under seasonal influenza arrangements

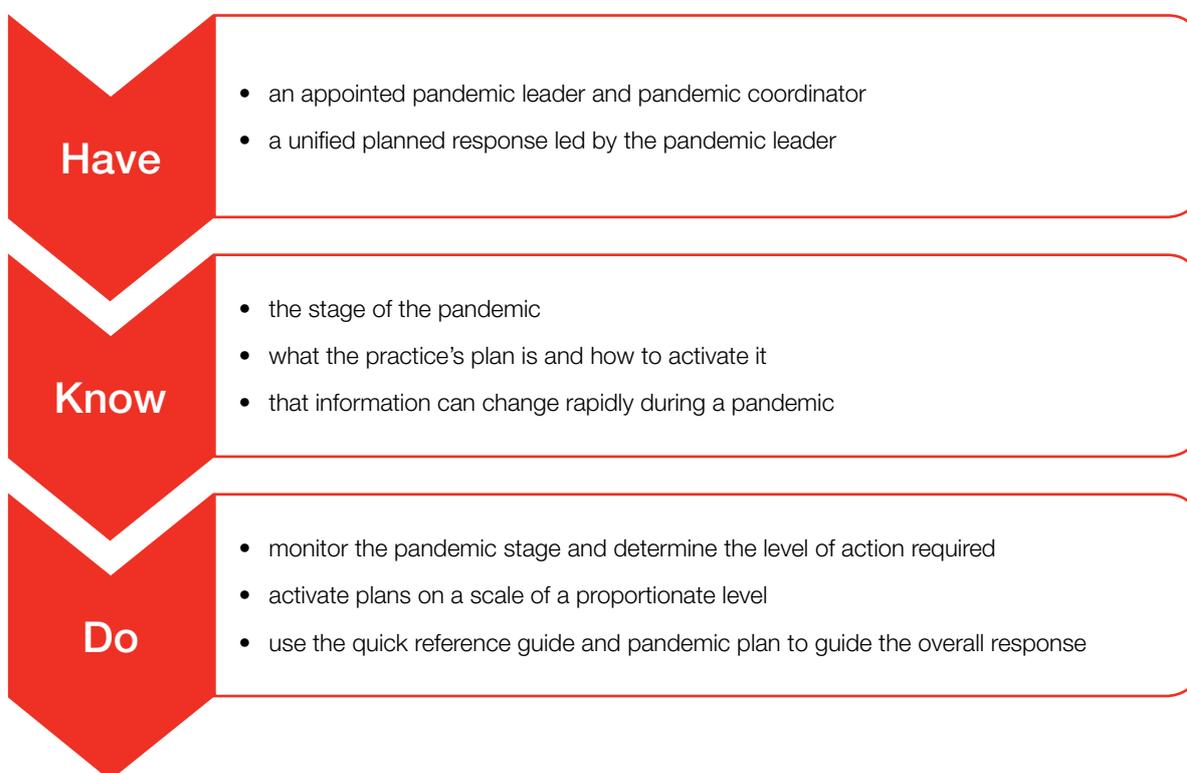
Refer to the RACGP's Pandemic flu kit – *Implementation guide* for further information.

Responding to a pandemic means activating the plans made in the preparedness phase – in a manner and to a degree appropriate for the severity and intensity of the outbreak.

The quality of planning will affect the ability to respond. Strategies for implementation of pandemic plans are considered effective if they:³

- are flexible
- include a range of pandemic preparedness approaches applicable to different situations
- include communication aspects and are transparent
- include advance stockpiling (eg for drugs and equipment).

During the response stage the practice team will need to:



1. Proportional response

In the early stages of a pandemic, information about the risks and severity will be minimal. The best source of up-to-date and relevant information for general practices will be the Department of Health, the RACGP, and state and territory health departments. They will provide information about:

- **what is known about the virus early in the pandemic** – this is likely to include mode of transmission, broad incubation period, broad clinical presentation and case definition, and preventive measures to reduce transmission
- **what is unknown early in the pandemic** – this may include age and clinical groups most affected, age groups with most transmission, 'severity' and case-fatality rates, precise case definition, complicating conditions, effectiveness of antivirals and other medications, and safety of any pharmaceutical interventions
- **what GPs should do early in the pandemic** – as more information becomes available it will be easier to tailor your response according to the pandemic, your patients and your practice.

To continue to provide locally relevant information, health authorities will need to be informed about frontline pandemic situations, including patient feedback and effectiveness of any interventions.¹¹

2. Leadership, reviewing roles and responsibilities

2.1 Plan a meeting and review roles

A team meeting for the practice should be scheduled when a pandemic alert is announced (during the standby stage). At this meeting, the practice's pandemic plan should be reviewed and the pandemic leader should be appointed/verified. Appointment and/or verification of other roles such as pandemic coordinator and/or communications coordinator should be clarified. All other staff should have a clear understanding of their roles and responsibilities.

Where possible, it may be valuable to have back-up staff in case the leader or coordinator is unable to work.

The members of the pandemic team should have remote computer access to the practice network if possible.

Pandemic leader

The pandemic leader is responsible for the overall management of the practice's pandemic response throughout the pandemic. This person should have sound decision-making and organisational skills and have the ability to delegate. The pandemic leader will provide direction regarding any modifications to day-to-day practice operations, staffing issues, and clinical policies and procedures. They may seek input from other team members but will be responsible for making all final decisions.

The pandemic leader will work with state and territory health departments and other healthcare providers. Additionally, the leader will provide local leadership regarding the use of resources across sectors.⁴⁵

If the practice is small, the pandemic leader may also fulfil the role of the pandemic coordinator and communications coordinator. Conversely, larger practices may need to appoint a pandemic committee with a chairperson so that roles and responsibilities can be shared.

Key activities for the pandemic leader include:

- providing support and advice to the pandemic coordinator during the development/revision of the practice's pandemic plan
- establishing and maintaining systems to collect surveillance data
- overall management of staff safety, staffing and support
- ensuring infection prevention and control measures have been implemented
- activating triaging of patients
- authorising modifications to the practice
- facilitating post-pandemic review of response for staff.

3. Infection prevention and control

In the event of a pandemic, the priorities include staff staying well, prevention of cross-infection of patients and appropriate management of patients with pandemic influenza. To reduce risk:

- do not allocate febrile patients to staff at increased risk
- re-organise the clinic schedule to minimise cross-infection with minimal disruption of usual services⁴⁵
- consider delaying non-urgent and routine non-essential consultations during a pandemic (eg Pap smears).⁴⁶

The importance of infection prevention and control procedures is critical during a pandemic. GPs and clinical staff should take a proactive approach and reinforce the importance of infection prevention and control measures during a pandemic.²⁹

Review your current infection prevention and control plans in light of available pandemic information. Update or adapt protocols on:

- hand hygiene (eg increase the number of alcohol-based hand sanitiser dispensers)
- use of PPE for staff and patients
- practice cleaning, removal of clutter and non-cleanable items such as waiting room toys and waste disposal (use no-touch waste dispensers)
- the use of quarantine and social isolation (eg increasing home visits or practice modification to create separate waiting areas for influenza and non-influenza patients)
- assigning personnel to different tasks and patients (eg one GP does not see any influenza patients, a practice nurse to see the 'worried well', one GP to do influenza home visits)
- throat swabbing
- vaccines (depending on availability, distribution and immunisation strategies).

Ensure that these protocols are clear, simple, easy to implement and are scaled appropriately to the level of risk. Display alert and education materials for staff and patients.

Febrile staff with respiratory symptoms should not come to work until considered non-infectious (based on current information about the influenza strain).

3.1 Vaccination

General practices may choose to encourage seasonal influenza vaccination of staff.²⁹

Pneumococcal pneumonia is likely to be a significant complication of pandemic influenza. Practices should identify at-risk patients and offer pneumococcal vaccination.¹¹

Check regularly with the relevant state or territory health department about pandemic vaccination availability and distribution and immunisation strategies.

3.2 Antivirals

Practices will need to check antiviral protocols with the state or territory health department.¹¹ In some cases there may be targeted antiviral prophylaxis for contacts and frontline health workers.

3.3 Contact tracing

During a pandemic, vigilance in detection and immediate reporting of suspected cases of pandemic influenza is critical. A person is classified a 'contact' if they have been in close proximity with a person who has been diagnosed with 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 definitions' as a pandemic develops. The case definitions used by state and territory health departments will change at different phases of the pandemic, as knowledge about the disease increases.

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

3.4 Triage

Early recognition of patients with suspected influenza will allow for appropriate patient management and reduced risk of transmission. All staff need to be able to recognise the symptoms and signs of potentially infectious diseases. This should include matching patients who present to or call the practice to the current 'case definition' of the pandemic and responding appropriately.

Consider developing a checklist for patients and staff to identify potential cases of influenza.

This may include questions commonly asked at reception and examples of expected staff responses. All staff will need training in triage protocols. Ensure triage questions are easily accessible at the reception desk.

Leaflets and notices in the waiting room, posts on the practice website or messages while callers are on hold are additional strategies for providing patients with information to support the triage process.

During a pandemic, health authorities will provide a more specific case definition. Definitions used by health authorities to identify cases of pandemic influenza may change at different phases of a pandemic, as knowledge of the disease increases. General practices need to maintain good communication pathways with state and territory health authorities to ensure timely notification of any changes to case definition or clinical management.

3.5 Separating patients who are well from patients who are ill

Distance barriers are effective in preventing disease transmission.²⁰ Exploring some patient flow options to reduce contact between patients with influenza-like symptoms and those without is useful. Examples include creating a mini-influenza clinic (eg a designated waiting area and GP), assigning a clinic nurse to those who are considered 'worried well'³⁶ and using areas such as the car park for patient triage. Practices may also have a dedicated consultation room to treat/manage patients with influenza-like symptoms.

It is important to understand the differences between isolation and quarantine.

- **Isolation** is used to physically separate symptomatic patients with an infectious disease from those who are healthy during the infectious period. In the practice, isolation includes distancing (eg seating patients with influenza at least one metre away from patients without influenza, ideally in another area or consultation room of the practice). Isolation could be extended to all patients with an influenza-like illness being seen at a separate facility, such as a flu clinic.
- **Quarantine** is used to physically separate and restrict movement of asymptomatic persons who have potentially been exposed to an infectious disease to see if they become ill. People with influenza may be infectious before they become ill themselves. People in quarantine may be asked to monitor their temperature. They will need to know how to use a thermometer, how often to take their temperature and what to do if they develop a fever (ie temperature ≥ 38 °C). Quarantining of patients is not a mandatory requirement and therefore not enforceable. Practices should advise/recommend influenza patients to stay at home and limit contact with other people.

It may be particularly important to separate age groups. During the H1N1 pandemic, while adults were responsible for seeding the infection in communities, children frequently drove community outbreaks.⁴⁷ General practices may need to liaise with local schools and childcare facilities.

Table 3. Infection prevention and control measures				
Goal	Type of infection control measure	Example of infection control measure in pandemic response		
		Initial response	Targeted response – low severity	Targeted response – moderate/high severity
Reduce potential for spread of all infectious agents in a general practice setting	Standard precautions*	Standard precautions*		
Reduce exposure to influenza for non-flu patients attending the practice	Practice measures to change patient movement and mixing	Patients self-identify prior to presentation (by phone) or on presentation (through self-report or assessment by front-of-practice staff)		
		Separation of potential influenza and non-influenza cases at the practice		Consider changing clinical care model – dedicated flu clinics, non-flu clinics
Reduce spread from suspected or confirmed influenza patients to other patients or general practice clinic staff	Patient measures	Potential or confirmed influenza patients asked to: <ul style="list-style-type: none"> • adhere to hand hygiene • follow respiratory and cough etiquette • wear surgical masks 		
Reduce exposure to influenza in general practice clinic staff	Staff measures	In addition to standard precautions, clinical staff to take: <ul style="list-style-type: none"> • contact and droplet precautions: gown, gloves, surgical mask, eye protection • airborne precautions (P2/N95 masks) for aerosol generating procedures** Non-clinical staff (ie receptionists) to take: droplet precautions through wearing of surgical masks		
		Staff management/ resourcing	Procedures for managing staff might include: <ul style="list-style-type: none"> • advising staff to stay home if sick, including influenza-like symptoms • identifying staff at high risk of influenza complications and organise practice so these staff do not see influenza patients 	
	Cohort staff (dedicated influenza staff and non-influenza staff) if possible or practice preference		Cohort staff if possible or practice preference	Cohort staff
*Standard precautions consist of: <ul style="list-style-type: none"> • hand hygiene, before and after every episode of patient contact • the use of PPE • respiratory hygiene and cough etiquette • the safe use and disposal of sharps • routine environmental cleaning • aseptic non-touch technique • waste management • appropriate handling of linen • reprocessing of reusable medical equipment and instruments 		**Aerosol-generating procedures In the current NHMRC <i>Australian guidelines for the prevention and control of infection in healthcare</i> , ⁴⁶ aerosol generating procedures include nose/throat swabbing, nebulised medicine administration, airway suctioning, CPR diagnostic sputum induction, positive pressure ventilation via facemask, and endotracheal intubation. In a general practice setting, staff doing multiple cough-inducing procedures such as nose/throat swabbing on potential influenza patients might consider use of properly fitted P2/N95 mask, or frequent changes of well-fitting surgical masks. Routine throat examination is not an aerosol generating procedure.		

4. Business continuity

4.1 Managing the workload

Workloads may change dramatically during a pandemic. At the start of and throughout the pandemic, practices may need to revise what work will be done in the practice and what work will be re-organised, delayed, shared or referred. Key tasks for all staff should be prioritised and any additional workforce capacity available should be identified.¹¹

Home visit demands could increase due to patients in quarantine and patients with chronic illness. Practices will need to ensure sufficient resources are allocated to meet demands while protecting staff and patients. Where travel restrictions or fuel shortages are an issue, consider the use of alternative techniques such as telehealth consultations.

Where possible, practices may consider sharing the workload with other local practices. One practice could manage patients with fever and those with an influenza-like illness, and another clinic could manage patients with a non-infectious illness.⁴⁵ Where they operate, flu clinics may help reduce numbers of emergency department visits,⁴⁹ although they may have limited impact on general practice workload.

4.2 Human resources

Practice staff may need to review and update their human resource management plan when new information about the pandemic becomes available. This may be due to changes in the level of severity of the pandemic, increased demand for services, and practice circumstances. Practices should assign a dedicated staff member to oversee work rosters and manage risks to staff health and wellbeing.

Medical staff may have a higher infection rate than the general population. Infection of staff may lead to further infections of their family members. In a 'mild' pandemic there may be little absenteeism. However, when faced with a 'severe' pandemic, staff may decide to retract their offer to work during a pandemic.

If a surge is expected and additional staff are required (including volunteers), contact your indemnity insurer for temporary coverage of GPs and staff members.

If the response to the pandemic requires staff to work more hours than usual, exhaustion and burnout may occur. Practice managers may consider shorter, more frequent shifts or increasing days off in between shifts.

5. Communication and patient management

Generally, if the practice does not have a designated communication coordinator, the pandemic leader and/or pandemic coordinator will implement the practice's pandemic communication plan.

Ensure open, mutual communication between the practice team and patients, other staff, state and territory health departments, hospitals, local services (eg pharmacies), local council, laboratory networks, suppliers, and community services.

The practice can receive information through a variety of channels such as fax, email, web portals, SMS and radio announcements.⁵⁰

The communication or pandemic coordinator should gather information regularly relating to:

- key public health messages and advice
- pandemic case definition and how to identify pandemic influenza
- what services patients should access from the practice

- what other services are available (eg flu clinics, fever and vaccination centres)
- home quarantine, including how patients should monitor themselves and how they will be supported during this process.

The pandemic/communication coordinator should relay relevant information to:

- the pandemic leader so that protocols can be revised to ensure best practice (eg modifying PPE protocols based on up-to-date information on transmission)
- the practice team and patients through a variety of pre-arranged channels (eg meetings, notice boards, practice website, SMS, email campaigns, phone calls)
- the community partners and networks.

General practices should aim to be a resource for the community – providing essential information about how people can stay well and what they should do if they are unwell.⁴⁵ Aim to provide clear and accurate factual information as early as possible to avoid fear and anxiety, rumours and misinformation. Providing frequent and concise advice maximises the value and usability of the information.⁵⁰

5.1 Communicating with patients

Inform patients about the practice's policy for pandemics (eg delaying or rescheduling non-urgent routine appointments such as Pap smears and repeat prescriptions, availability of home visits, and referral to flu clinics).

Display clear and appropriate signage to inform patients about any changes to patient flow at the front entrance.

When communicating with patients about the pandemic itself, there is a balance between providing too much and not enough information. Receiving appropriate amounts of information may improve adherence to infection control recommendations.⁵¹

Despite adequate communication with patients, they may not act in ways which are expected or desired. People respond more strongly to factors present in their everyday environment than to official messages about what a pandemic is and what they should do.⁵²

5.2 Communicating with staff

Ensure open, mutual communication with staff. Hold regular practice meetings (face-to-face or via teleconferencing) so that staff can discuss all issues around the pandemic (including challenges, fears and stressors) and provide feedback on the practice plan. Staff may need to talk more privately about their issues as well.

Regularly acknowledging the efforts of staff during the pandemic is important but is often neglected when there are other pressing needs. Mutual support is seen as a key aspect of successful emergency management.

6. Clinical management and comorbidities

During a pandemic, general practices may see an increase of potential cases, contacts and worried people. Practices risk being overwhelmed due to the challenges of sick patients with other chronic and complex diseases, and staff absenteeism from sickness, fear or family care needs.

Referral pathways may also change during a pandemic. Suspected cases may be sent to designated hospitals and patients who might usually be referred may need to be cared for in primary care.

6.1 Managing the ‘worried well’

Consider designating a practice nurse to manage worried or anxious people who are not ill. Having clear patient education materials available across a number of platforms may reduce anxiety based on the unknown.

Point-of-care testing may not always be reliable but it may be useful for managing the worried well.

6.2 Managing patients in their own home

During a pandemic, it might not be possible to care for all patients at the practice location. This may be due to illness, frailty, disability, quarantine or anxiety about becoming exposed to pandemic influenza at a practice. Some of these patients may require additional support from social services such as mobile meal services or mobile mental health services.

State and territory health authority planning will differ between jurisdictions. Each jurisdiction will nominate a level of service delivery and healthcare to patients within their own home. Practices need to know what assistance will be delivered to their patients.

There are established hospital-in-the-home (HITH) services across many parts of Australia that provide domiciliary acute care as a substitute for traditional inpatient care. These services may have a specific role during a pandemic. This may include assisting non-influenza-related conditions or managing some patients with influenza and its associated complications. Services are commonly linked to public hospitals and community health services with some private services in operation in metropolitan areas. Some general practices already play a role within these services, and familiarity with HITH may provide GPs with additional support during the response and recovery phases.

Patients with pandemic influenza may be avoided by their family and friends and therefore require additional support. This may depend on the clinical severity of the pandemic as well as other factors such as irrational fears. During the H1N1 pandemic in the United States, H1N1 was the most stigmatised disease: more so than cancer or HIV/AIDS.⁵³

Telephone follow-up could be used to manage patients with mild symptoms at home.

6.3 Managing patients with known or suspected pandemic influenza

Management will largely depend on:

- the clinical severity of the virus (eg a mild virus may require treatment similar to seasonal influenza, whereas a severe virus may mean immediate referral to a designated setting)
- any present comorbidities, such as COPD
- the role of antivirals.

7. Mental health and psychosocial support

7.1 Patients in home isolation or quarantine

Patients being cared for at home or under home monitoring may feel particularly isolated and anxious. Practices should make regular contact with such identified patients, depending on the level of need. This may be as simple as a weekly phone call. They may also require supplies of regular medications, organisation of routine pathology testing, or instructions on how to access updates on the pandemic.

7.2 Needs of staff

In a severe pandemic, enormous pressure may be placed on practice staff as frontline workers. Those who are in close contact with potentially infected patients are at increased risk of contracting influenza. There may be fear of contagion, particularly in relation to infecting their own children or other family members.

Practice staff may be dealing with increased numbers of distressed or even angry patients. Extended working hours, insomnia and fatigue require management, particularly in pandemics of a longer duration.

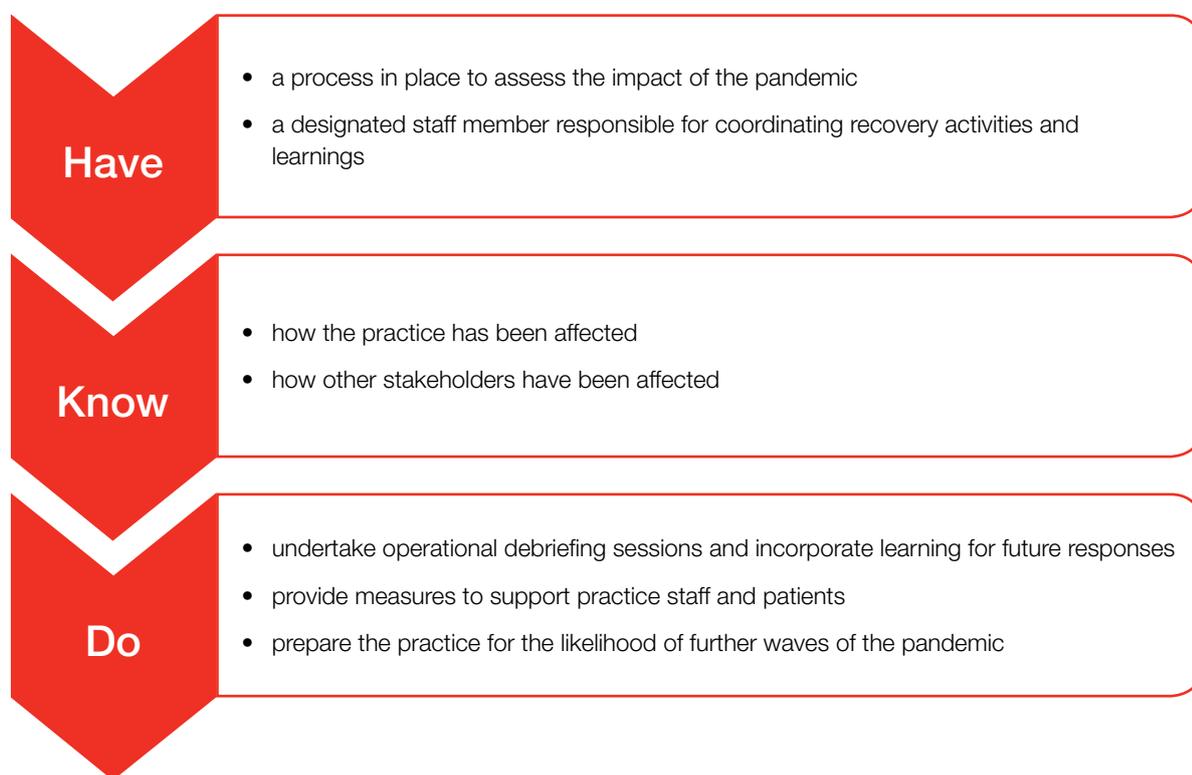
Support for staff is important to enable efficient practice functioning. It is essential to remind all staff that their most important health priority is their own; they cannot help their patients or families if they fail to look after their own mental and physical wellbeing.

Part D – Recovery

The recovery phase is about getting services back on track. Therefore, what is required in the recovery phase will depend on the impact of the pandemic and on how far your practice deviated from usual operations during the pandemic. Activities to assist a community affected by a pandemic include a return to normal business with the restoration of emotional, social, economic and physical wellbeing.

Even in the case of low impact, there will be some areas in your pandemic plan that worked well and other areas that did not. There may also be individual differences in impact felt by staff members and patients. Evaluations of what worked and what didn't are critical for capturing key lessons learned and recommendations for improvements – they help to identify what worked and the gaps and weaknesses.

During the recovery stage the practice team will need to:



As described earlier, planning is a fluid process. During the development of a revised plan, it is recommended that the pandemic leader and coordinator meet and discuss the staff's learnings and, where appropriate, ensure they incorporate learnings into the planning process.

Additionally, during a pandemic, the RACGP and relevant government bodies will release additional resources to support practices in managing the outbreak of the virus. The content from these resources should also be incorporated into future planning processes.

While it is recommended that practices update their pandemic plan every February (which is in time for flu season), practices may wish to update their pandemic plan earlier (eg during the recovery process). This will ensure that the learnings are fresh and can be easily incorporated into the new plan.

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