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Pandemic Influenza

Pandemic Preparedness Influenza A (H1N1) 09

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RACGP June 09

50 years of excellence



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Learning objectives

- Overview of key areas of planning: communication; infection control; and clinical guidelines
- Identify the vital role of triage
- Overview of social distancing, cough etiquette, hand hygiene
- Demonstration of correct use of personal protective equipment (PPE)



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Definitions

- **Pandemic:**
 - An epidemic (a sudden outbreak) that becomes very widespread and affects a whole region, a continent, or the world.
 - NOT RELATED TO DISEASE SEVERITY
 - This needs to be established during disease outbreaks
- **Epidemic:**
 - An epidemic affects more than the expected number of cases of disease occurring in a community or region during a given period of time.
 - From "epi-" means "upon." An epidemic is visited upon the people.



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Pandemic planning

- Needs to be:
 - Responsive
 - Timely
 - Informed
 - Clinically relevant with
 - Constant vigilance for changes in the virus and changes in the response



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Current situation overseas

- RACGP web site
- www.racgp.org.au/h1n1
- Australian Government
- www.healthemergency.gov.au
- World Health Organization
www.who.int/csr/disease/swineflu/en



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Global Phase 6

- Designation of this phase indicates that a global pandemic is underway and that it is no longer possible to contain the virus in a particular geographical area.



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How should nations respond?

- “Countries should tailor their pandemic plans to the severity of an influenza A(H1N1) in their populations. But they must also remain vigilant and be prepared for the situation to worsen.”
- Editorial: The Lancet Vol 373 Issue 9681, Page 2084, 20 June 2009



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Contain: Australian Pandemic phase (6a)

- Pandemic virus arrived in Australia causing small number of cases and/or small number of clusters.
- Goal to **Contain** the establishment of the pandemic strain in Australia
- Ensure the health system is best able to cope with an influenza pandemic



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Sustain: Australian Pandemic Phase (6B)

Pandemic virus is established in Australia and spreading in the community

- **Sustain** the response while we wait for a customised pandemic vaccine to become available
- Minimise transmission and maintain health services.



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Protect: *new Australian Phase*

- Identification and early treatment for the vulnerable
- Testing for symptomatic patients who are vulnerable to severe illness: institutional settings; indigenous Australians; chronic disease; obesity; asthmatics; COPD;
- Monitor virus activity – increased sentinel testing and patients at risk



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Control: Australian Pandemic Phases (6C)

- Customised pandemic vaccine widely available and is beginning to bring the pandemic under **control**
- Careful downscaling of response as the pandemic is brought under control



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Recover: Australian Pandemic Phases (6D)

- Pandemic controlled in Australia but further waves may occur if the virus drifts and/or is re-imported into Australia.
- **Recover** and restore the health system and return to ALERT phase as quickly as possible
- Enhanced vigilance for a subsequent wave. Increased vigilance for cases and increased monitoring of the virus (look for genetic mutations)



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Lessons from SARS

- Enhanced surveillance
- Coordinated communication systems
- Strategies to cope with surge capacity
- Reinforcement of hand hygiene; cough etiquette; use of PPE and appropriate cleaning of the practice environment (BASIC infection control)



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3 key issues

- Communication
- Infection control
- Clinical work



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- Communication



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Communication

- Clinical care
 - Influenza and
 - Non influenza patients
- Engage and work with public health authorities and divisions of GP
- Internal environment of general practice
 - Staff and systems (policy)
- Integrating across the entire health sector



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Communication

- Identify key 'practice' person to co-ordinate pandemic planning activities
- Ensure all staff fully informed
 - triage
 - infection control
 - clinical guidelines
- Establish appropriate communication pathways and key contact details



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- The influenza virus



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The influenza virus

- Extremely contagious and easily transmitted
- Seasonally causes death
- 3 virus types A, B and C
- High mutation (change or alteration)



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Virus transmission

- Droplet – large respiratory droplets propelled up to 1 metre from coughing or sneezing
- Direct or indirect – contact with an infected person or an object handled by an infected person
- Airborne – small particles through aerosols



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The virus will survive

- Unwashed hands up to 30 min
- Hard non-porous surfaces for up to 48hrs
- On cloth, paper and tissues for up to 12 hrs
- On surfaces contaminated with blood or faeces up to 5 days

Australian Health Management Plan for Pandemic Influenza

www.flupandemic.gov.au/internet/panflu/publishing.nsf/Content/ahmppi



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Incubation and communicability

- Persons with H1N1 should be considered potentially contagious from
 - 1 day before to 7 days following onset
 - Persons who continue to be ill longer than 7 days after onset should be considered contagious until fever has resolved
 - Children, especially younger children might be contagious for longer periods



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• Principles of Infection Control



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Principles of Effective Infection Control

- Good hand hygiene and cough etiquette
- Cleaning of contaminated surfaces
- Early isolation of suspected cases
- Correct use of personal protective equipment when required
- Seasonal influenza and pneumococcal immunisation



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Cough etiquette

- Cover coughs and sneezes
 - Use tissues & dispose appropriately
 - Cough into upper arm not hand
- Correct hand hygiene
 - Wash with soap and water, or clean with alcohol based hand gel
- Ask the patient to wear a surgical mask



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Hand hygiene

- Hands can be cleaned with soap and water and must be dried thoroughly with disposable hand towel
- Or, an alternative is to use alcohol based hand cleaner, however, if hands are visibly soiled – hands must first be cleaned



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Effective cleaning of contaminated surfaces

- Viruses and bacteria cannot survive on clean dry surfaces
- Surfaces can be cleaned using clinical detergent and water
- Wipe dry using an absorbent low lint disposable towel
- Disinfectants may need 10 mins exposure to the article to work, and may not be necessary (read the instructions!)



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Infection Control Standards (4th edition)

- Broad guidelines: evidence based
- For ALL practice staff
- Focus on risk analysis and risk management
- Interpret the evidence and the standards for the general practice setting



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The first principles

- Micro-organisms require heat and humidity to multiply
- Cleaning and DRYING of hands and surfaces minimise the number of organisms
- Micro-organisms can be *acquired* or *transmitted*



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Quality cleaning requires

- The cleaning agent being a **mildly** alkaline formula
- The process includes a cleaning and drying procedure
- ‘wet the surface & not the cloth’
- Be lint free



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Work practices

- Standard precautions
 - Work practices that are used consistently to achieve a basic level of infection control
 - Used by all staff involved in patient care or who may be in contact with blood or body fluids



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Work practices

- Additional precautions
 - Used when a patient is **KNOWN** or **SUSPECTED** to be infected or colonised with micro-organisms that cannot be contained by standard precautions alone



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Choosing a cleaning agent

- ✓ Powerful removal of blood, proteins, fats & lipids.
- ✓ Gentle to high quality instruments.
- ✓ Safe & effective with “mist” free applicator.
- ✓ Overcomes hard water problems.
- ✓ Safe to store & transport.
- ✓ Meet the requirements of
**AS/NZS4187-2003 & AS/NZS
4815:2006**



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Use a clinical detergent

*It is important to distinguish
between household
dishwashing detergents and a
clinical detergent.*



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Know what you are using

- **DETERGENTS ARE NOT
DISINFECTANTS - DISINFECTANTS
ARE NOT DETERGENTS**



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What is a household detergent?

- A solution designed for the household or washing hands should never be used for cleaning medical instruments & equipment.
- Household detergents contain ingredients to aid mildness to skin, this can lead to unwanted residues (chemical bio-film) on instruments and equipment.
- They have a *neutral* pH
- Do not comply with standards AS/NZS4187-2003 & **AS/NZS 4815:2006**



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What is a 'clinical' detergent

- **Biodegradable:** Surfactants used in clinical detergents should be biodegradable.
- **Non-corrosive:** Should be mildly alkaline.
- **Non-toxic:** Not poisonous.
- **Non-abrasive:** No abrasive components. Should be formulated from water soluble components. Powder formulations may not completely dissolve and therefore present an abrasive risk.



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and

- **Low foaming:** so that foam does not obscure the instruments being washed. This reduces the risk of pin-prick type accidents.
- **Free Rinsing:** to ensure no detergent residues are left on the instruments.
- **Liquid:** can be dispensed via a dispensing pump, ensuring safety for the operator and minimise the risk of contaminating the detergent.
- **Mild Alkaline Formulation:** clean better than neutral or acid detergents. The pH of the diluted detergent should be between **8.00 and 10.8**.

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Why not a household detergent?

- Household detergents contain additives such as fragrances (perfumes) & aids to skin mildness that can potentially leave chemical residues (bio-burden) on the surface of the instruments.
- Household detergents are pH neutral and do not comply with AS/NZS4187-2003 & **AS/NZS 4815:2006**



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What is a disinfectant?

- Agents used to inactivate micro-organisms
- Disinfectants should never be used as cleaning agents (*unless specifically formulated for cleaning*)
- The use of chemical disinfectants in general areas of health care facilities is not usually necessary. (in some circumstances it may be useful e.g. body fluid spill on carpet or where proper cleaning is difficult).
-a thorough cleaning protocol using a Clinical detergent and water is recommended.



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The efficacy of a disinfectant depends on a number of factors

Time: Kill time will vary. Most require at least 10 minutes contact.

Ingredients: Most contain solvents that may damage some plastics. e.g. certain pre wet wipes



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The ? to ask

- The product that you use.....
- What germs will it kill & in what period of time.???



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Detergents & Disinfectants So What !

- **Detergents** **are not** formulated to kill or inactivate micro-organisms **BUT**
- **Detergents** are formulated to effectively clean surfaces.
- **Disinfectants** are formulated to kill or inactivate micro-organisms. **BUT** are not designed as effective cleaners



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What to use?

- ‘Mildly’ Alkaline clinical detergents clean better
 - ✓ Clinical detergents help keep soil particles suspended in the cleaning solution – prevents re-deposition
 - ✓ Clinical detergents convert insoluble fatty acids into more soluble salts – easier to wash away
 - ✓ Clinical detergents increase the solubility of proteins
 - ✓ Corrosion of steel is at a minimum in mild alkaline solutions (pH 8.5-10)



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CLEAN & DRY

- If the surface is cleaned properly, using a quality clinical detergent then dried with a low lint disposable cloth....then why use a disinfectant ?
- That is to say if the surface is **clean and dry** then the micro-organisms can not proliferate.....*in short, on a clean surface there is nothing to kill.*



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Final lesson

Wet the surface with a clinical detergent then remove the bio-soil by wiping clean & dry.

The detergent will *solubilise* and lift the bio-burden and micro-organisms, so they can be soaked up and removed with a clean lint free cloth.

Leaving a clean dry surface.



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- Triage



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Triage

- Know the patients in your waiting room
- Ask the question: could this be flu?
- Ask patients if they have influenza symptoms
 - Provide patients with surgical mask
 - Instruct on cough etiquette and
 - Hand hygiene
 - Explain and reassure the patient
- Isolate – social distancing – 1 metre rule
- Alert the practice team



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Phone triage

Questions can be thought of in three stages:

1. Questions: routine asked of all patients
2. Questions: patients indicate signs or symptoms consistent with an infectious disease
3. Questions: the practice suspects a local outbreak of an infectious disease (eg. measles or a suspected case of pandemic influenza).



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Phone triage

- Asking appropriate questions will help to detect suspect cases of influenza before the patient presents in the clinic.
- If it is necessary for the patient to attend the clinic, practices should prepare an isolated space and have surgical masks, hand hygiene and disposable tissues at the ready.



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- Clinical



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Clinical

- Understand the current situation and be aware of any changes to:
 - signs and symptoms of disease
 - case definition
 - testing requirements
 - use of anti-viral medications
 - reporting mechanisms
 - and ensure protection of other patients and practice staff



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Case definition

- During the PROTECT phase, the clinical definition for an acute respiratory illness (ARI) is:
- Fever ($>38^{\circ}\text{C}$ or history of) with cough and/or sore throat
- If H1N1 in your community then ARI is considered to be H1N1



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Isolation of suspected cases

- Social distancing principle
 - = more than 1 metre
 - Use masks
 - Sit patients 1 metre apart



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Isolation in the community

- The only people who need to stop their normal activities are:
 - People who have ARI
 - People who have been confirmed as having H1N1 influenza 09



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How to take swabs

- Australian Prescriber
www.australianprescriber.com/magazine/32/3
- It is not necessary for nasopharyngeal aspirates to be collected



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Masks

- Surgical versus
- P2 and/or N95

- Have a clear understanding of the purpose, correct use and correct application and removal



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Correct use of personal protective equipment (PPE)

Correct order of donning and doffing

- Mask is first item on and last item removed
- Hand cleaning is essential to prevent self contamination
- Fit check P2 mask - Refer to RACGP Pandemic Flu Kit for instructions (page 41)
- Refer to the RACGP poster 'Correct use of personal protective equipment'



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Role of seasonal immunisation

- Inter-pandemic vaccination for seasonal influenza is highly encouraged
 - Reduce circulating influenza virus
 - Reduce diagnostic confusion
- Pneumococcal disease: 23vPPV vaccination recommended to all at risk groups
 - Follow recommendations in the Australian Immunisation Handbook (9th edition)



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A H1N1 specific vaccine

- Specific vaccine is currently being developed
- Will take several months to be available
- Will be in multi-dose vials (MDVs)
- May be two doses 3 weeks apart
- Roll out anticipated:
 - Front line health workers
 - Other essential services
 - General public



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- Business Continuity



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Business continuity

- Employers
 - legal obligation to provide and maintain a safe workplace and must take steps to minimise the risks associated with a pandemic and involve staff in the process
 - Develop other ways of running the business, including considering alternative work practices
 - Plan for 30-50% absenteeism



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Training for staff

- Educate staff in the correct use, application, removal and disposal of PPE
- Ensure infection control practices are part of every day practice
- X-training of staff
 - Cold chain
 - Reception
 - Infection control



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Communication

- Develop alternative delivery and communication systems
 - Business website
 - Telephone hot line
 - Patient leaflets
 - SMS messaging



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Staff roster

- To prevent staff burn-out
 - One day on – one day off
 - Establish working teams (GP, PN, PM, reception staff)
 - Consider combining with a near by practice



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Stock & equipment supplies & services

- Check IT capacity
- Consider stock levels
- Waste management
- General practices will need to identify their 'critical breaking point' – when the organisation can no longer maintain available services in a safe manner due to identified risk in workplace health and safety



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Resources

RACGP

www.racgp.org.au/h1n1

Australian Health Management Plan for Pandemic Influenza

www.flupandemic.gov.au

Australian government emergency response

www.healthemergency.gov.au

World Health Organisation Influenza A

(H1N1) updates

www.who.int/csr/disease/swineflu/en/index.html