

# Pandemic (H1N1) 2009 Influenza: Occupational Health Advice for Healthcare Staff

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v5.1

## Introduction

The number of people infected with pandemic (H1N1) 2009 influenza (“swine flu”) has fallen significantly over the past two months. In light of the changing scenario, this document has been revised to update all healthcare workers (HCWs), on the current recommendations regarding infection prevention and control (IPC) measures so HCWs can reduce their risk of contracting influenza. The information on the influenza symptoms remains unchanged, as are the steps to be taken if a HCW develops influenza like illness (ILI).

This document is intended for all healthcare staff: in hospital, primary care and in the community, and is additional to, and should be read in conjunction with, updated standard guidance on infection prevention and control recommendations. It is based on current information and is subject to change as additional information becomes available. This will be informed by ongoing surveillance and continuing risk assessment.

## Is pandemic (H1N1) 2009 influenza a severe form of influenza?

This strain of influenza generates similar symptoms to the normal seasonal strains of influenza that occur each year; however it appears to affect younger people. The majority of people who become infected with pandemic (H1N1) 2009 influenza have a relatively mild form of influenza, which resolves within a few days and does not require any special therapy. There is, however, a small risk that people with known risk factors for complications from influenza could develop severe disease. Severe disease has also been seen in younger people.

## Who are those considered to be in high risk groups who may need treatment?

People with chronic lung, heart, kidney, liver, or neurological disease; diabetes; haemoglobinopathies, immunosuppression; asthma (in those taking regular medication); severe obesity (BMI  $\geq 40$ ) are considered to be in high risk groups and may need treatment. In addition, people aged 65 years and older, children <5 years (children <2 years are at higher risk for severe complications) and pregnant women are considered to be at increased risk from pandemic (H1N1) 2009 influenza. People with severe disease may also need treatment.

## What are the symptoms of pandemic (H1N1) influenza?

Pandemic (H1N1) 2009 influenza usually presents with sudden onset of fever (pyrexia  $\geq 38^{\circ}\text{C}$ ) or recent history of fever, and cough or sore throat. Other symptoms may include runny nose, limb or joint pain, headache, vomiting or diarrhoea.

## What are the differences between pandemic (H1N1) 2009 influenza and the common cold?

It can be difficult at times to distinguish between the common cold and influenza. The main difference is that the symptoms of influenza come on rapidly and are typically accompanied by muscle aches and a fever. The common cold has a more gradual onset and is associated with a runny nose and sneezing.

Symptoms	Pandemic (H1N1) 2009 Influenza	Common Cold
<b>Onset</b>	Sudden	Slow
<b>Fever</b>	Characteristically High	Rare
<b>Headache</b>	Prominent	Rare
<b>General aches and pains</b>	Usual, often severe	Rare
<b>Fatigue, weakness</b>	Can be prolonged	Quite mild
<b>Extreme exhaustion</b>	Early and prominent	Never
<b>Runny nose</b>	Common	Common
<b>Sneezing</b>	Common	Usual
<b>Sore throat</b>	Common	Common
<b>Cough</b>	Common, can be severe	Mild to moderate, hacking cough
<b>Diarrhoea, vomiting</b>	Sometimes	Not in adults

## How can I protect myself from contracting pandemic (H1N1) 2009 influenza?

The basis of infection prevention and control recommendations for **all** healthcare personnel is the rigorous and consistent application of basic infection control and personal hygiene practices including adherence to hand hygiene and cough etiquette, rapid identification and separation of patients with communicable diseases based on [standard and transmission based precautions](#), utilization of appropriate personal protective equipment and environmental controls<sup>1</sup>.

It is imperative that you as a HCW are familiar with hand hygiene, cough etiquette, standard, contact and droplet precautions (and specific precautions for those involved in [aerosol generating procedures](#) (AGP)). The procedures listed as aerosol generating has been amended in light of the WHO updated guidance dated 16<sup>th</sup> December 2009 and are available to download at <http://www.hpsc.ie/hpsc/A-Z/EmergencyPlanning/AvianPandemicInfluenza/SwineInfluenza/AdviceforHealthProfessionals/InfectionControl/>.

Standard and droplet precautions should be applied to patients aged  $\geq 5$  years of age. Standard, droplet and contact precautions should be applied to patients aged  $< 5$  years of age. Refer to [Infection Prevention and Control of Suspected and Confirmed Pandemic or Seasonal Influenza v1.0](#).

## What personal protective equipment (PPE) should I use in dealing with patients aged $< 5$ years of age with pandemic (H1N1) 2009 influenza?

The standard protective equipment can be summarized as follows:

**G**GG + **M** or **R** i.e.

**G**loves

**G**own (plastic apron or full gown for AGPs),

**G**oggles if risk of splash to face or eyes and for AGPs,

face **M**ask or **R**espirator (FFP2 or FFP3 for AGPs (refer to revised list of AGPs) and while remaining in or entering a patient's room within one hour of cessation of an AGP).

Information on the elements in a respiratory protection programme can be found in *Appendix A*.

## **What personal protective equipment should I use in dealing with patients aged $\geq 5$ years of age with pandemic (H1N1) 2009 or seasonal influenza?**

The standard protective equipment is a **Mask**, but you may need additional PPE as follows:

**GGG + M** or **R** i.e.

**Gloves** (if risk of exposure to blood, body fluids, mucous membranes or non intact skin as per standard precautions)

**Gown** (plastic apron, if risk of exposure to blood, body fluids or non intact skin as per standard precautions, or full gown for AGPs),

**Goggles** if risk of splash to face or eyes and for AGPs,

face **Mask** or **Respirator** (FFP2 or FFP3) for AGP (refer to revised list of AGPs) and while remaining in or entering a patient's room within one hour of cessation of an AGP).

## **Fitness to work**

### **If I am in the defined risk groups can I work with patients with pandemic (H1N1) 2009 influenza?**

The Irish Healthcare Occupational Physicians Society (IHOPS) has considered this issue. In doing so it has reviewed the literature.<sup>1</sup> IHOPS recommends that all healthcare personnel, regardless of pregnancy or medical status, abide by current infection control recommendations during the care of patients with pandemic (H1N1) 2009 influenza.

Legally, there is an obligation on employers to conduct risk assessments for all occupational hazards (*Appendix B*). In conducting a risk assessment for HCWs exposed or potentially exposed to patients with pandemic (H1N1) 2009 influenza, the adequacy of the existing risk controls must be reviewed while considering factors such as the nature, the degree and the duration of HCW's exposure in order to make it possible to assess any risk to the worker's health and safety. The nature of the HCW's medical condition(s) will also need to be considered in determining if any additional controls are required. The hierarchy of risk controls (*Appendix B*) is key to this.

Bearing in mind the employers' legal obligations and IHOPS recommendations, the decision on fitness to work should be based on the outcome of the risk assessment. It is expected that most HCWs who are in the defined risk groups should be able to tend to the needs of patients with pandemic (H1N1) 2009 influenza, provided that they adhere to the recommended [infection control and personal hygiene practices](#). Therefore routine redeployment of healthcare personnel based on their pregnancy, medical conditions or immune status is unlikely to be necessary. Individual requests to management for job reassignment should be considered on a case by case basis and guided by the results of risk assessment.

## **Healthcare students**

The same infection prevention and control recommendations that apply to **all HCWs**, apply also to students in the healthcare setting.

## **Workplace risk controls - limit the numbers exposed**

When the numbers of pandemic (H1N1) 2009 influenza patients are small and isolation procedures have been instituted, the numbers of healthcare personnel exposed to these patients should be restricted as part of the normal infection control restrictions.

However if/when the number of in-patients admitted with pandemic (H1N1) 2009 influenza increases, all healthcare staff including medical students should be able to participate in all their normal activities provided the standard infection prevention and control recommendations are being implemented.

## **Healthcare worker education**

Healthcare facilities should educate workers regarding their occupational risks, personal health factors that may increase their risks, and the available controls in place to eliminate or to lower risk.

## **What should I do if I get sick?**

If you get sick with a flu-like illness as described above, do not come to work. Contact the HSE Flu information line freephone 1 800 94 11 00 for advice. If you require additional advice or if you have a medical condition that places you in a defined risk group, contact your GP/family doctor by telephone. He/she will decide if you need to be assessed and if you require anti-viral medication or other treatment.

If it is suspected that you are likely to have pandemic (H1N1) 2009 influenza, inform your line manager as soon as possible. You will be advised to remain away from work for a minimum period of seven days or until your symptoms have resolved. If you become ill at work, inform your duty manager and go off duty.

## **Do I require sickness certification from my GP?**

Yes, you shall require sickness certification in line with all normal absenteeism procedures as per hospital /HSE policy including contacting your line manager prior to the start of the shift. Should you have uncomplicated symptoms of influenza it is advisable not to attend your GP while ill, to obtain a sick cert, and avoid possible transmission to others.

## **Should I stay out of work if someone at home has influenza?**

No. As long as you do not have symptoms of influenza, you are safe to continue at work.

## **Reporting of illness - line managers' responsibilities**

Line managers and/or the human resources department should inform the occupational health department (OHD) by e-mail once notified of a staff member who has symptoms of influenza.

Line managers should also notify the occupational health department

- If there is an apparent increase in absenteeism rates among a particular group of HCWs or in a particular area
- If there is an apparent cluster\* of acute respiratory illness among a particular group of HCWs or in a particular area
- If aware that a HCW has become ill with a severe lower respiratory tract infection or pneumonia

\*Definition of a healthcare cluster (World Health Organization)

- A cluster is defined as two or more healthcare workers in the same healthcare facility/unit with unexplained acute respiratory illness and with fever  $\geq 38^{\circ}\text{C}$ , or with severe lower respiratory tract infection or pneumonia, and with onset of illness within a period of 14 days of each other.

In the case of medical staff, it is recommended that all clinical consultants or the medical manpower manager notify occupational health of any ILI or respiratory illness in medical members of the clinical teams

## **Staff surveillance**

The OHD should record the information provided by the managers as outlined above, and review this information on an ongoing basis to monitor pandemic (H1N1) 2009 influenza levels in staff. The OHD is also required to forward regular statistics to the HSE on the numbers of staff with ILI.

Under the Infectious Diseases (Amendment) (No 3) Regulations 2003 (SI No. 707 of 2003), laboratory and clinical notification to the Medical Officer of Health (MOH) (who is the Director of Public Health) is mandatory. It is also mandatory for medical practitioners and clinical directors of laboratories to notify the MOH of any unusual clusters of changing pattern of illness, and individual cases thereof which may be of public health concern. Therefore the Occupational Health or the Infection Control team is obliged to report your illness to the authorities. In settings where there is no OHD, this function should be carried out by the staff designated by the medical board.

## **Confidentiality**

All medical information provided to the OHD concerning your medical history shall be treated in the strictest confidence. Only information concerning your fitness for work or the need for work accommodations/work restrictions will be communicated with your line manager/HR unless you have given your written permission to the OHD to inform your manager concerning the nature of your illness.

## **If I develop symptoms of influenza, do I need treatment with antiviral medication (Tamiflu and Relenza)?**

As stated previously, treatment with antivirals may be indicated for patients who are severely ill and for people in the defined risk groups (see above) who develop influenza. The vast majority of people who will become infected with pandemic (H1N1) 2009 influenza will have a relatively mild form of influenza which will resolve within a few days and will not require any special therapy.

## **Is there a vaccination against pandemic (H1N1) 2009 influenza?**

There is a vaccine to protect individuals from contracting pandemic (H1N1) 2009 influenza. It is been offered free of charge to HCWs in Ireland. The potential benefits of influenza vaccination for HCWs are threefold: personal protection, protection of patients and reduction in absenteeism. There is good evidence that among HCWs, a well matched seasonal influenza vaccine is 85 – 90% effective in preventing serologically confirmed influenza, that it indirectly protects elderly patients in some settings, that it may reduce absenteeism and that it has limited and mild adverse effects. Similar benefits are expected from the pandemic (H1N1) 2009 influenza vaccination for HCWs.

Specific information concerning the vaccines available has been provided with the vaccination programme. Pandemrix is the preferred vaccine and only requires one dose of the vaccine for immunity

## **Should I receive the seasonal influenza vaccine?**

All healthcare staff are advised to have both the seasonal and the pandemic (H1N1) 2009 influenza vaccines.

## **Where can I get more information?**

Information on pandemic (H1N1) 2009 influenza can be found on the HPSC website ([www.hpsc.ie](http://www.hpsc.ie)) or from the **HSE Flu Information Line Freephone 1800 94 11 00**.

An e-learning training programme has been developed specifically for HCWs providing information on pandemic (H1N1) 2009 influenza. This programme can be accessed by logging onto [www.HSEland.ie](http://www.HSEland.ie). If

you do not have access to the internet please speak to your line manager to make alternative arrangements to view the programme.

You may also contact your local occupational health and/or infection control departments for more specific advice if you are in one of the defined risk groups. HCWs in the community who do not have direct access to the above personnel should base their decisions on fitness to work on a risk assessment (see Appendix B).

1. SHEA, APIC, ACOEM, and IDSA Joint Position Statement: Healthcare Personnel at High-Risk for Severe Influenza Illness: **Care of Patients with Suspected or Confirmed Novel H1N1 Influenza A**

# Appendix A

## Respiratory Protection: Masks & Respirators

### 1. Face masks

Facemasks (also called surgical, dental or medical procedure masks) are disposable masks that cover the nose and mouth. Facemasks help stop droplets from being spread by the person wearing them. They also keep splashes or sprays from reaching the mouth and nose of the person wearing the facemask.

### 2. Respirators

Respirators (e.g. FFP2, FFP3) provide a higher degree of protection than surgical masks and should be used during aerosol generating procedures (AGP) and while remaining in or entering into a patient's room within one hour of cessation of an AGP. Respirators are not necessary for other routine patient care activities.

Surgical masks and respirators are never a substitute for good hand and respiratory hygiene. However, when used properly, they provide added protection to employees in situations where aerosols and droplets are created.

### 3. Fit testing

There are single use (FFP2 and FFP3) and reusable negative pressure respirators available. Individuals wearing these respirators should ideally be 'fit tested' in order to ensure that the maximum protection is achieved. A respiratory protection programme should be devised for staff required to wear respirators by each healthcare facility, to ensure compliance with the following health and safety legislation and standards:

- Safety, Health and Welfare at Work Act, 2005
- Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. No. 299 of 2007). Chapter 3 of Part 2: Personal Protective Equipment.

### 4. Respirators for individuals with facial hair and beards

Persons with excessive facial hair including facial stubble, side-burns and beards which interfere with the respirator seal, cannot expect to obtain as high a degree of respirator performance as persons who are clean shaven. Therefore health care workers with facial hair, including stubble, are advised to remove it at the beginning of the shift if it is likely that they are going to be exposed to [aerosol generating procedures](#) (see revised list of procedures) in patients with pandemic (H1N1) 2009 influenza.

If it is not possible to obtain an adequate seal with the FFP2 or FFP3 negative pressure respirator, re-usable respirators, including half-mask and powered air respirators (with appropriate training), should be considered for individuals who are going to be exposed to aerosol generating procedures. If this is not possible, these individuals should be restricted from being exposed to AGPs. These individuals are fit to perform all other routine care for pandemic (H1N1) 2009 influenza provided that they adhere to the recommended infection control and personal hygiene practices.

## **The following should be considered when devising a respiratory protection programme (RPP):**

### **5.1 Governance:**

- Identify the department responsible to deliver the respiratory protection programme
- Identify personnel responsible for the implementation of the respiratory protection programme
- Identify those who are likely to be exposed to aerosol generating procedures who shall require respirator training
- Allocate resources to deliver the programme
- Selection, purchase and supply of suitable masks to each healthcare facility
- Storage and maintenance of equipment
- Disposal of used equipment
- Record keeping

### **5.2 Theoretical information, training and instruction including:**

- Types of risk
- Knowledge and understanding of respiratory equipment including limitations
- Personal factors including medical conditions, improper fitting
- Fit testing and fit checking

### **5.3 Practical training including:**

- An initial fit test using qualitative/quantitative methods
- Ongoing fit check to confirm the seal each time the mask is donned
- Donning, removing and disposing of mask

## Appendix B

### Risk assessment & risk management

Risk assessment and risk management in terms of pandemic (H1N1) 2009 influenza can be described as a combination of common sense, good work practices and using the appropriate equipment to protect workers from the risks related to the potential exposure to pandemic (H1N1) 2009 influenza. In controlling any hazards, the hierarchy of risk controls is utilised. These are categories of controls for preventing infection transmission, organized hierarchically in accordance with their effectiveness. The categories are **administrative, environmental and engineering controls, and personal protective equipment**. The hierarchy of risk controls is a simple framework which underpins good occupational health and safety.

The general principles and order are applicable to the protection of healthcare workers (HCWs) from biological agents (including pandemic (H1N1) 2009 influenza). Generally, a combination of control methods is required.

#### A. Administrative Controls

These controls are the first priority of Infection Control and Prevention (IPC) strategies. They provide the infrastructure of policies and procedures to prevent, detect and control infections. To be effective the IPC measures must be standard practice.

Administrative controls are broad ranging and include safe systems of work, provision of vaccination when appropriate and good management systems. Safe systems of work would include infection control practices such as [standard, droplet and contact precautions](#), and [respiratory hygiene and cough etiquette](#).

- Segregation/isolation is key to the protection of others in the context of both hospital and community care of patients (i.e. patients with suspected or confirmed pandemic (H1N1) 2009 influenza should be segregated or isolated as per recommendations (see version 1.0 [Infection Prevention and Control Precautions for Pandemic \(H1N1\) and Seasonal Influenza in Healthcare Settings](#)).
- Limit number of people exposed
- Use personnel who are vaccinated against pandemic H1N1 2009 influenza
- Ensure healthcare personnel received instruction, training and supervision regarding IPC precautions
- Use personnel who have received instruction, training and are supervised in the use of the personal protective equipment including fit-tested for respirators
- Encourage early reporting of any flu-like symptoms following exposure
- Ongoing review: Obtain feedback from personnel, audit policies and protocols and adjust accordingly

## B. Environmental and Engineering Controls

Environmental and Engineering Controls would include basic facility infrastructures and are the next priority. These controls include ensuring adequate environmental ventilation as well as adequate environmental cleaning and adequate hand-washing facilities.

## C. Personal protective equipment (PPE)

Personal protective equipment (including respiratory protective equipment such as masks and respirators) are included under this heading. The level of protection chosen should be appropriate to the hazard and informed by risk assessment.

Pandemic (H1N1) 2009 influenza is largely transmitted by droplet spread. This means that for staff providing care to patients with suspected or confirmed pandemic (H1N1) 2009 influenza infection and for patients with influenza-like symptoms the following precautions should be instituted:

### A. [Standard, Droplet and Contact Precautions.](#) (H + GGGM + H)

Key elements include:

- **H**and hygiene pre procedure
- Wear **Gloves**
- Wear **Gown** (plastic apron),
- Wear **Goggles** (if splash/spray risk) +
- Wear **Mask** (surgical mask) when entering the patients room
- **H**and hygiene post procedure

### B. [Standard and Droplet Precautions \(H+M+H\)](#)

- **H**and hygiene pre procedure
- Wear **Mask** (surgical mask) when entering the patients room
- **H**and hygiene post procedure
- Gloves, apron or gown should be worn if risk of exposure to blood, body fluids, mucous membranes and non-intact skin as per Standard Precautions

C. [Aerosol generating procedures](#) (AGP) and while remaining in or entering into patient's room within one hour of cessation of an AGP (H + GGG R + H) (e.g. aspiration of respiratory tract, intubation, resuscitation, bronchoscopy) are associated with increased risk of infection transmission, and the infection control precautions should include:

- Hand hygiene
- Wear **G**loves (some of these procedures require sterile gloves).
- Wear **G**own -long-sleeved disposable gown (single use only);
- Wear **G**oggles - eye protection
- Respirator - FFP2 or FFP3 respirator (correctly fitted)
- Hand hygiene post procedure

Refer to [donning and removal of PPE document](#).

The Health & Safety Authority have useful information on conducting biological risk assessments. See here for further information [www.hsa.ie/eng/FAQs/Biological\\_Agents/](http://www.hsa.ie/eng/FAQs/Biological_Agents/).