### Healthcare Associated Infection Programme

#### Managing Seasonal Influenza: Infection Prevention and Control Guidance in Healthcare Settings

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<tr>
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<td><strong>Date:</strong> January 2018</td>
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**Publication/ Distribution:**
- NHS Wales (Intranet)
- Public Health Wales (Intranet)
- Welsh Health Board/Trust Infection Prevention and Control Teams

**Purpose and Summary of Document:**
Guidance on the infection prevention and control management of seasonal influenza in healthcare settings – updated January 2018
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1. Introduction:

This guidance is for managing seasonal influenza or ‘flu’ within a healthcare setting and supersedes previous guidance including that was given for the 2009/10 H1N1 influenza pandemic and 2010/11 H1N1 ‘second wave’.

Seasonal influenza is a respiratory illness present in the respiratory secretions of infected persons, caused by established, circulating influenza viruses. Transmission is therefore mainly via the droplet route. Influenza viruses will vary each season hence the need to re-vaccinate annually. However different and multiple strains can circulate in the same season.

Influenza can vary in timing, severity, and duration from one season to another but an average season last 14 weeks. The United Kingdom’s (UK) annual influenza season generally runs between mid-autumn through to late spring, with the highest activity expected during the winter months, however, sporadic cases might be seen throughout the year.

The burden of influenza and other winter respiratory viruses e.g. parainfluenza, rhinovirus, respiratory syncytial virus (RSV) etc. along with other circulating gastrointestinal viruses such as norovirus and rotavirus, put additional pressure on NHS services over the winter season. Vaccination against influenza, both in at risk members of the public and in health and social care staff remains a priority in prevention of influenza and reducing winter pressures across the NHS. Prompt identification and subsequent management of patients presenting with influenza-like illness (ILI) and potential contacts is also key to prevent transmission of influenza in healthcare settings.

Cases of seasonal influenza will arise, need routine management every year, whereas pandemic strains are extremely rare, and require additional extra-cautious precautions. In the unlikely event we enter a pre-pandemic or pandemic phase, this guidance itself may be superseded. This guidance represents the best currently available evidence and expert opinion.

Throughout the year, Public Health Wales (PHW) publishes a weekly influenza surveillance report for Wales and the UK, which is available from PHW Health Protection division website. PHW will notify healthcare organisations once seasonal flu is circulating in Wales and issue guidance on prophylaxis and treatment with antiviral drugs. PHW laboratory service will also issue respiratory virus results Monday to Saturday during flu season on Health Board and GP testing.

Key Messages:

- Annual service planning for the flu season is needed i.e. as one season ends planning for the next should commence.
- Vaccination of frontline healthcare workers and people in high risk groups is the most important measure in preventing seasonal influenza
- Standard Infection Prevention and Control Precautions (SIPCP) must be maintained at all times for all patients in all healthcare settings including when managing known or suspected cases of influenza
- Hand hygiene is a key defence against acquisition of influenza and as minimum; hand hygiene must be performed according to the WHO Five Moments.
  - before touching a patient
  - before a clean/aseptic procedure
  - after exposure to body fluids
  - after touching a patient
  - after touching the patient’s surroundings
- High standards of environmental cleanliness must be maintained to prevent transmission of infection in clinical areas
- Reinforce respiratory hygiene/cough etiquette with all patients, visitors and staff (Catch it, Bin it, Kill it)
- Transmission based precautions in addition to SIPCs i.e. Droplet Precautions are required for all cases of ILI known or suspected of flu, until flu has been excluded or no longer deemed infectious. The infectious period for influenza is thought to be from about one day before the onset of symptoms until 3−5 days later.
- Children, immunocompromised and seriously ill people may remain infectious for a longer period and action should be considered to minimise prolonged shedding of influenza virus by patients with risk factors.

Defined risk groups for vaccination:

- Those aged 65 years and over
- Those aged 6 months to 64 years in risk groups
- Pregnant women
- Carers of elderly or disabled individuals
- Frontline health and social care workers
- Those who are obese
- Children within defined ages

Young children are known to be super spreaders of influenza and therefore nasal vaccine is recommended for healthy children in key age groups (especially aged 2 and 3 years) in accordance with PHW guidance.
2. Recognising Influenza in Healthcare Settings Promptly

It is important to consider influenza in the differential diagnosis of any patient presenting in a healthcare facility with symptoms compatible with influenza virus (Appendix E). Rapid risk assessment and subsequent treatment and management are essential to prevention and control of influenza. Flu can be serious. Symptoms vary and range from having no symptoms at all; to serious illness, that needs hospital treatment (Appendix F). In healthy people, flu is unpleasant but usually self-limiting with recovery in 5-7 days. Some people however will develop complications and every year people die as a result. The most serious illness is seen in very young babies, pregnant women, older people and those with long-term health conditions.

Symptoms of Influenza

3. Precautions in Specific Healthcare Settings:

General Practice (GP) surgeries, other ambulatory, domiciliary and outpatient settings:
(These precautions are also appropriate in long-term care facility settings)

Staff in direct patient contact should be vaccinated in accordance with Welsh Government directive (September 2017). At-risk patient and staff groups should be vaccinated or encouraged to be vaccinated via their GP.

Transmission Based - Droplet Precautions

Droplet Precautions are recommended for all staff in these care settings:

- Emphasise importance of effective hand hygiene and respiratory hygiene/cough etiquette to staff, patients and visitors (catch it, bin it, kill it)
- Alcohol hand rub to be available to staff, patients and visitors
- Provide patients with information about influenza, vaccination and respiratory hygiene/cough etiquette (Catch it, Bin it, Kill it) (Appendix F)
- Provide preventative information for visitors to any care facility where influenza is suspected or confirmed

Outpatient settings:
- Consider whether non-urgent appointments can be deferred or patient seen in their own home
- Clear messages about influenza should be displayed in key areas
- When flu cases are known to be increasing within the local area consider minimising spread of respiratory viruses in the waiting area by recommending fluid resistant surgical mask (FRSM) for patient use

Accident and Emergency (A&E) / Admissions Units

Patient Placement

- If a patient with ILI suspected influenza’ is admitted from the community make every effort to promptly isolate the patient in a single room (Appendix D)
- If several ILI cases identified, cohorting of respiratory cases may be appropriate after discussion with Infection prevention and Control team (IPCT) and/or Consultant Microbiologist but ensure patients are at least one metre apart from each other and draw privacy curtains or place screens between beds to minimise opportunities for close contact
- Display signage to control entry into isolation/cohort areas
- A record of all contacts of the case to be recorded and attempts to isolate or cohort contacts, if they are admitted
- All contacts to be risk-assessed for administration of anti-viral prophylaxis, this will depend on individual patient health and vaccination history and current circulating influenza and strains (if known) within that area/hospital
- All staff should wear Fluid Resistant Surgical Mask (FRSM), gloves and aprons when within 1 metre of a ILI or suspected flu case(s)
- If uncomplicated mild disease, consider prescribing antiviral treatment, as per current WG/PHW directive, for those in NICE defined at-risk groups for self-isolation/discharge to normal residence.
- Try to allocate vaccinated staff to care for suspected/presumed cases.
Transmission Based – Droplet precautions

- Eye protection to be worn if risk of ‘splash’ to the face/eyes (e.g. from coughing/sneezing)
- SICP apply and follow procedure for removal of personal protective equipment (PPE) (Appendix C)
- For Aerosol Generating Procedures (AGPs) (Appendix A) – FFP3 masks (fit test required), gowns, gloves and eye protection (if risk of splash for all staff present) is required. Minimise staff present to essential only during AGP
- Patient to be asked to wear FRSM in communal areas, waiting rooms, and during transfer to other areas within the hospital.
- Emphasise importance of effective hand hygiene and respiratory hygiene/cough etiquette to staff, patients and visitors (catch it, bin it, kill it)
- Alcohol hand rub to be available to staff, patients and visitors
4. Inpatients Settings

Protecting Existing in-patients:
Nosocomial transmission of influenza is known to occur, sometimes leading to outbreaks that can have serious consequences. The aim of IPC measures is to prevent transmission of influenza from an infected patient to other patients and members of staff.

Long stay patients in risk groups, who are unlikely to be able to access GP service because of their extended admission during influenza season, should be offered vaccination whilst in hospital.

Patients at risk of severe disease and potential complications of influenza¹⁰ are people who are aged 65 years or older, pregnant and women up to two weeks postpartum, or people with any of the following conditions:

- chronic respiratory disease (including asthma and chronic obstructive pulmonary disease)
- chronic heart disease
- chronic renal disease
- chronic liver disease
- chronic neurological disease
- diabetes, including type 1 diabetes and type 2 diabetes
- immunosuppression due to disease or treatment e.g. chemotherapy, haematological malignancy (Appendix B)
- children who have previously been admitted to hospital for lower respiratory tract disease
- HIV infection (all stages)
- Long term treatment with systemic steroids (more than 1 month)
- Morbid obesity (BMI >40)

Patient Testing and antiviral management
If a patient requires admission due to severity of illness, test for influenza and commence anti-viral treatment according to PHW protocols²,⁶. As antiviral treatment is most effective when used within 48 hours of onset, treatment should start immediately and without waiting for the result of the throat swab.

- Send throat swab (dry or flocked swab) to microbiology laboratory clearly indicating clinical history and onset date of influenza like symptoms
- Tests will be run on specimens taken within 5 days of onset of symptoms
- Testing will NOT be done on specimens taken more than 5 days post onset of symptoms or where clinical details / date of symptom onset is not documented
- To avoid any un-necessary delay in results ensure local protocol for specimen collection and that necessary clinical details are provided.
- Discuss anti-viral prophylaxis/treatment of the index case with the virologist/microbiologist
- All patient contacts to be risk-assessed for administration of anti-viral prophylaxis,
- Commence anti-viral treatment in contacts of confirmed flu cases

Patient placement
If an existing patient or any patient is admitted with ILI suspected of flu make every effort to promptly isolate the patient in a single room, preferably en-suite (Appendix D)
- Contact trace and record those exposed to the index case
- Cohorting of respiratory cases may be appropriate after discussion with the IPCT and/or Consultant Microbiologist. Ensure patients are at least one metre apart from each other and draw privacy curtains or place screens between beds to minimise opportunities for close contact
- To reduce transmission risk between patients with different influenza strains, ideally cohorting should only be considered when all other options have been investigated though testing results may not be available at the time of identification of ILI cases.
- Display signage to control entry into isolation/cohort areas
- To minimise the dispersal of respiratory secretions and reduce environmental contamination, limit the movement of patients outside their room to those necessary for patient management.
- Try to allocate vaccinated staff to care for cases,

See Appendix D for further advice regarding patient placement and prioritisation decisions.

Transmission Based - Droplet precautions
- On transfer to receiving ward/unit, the patient should be requested to wear a FRSM during the journey (if tolerated) rather than the Healthcare Worker (HCW). If the patient is unable to wear a mask for any reason, then HCWs transporting or accompanying the patient who will be required to come within two metres of the patient should wear FRSM masks.
- Eye protection to be worn if risk of ‘splash’ to the face/eyes (e.g. from coughing/sneezing)
- Patient to be asked to wear FRSM in communal areas, waiting rooms, and during transfer to other areas within the hospital
- SICP apply and PPE for staff includes FRSM, gloves and aprons (eye protection if risk of ‘splash’) in patient room
- All staff should wear Fluid Resistant Surgical Mask (FRSM), gloves and aprons when within 1 metre of a 1LI or suspected flu case(s)
- Also for Aerosol Generating Procedures (AGPs) – FFP3 masks (fit test required), gowns, gloves and eye protection (for all staff present if risk of splash) is required. Minimise those in attendance for AGPs to essential staff only.
- Follow procedure for removal of PPE (Appendix C)
- Emphasise importance of effective hand hygiene and respiratory hygiene/cough etiquette to staff, patients and visitors (catch it, bin it, kill it)
• Alcohol hand rub to be available to staff, patients and visitors
• Safe disposal of respiratory secretions into clinical waste is required e.g. tissues, respiratory secretions, sputum!

5. Critical Care Settings (level 2 and 3 care)

The majority of influenza infections result in a self-limiting acute illness without complications. However, all influenza virus strains can potentially cause complications and even deaths in any age group, including patients with no underlying risk factors for severe illness. Admissions to critical care units are to be expected, particularly in winter months, and critical care teams should be prepared to care for patients with complicated influenza.

Critical care units should have in place local infection prevention and control (IPC) policies relevant to influenza. Public Health England (PHE) has published IPC guidance for respiratory tract infections that is applicable to critical care settings, including advice on personal protective equipment (PPE). Please refer to full guidance found in the Public Health England ‘Seasonal influenza: guidance for adult critical care units’ at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/635596/adult_seasonal_influenza_critical_care_guidance.pdf

Patient placement
• Single rooms appropriate for respiratory isolation are recommended because of potential airborne transmission of influenza virus

Transmission Based - Droplet Precautions
As described above for admitted patients (in-patients) and additionally:
• Use of closed suction systems for mechanically ventilated patients to minimise the dispersal of respiratory secretions and reduce environmental contamination
• Safe handling and disposal of ventilator and respiratory equipment is required.
• Response to treatment, resolution of symptoms may be less clear in critical care settings, therefore decisions to discontinue precautions (see below) should be the subject of a multidisciplinary agreement including the responsible clinician(s) and microbiology or virologist. Decisions must be clearly documented and communicated
• If a patient’s condition deteriorates, after initial clinical improvement, requiring re-admission to level 2/3 care, this is most likely to be due to secondary complications of influenza. In this case, assuming the conditions for discontinuing additional precautions have been met, SIPCs only are required. Discussion with local the IPCT and Consultant Microbiologist is recommended
• AGPs within a shared occupancy bay within critical care should be avoided to reduce exposure of the influenza virus to other patients in close proximity.

6. Visitors to Patients with Suspected or Confirmed Influenza

Visitors may pose a risk of cross transmission if they are not informed of the precautions they need to take whilst visiting a patient with suspected or confirmed influenza.

If there is increased ILI or influenza activity in a ward/unit or if an influenza outbreak is declared, restriction to ‘essential only’ visitors should be enforced (Appendix G). Precautions for ‘essential only’ visitors include:
• Visitors should be reminded of the need for effective hand hygiene and use of alcohol hand rub
• Visitors with ILI should be asked to refrain from visiting until asymptomatic
• Those visitors ‘at risk’ due to their own disease/treatments should be advised not to visit
• Children should not be visiting wards/units areas of increased ILI or confirmed influenza activity.
• Visitors involved in care should wear PPE as would staff, including FRSM
• Visitors not giving care but having social contact (e.g. hand holding) should be informed that PPE is available to them and of the risk of transmission, but wearing should not be enforced
• Visitors who are a contact of an influenza confirmed case should be advised to seek prophylaxis from their GP within 48 hours of exposure
• Visitors should be made aware of respiratory hygiene and cough etiquette (catch it, bin it, kill it).
• Visitors should not be present during AGPs (in circumstances where visitors are unwilling to leave, e.g. parent of child, they must be fully informed of the risk of remaining)
• Information leaflet and advice regarding influenza should be available to visitors
• Visitors should be encouraged to have influenza vaccination and information leaflet regarding vaccination should be available within the ward

7. Cleaning and Decontamination of the Environment

The environment, room and equipment of patients with suspected or confirmed influenza are considered to be contaminated with influenza virus:
• Appropriate hand hygiene, use of PPE and SICPs will reduce environmental contamination with influenza virus
• Frequently touched surfaces require daily enhanced cleaning as per agreed local policy
• Daily enhanced cleaning of frequently touched surfaces following AGPs is recommended to reduce viral contamination
• Terminal clean and decontamination of a single room or cohort bay area on patient discharge should be undertaken promptly as per local agreed policy.
• Safe disposal of clinical waste and laundry/linen should be in accordance to local policy for managing infected cases.
8. **Patient Care Equipment**

- equipment should as far as possible be allocated to each individual patient or cohort of patients
- Where reusable equipment cannot be dedicated to individual patients (e.g. spirometry equipment), these must be cleaned immediately after patient use and between each patient.

Follow local decontamination policy and equipment specific manufacturers’ instructions.

9. **Discontinuing Precautions**

The majority of patients with influenza will no longer be infectious beyond 5 days. Clinical response/improving condition is associated with the loss of virus and decreased infectiousness. Infection prevention and control precautions may be discontinued at day 5 of: admission/after onset of symptoms/treatment with antiviral medication, unless there is a failure to respond to treatment and/or underlying conditions that may prolong the shedding of virus e.g. severe immunosuppression (see Appendix B for definition). Such cases will be considered on a case by case basis and should be discussed with your microbiology/virology/IPCT. Repeat testing is not generally required and will NOT be undertaken unless discussed with a Consultant Microbiology / Virology Consultant or where agreed protocols are in place in specific specialties.

10. **Pregnant staff (or others in defined risk groups)**

- Vaccination is the first and most important measure in preventing seasonal influenza in individuals in risk groups
- During a time of increased seasonal influenza activity, staff are at least equally as likely to be exposed to influenza outside of work as they are in the work setting
- All staff, including those in risk groups must adhere to the required SIPCPs\(^3\) and Droplet Precautions when in contact with known or suspected influenza cases to minimise their risk of acquisition
- Organisations may decide, despite vaccination and appropriate PPE, for pragmatic reasons, to restrict those in at risk groups from direct care for known or suspected influenza cases
References, useful links and further reading

1. Link to Weekly Influenza Activity and Surveillance in Wales Report: www.publichealthwales.org/flu-activity


4. Link to NHS Wales information for influenza prevention, including poster for 'respiratory hygiene and cough etiquette': http://www.wales.nhs.uk/sitesplus/888/page/93322


### Aerosol Generating Procedures (AGPs)

Procedures that may produce higher concentrations of infectious respiratory particles than coughing, sneezing or talking. On the best currently available evidence, examples include:

- Bronchoscopy
- Sputum induction
- Tracheal intubation
- Post mortem procedures involving high speed devices
- Cardio-pulmonary resuscitation
- High frequency oscillating ventilation
- Non-invasive ventilation

Nebulisation is not normally considered to be a AGP

Note this list is not exhaustive, local risk assessment may identify additional procedures for which AGP precautions are indicated.

Consideration should be given to the potential for aerosol generation when procedures are taking place such as routine tracheostomy care, including dressing change, cleaning around the stoma site and replacement of ties/tapes/inner tubes.

The same consideration should be given to devices that are in use such as invasive ventilators, high flow humidified oxygen systems and high frequency oscillating ventilators. Individual patient risk assessment should be undertaken to assess the potential of prolonged or vigorous coughing/sneezing whilst the procedure or devices are in use.

Enhanced PPE should be considered, such as use of FFP3 masks, to mitigate risk. It is also recommended to access manufacturers’ guidance for devices used that may potentially induce aerosol generation.

### Antivirals – recommended use for influenza

NICE guidance recommends oseltamivir and zanamivir may be used for treatment or prophylaxis of influenza-like illness in exposed, unprotected individuals at risk of complications from influenza when influenza virus is circulating.

The full NICE guidance on the use of antiviral medicines for prophylaxis and treatment can be accessed at:


### Antiviral prophylaxis

Antiviral prophylaxis should be considered for identified contacts of a patient suspected or confirmed to have influenza, particularly form high risk groups and/or during localised outbreaks of influenza-like illness in a care facility.

The recommended antiviral for prophylaxis of high risk groups is oseltamivir (Tamiflu).

### Antiviral treatment

The recommended antiviral treatment for people who are over one year of age is oseltamivir (Tamiflu). Treatment should commence within 48 hours of onset of symptoms or within 36 hours for zanamivir in children.

### Antiviral treatment for children under one year of age

Oseltamivir (Tamiflu) is not licensed for children less than one year of age. Antiviral prescribing for this age group for influenza should be based on the judgement of the clinician, after the risks and benefits have been considered.

### Contact Precautions

Contact precautions are infection control measures (to be used in addition to SIPCPs which are designed specifically to prevent and control the transmission of infectious agents spread by direct and indirect contact. They include isolation, hand hygiene, use of personal protective PPE, care of equipment and environment including decontamination, safe handling of linen and waste.

### Cohort/Cohorting

Placing patients with the same known or sometimes suspected condition together in an area separate from other patients not known or suspected of having the condition.

### Droplet Precautions

Transmission based precautions for organisms transmitted via large particle droplets. These include, in addition to SIPCPs, for all patients at all times:
<table>
<thead>
<tr>
<th>Topic</th>
<th>Details</th>
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<tbody>
<tr>
<td>Wearing a fluid repellent surgical mask</td>
<td>(FRSM) when within 1 metre of the patient (it may be more practical to don the mask on entering the patient room). Wearing an FFP3 mask when performing or present during aerosol generating procedures or during a procedure with the potential for aerosol generation following patient risk assessment.</td>
</tr>
<tr>
<td>FFP3 mask</td>
<td>Particulate filtering mask to EN 149:2001 standard and CE marked.</td>
</tr>
<tr>
<td>Fluid Resistant Surgical Mask (FRSM)</td>
<td>Type IIR Surgical mask with fluid repellent properties (EN 14683).</td>
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<tr>
<td>H1N1</td>
<td>Influenza A strain responsible for 2009/10 and 2010/11 pandemic influenza.</td>
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<tr>
<td>Influenza A(H3)</td>
<td>Associated with cases in older people and outbreaks in care homes in previous seasons.</td>
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<tr>
<td>Mask (for use on patients)</td>
<td>Any standard ‘surgical’ type mask (FFP3 is not appropriate)</td>
</tr>
<tr>
<td>Personal Protective Equipment (PPE)</td>
<td>Gloves, aprons, gowns, facial protection, masks or respirators (filtering masks e.g. FFP3) used for standard or transmission based precautions.</td>
</tr>
<tr>
<td>Respiratory Hygiene/Cough Etiquette</td>
<td>Cover nose and mouth with disposable single-use tissues when sneezing, coughing, wiping and blowing nose. Dispose of used tissues into the nearest waste bin. Wash hands after coughing, sneezing, using tissues, or after any contact with respiratory secretions and contaminated objects. Keep hands away from the mucous membranes of the eyes and nose. Certain patients/clients (e.g. the elderly, children) may need assistance with containment of respiratory secretions; those who are immobile will need a receptacle (e.g. a plastic bag) readily at hand for the immediate disposal of used tissues and offered hand hygiene facilities. For NHS Wales poster regarding respiratory hygiene and cough etiquette follow this link: <a href="http://www.wales.nhs.uk/sitesplus/888/page/93232">http://www.wales.nhs.uk/sitesplus/888/page/93232</a>.</td>
</tr>
<tr>
<td>Standard Infection Prevention and Control Precautions (SIPCP)</td>
<td>Standard Precautions are infection prevention and control precautions to be used at all times and in all settings to reduce the risk of transmission of micro-organisms from both recognised and unrecognised sources of infection. Examples include hand hygiene and the use of PPE* to prevent contact with body fluids. Link to PHW SIPCPs all-Wales policy: <a href="http://www.wales.nhs.uk/sites3/page.cfm?orgId=379&amp;pid=38960#b">http://www.wales.nhs.uk/sites3/page.cfm?orgId=379&amp;pid=38960#b</a>.</td>
</tr>
<tr>
<td>Transmission Based Precautions</td>
<td>Transmission Based Precautions are a set of measures that should be implemented when patients/clients are either suspected or known to be infected with a specific infectious agent. Transmission Based Precautions are categorised according to the route of transmission of the infectious agent such as droplet, contact and/or airborne. Link to PHW IP&amp;C policies: <a href="http://www.wales.nhs.uk/sites3/page.cfm?orgId=379&amp;pid=38960#b">http://www.wales.nhs.uk/sites3/page.cfm?orgId=379&amp;pid=38960#b</a>.</td>
</tr>
<tr>
<td>Vaccination</td>
<td>Vaccination of frontline healthcare workers and people in high risk groups is the most important measure in preventing seasonal influenza. Frontline health and social care workers should be vaccinated to protect themselves and vulnerable patients/clients. All children aged 2 and 3 years are recommended to be vaccinated in their general practice with nasal spray vaccine Fluenz Tetra. Children in reception class up to school year 4 will be offered the vaccination in school. Increase in influenza activity highlights the need to further promote maximum uptake of influenza vaccination for high risk individuals.</td>
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Appendix B: Definition of severe immunosuppression


Severe Immune Compromise (Non-HIV)

Severely immunocompromised people include those who have active leukaemia or lymphoma, generalized malignancy, aplastic anaemia, graft-versus-host disease, or congenital immunodeficiency; others in this category include people who have received recent radiation therapy, those who have had solid-organ transplants and who are on active immunosuppression, and hematopoietic stem cell transplant recipients (within 2 years of transplantation, or still taking immunosuppressive drugs). For solid-organ transplants, the risk of infection is highest in the first year after transplant.

People taking any of the following categories of medications are considered severely immunocompromised:

**High-dose corticosteroids**—Most clinicians consider a dose of either >2 mg/kg of body weight or ≥20 mg per day of prednisone or equivalent in people who weigh >10 kg, when administered for ≥2 weeks, as immunosuppressive.

**Alkylating agents** (such as cyclophosphamide)

**Antimetabolites** (such as azathioprine, 6-mercaptopurine, methotrexate)

**Transplant-related immunosuppressive drugs** (such as cyclosporine, tacrolimus, sirolimus, everolimus, azathioprine, and mycophenolate mofetil)

**Cancer chemotherapeutic agents**, excluding tamoxifen but including low-dose methotrexate weekly regimens, are classified as severely immunosuppressive, as evidenced by increased rates of opportunistic infections and blunting of responses to certain vaccines among patient groups.

**Tumour necrosis factor (TNF) blockers** such as etanercept, adalimumab, certolizumab pegol, golimumab, and infliximab blunt the immune response to certain vaccines and certain chronic infections. When used alone or in combination regimens with methotrexate to treat rheumatoid disease, TNF blockers were associated with an impaired response to hepatitis A, influenza, and to pneumococcal vaccines. Despite measurable impairment of the immune response, post vaccination antibody titers were often sufficient to provide protection for most people; therefore, treatment with TNF blockers does not preclude immunization against influenza. Other biological agents that are immunosuppressive or immunomodulatory may result in significant immunocompromise, in particular, lymphocyte-depleting agents (thymoglobulin or alemtuzumab) and B cell-depleting agents (rituximab) are more significantly immunosuppressive. Considereation of the clinical context in which these were given is important, especially in haematologic malignancies.

**Severe Immune Compromise Due to Symptomatic HIV/AIDS**

Knowledge of the HIV-infected individual’s current CD4 T-lymphocyte count is necessary. HIV-infected people with CD4 cell counts <200/mm, history of an AIDS-defining illness without immune reconstitution, or clinical manifestations of symptomatic HIV are considered to have severe immunosuppression.
Appendix C - Putting on and removing PPE

Adapted from: Health Protection Scotland’s Infection Prevention and Control Manual (April 2016)
Available at: http://www.nipcm.hps.scot.nhs.uk/

Use safe work practices to protect yourself and limit the spread of infection

- Keep hands away from face and PPE being worn.
- Change gloves when torn or heavily contaminated.
- Limit surfaces touched in the patient environment.
- Regularly perform hand hygiene.
- Always clean hands after removing gloves.

NB Masks and goggles are not routinely recommended for contact precautions. Consider the use of these under standard infection control precautions or if there are other routes of transmission.

The type of PPE used will vary based on the type of exposure anticipated, and not all items of PPE will be required. The order for putting on PPE is Apron or Gown, Surgical Mask, Eye Protection (where required) and Gloves.

The order for removing PPE is Gloves, Apron or Gown, Eye Protection, Surgical Mask.

1. Putting on Personal Protective Equipment (PPE).
   - Perform hand hygiene before putting on PPE

   ![Apron](Image)
   - Pull over head and fasten at back of waist.

   ![Gown/Fluid repellent coverall](Image)
   - Fully cover torso from neck to knees, arms to end wrist and wrap around the back. Fasten at the back.

   ![Surgical mask (or respirator)](Image)
   - Secure ties or elastic bands at middle of head and neck. Fit flexible band to nose bridge. Fit snug to face and below chin. Fit check respirator if being worn.

   ![Eye Protection (Goggles/Face Shield)](Image)
   - Place over face and eyes and adjust to fit.

   ![Gloves](Image)
   - Select according to hand size. Extend to cover wrist.

2. Removing Personal Protective Equipment (PPE)

   ![Gloves](Image)
   - Outside of gloves are contaminated. Grasp the outside of the glove with the opposite gloved hand; peel off.

   ![Hold the removed glove in the gloved hand.](Image)
   - Slide the fingers of the ungloved hand under the remaining glove at the wrist. Peel the second glove off over the first glove. Discard into an appropriate lined waste bin.

   ![Apron](Image)
   - Apron front is contaminated. Unfasten or break ties. Pull apron away from neck and shoulders touching inside only. Fold and roll into a bundle. Discard into an appropriate lined waste bin.

   ![Gown/Fluid repellent coverall](Image)
   - Gown/Fluid repellent coverall front and sleeves are contaminated. Unfasten neck then waist ties.

   ![Remove using a pinching motion; pull gown/Fluid repellent coverall from each shoulder towards the same hand.](Image)
   - All PPE should be removed before leaving the area and disposed of as healthcare waste

   ![Perform hand hygiene immediately after removal of PPE](Image)
Appendix D – patient placement and prioritisation in in-patient settings:

This guidance should complement local policies and procedures for prioritisation of isolation facilities and escalation of unresolved isolation requirements.

On admission the admitting team doctors need to develop a working diagnosis and determine whether or not a patient has a possible infectious disease. Such a diagnosis may include, for example, infectious respiratory influenza like illness or infectious diarrhoea. If an infectious disease is thought to be a possible diagnosis, then this must be clearly communicated to nursing and other staff and then onwards to those staff responsible for effective patient placement.

- Your Medical Microbiology and/or Infection Prevention and Control Team (IPCT) can provide advice and support regarding patient management, infection prevention and control (IP&C) measures required, patient placement and outbreak identification and management, but will not be in a position to assess each individual patient for diagnostic purposes.

- Whilst bearing in mind any existing local priorities, patients admitted with possible infectious respiratory influenza like illness and those with infectious diarrhoea should be priorities for isolation during this winter season.

- If cohorting of patients is necessary due to admission pressures and lack of isolation facilities, consideration may be given to patients with suspected influenza-like illness being cohort together; likewise patients with possible infectious diarrhoea in another cohort. The risk of cross infection due to different causative agents within the same cohort must however be considered and local risk assessment undertaken.

- Once a definitive diagnosis has been achieved, attempts should be made to isolate appropriately. Cohorting of patients with the same confirmed diagnosis of infectious disease may be considered under similar circumstances to those described above.

- Every effort must be made to isolate infectious patients, suspected or confirmed with a transmissible infection, as the cost of spreading these infections to other patients in the hospital potentially puts other patients at risk and can lead to severe compromise of services when wards have to be partially or fully closed to contain spread. However, if bed pressures are such that a patient cannot be isolated, and where not admitting, or continuing to manage them in an admission area / trolley bay would compromise their care, patients may have to be admitted to a non-cohort area. Under such circumstances patients must be nursed with strict infection prevention and control precautions as far as can be achieved in the bed space: Patient must be limited as far as possible to the bed space and frequently reviewed for priority isolation should a room become available. Advice should be sought from your local IPCT.

- The appropriate precautions (Contact Precautions/Droplet Precautions) should be maintained. All-Wales IP&C policies can be accessed following this link: http://www.wales.nhs.uk/sites3/page.cfm?orgid=379&pid=38960
Appendix E – quick guide to managing seasonal influenza

Do you consider the patient to have influenza?

Isolate away from other patients while assessing and treating, use Droplet Precautions

Mild or serious disease?

Uncomplicated Mild disease
Consider treatment for those in NICE defined at-risk groups and self isolation/care in normal residence

Treat (do not wait for results)
With antiviral as per local protocols
Note – if negative test, discontinue and re-assess

Serious disease requiring admission

Admit
Patient – surgical mask for transfer
Single room or possible cohort
Droplet Precautions
FFP3 for Aerosol Generating Procedures

Test
Send dry or flocked throat swab to microbiology indicating symptoms and onset date

Yes – and no severe immunosuppression (most cases)
Discontinue Droplet Precautions

Yes but severe immunosuppression

After 5 days – improved?

Assessment of ongoing risk of influenza transmission
Clinician(s), microbiology/infection Prevention & Control Team:
Document, communicate and act on result, review daily

When assessment indicates no continued risk of transmission precautions can be discontinued

Notes
1. Standard Infection Prevention and Control Precautions must be maintained at all times
2. Document and communicate decisions of assessment and necessary precautions to all appropriate staff
Appendix F: Bilingual examples of PHW 'Beat flu' Infographics.

More available at: www.beatflu.org
Stop flu spreading...

CATCH IT
Always cough or sneeze into a tissue

BIN IT
Dispose of the tissue as soon as possible

KILL IT
Clean your hands as soon as you can

AVOID
Contact with others until you feel better

CLEAN
hard surfaces

The best way to stop flu spreading is to get vaccinated. If you haven't been vaccinated this winter, ask your GP surgery or local pharmacy for advice.

Gallwch atal ffliw rhag lledu drwy...

EI DDAL
Cofwch besychu neu disian i hanes bapur bob tro

EI DAFLU
Tafliw yr hanes bapur cyn gynted i phoilio

EI DDIFA
Golchwch eich dwylo cyn gynted ag y gallwch

OSGOI
cysyllt gydag eraill ychydig bod yn teimlo'n well

LANHAW
arwnebsau caled

Y flond orau i atal ffliw rhag lledu yw drwy gael y brechfa. Os nad ymddygiad wedi cael eich brechfa y gaaaf hwn, gorfynnwch i'r hyyddia neu fferi'f llof am gyngor.
Appendix G: Key Messages for Visitors

**Key messages - for visitors to healthcare facilities during influenza season**

- **Influenza can be serious.** Influenza is now circulating in the community, and it can be serious for some people, especially for pregnant women, those aged 65 and over, children, and people with long-term health conditions.
- **Avoid visiting individuals** who may be more vulnerable to complications if they catch influenza.
- **Please do not visit** a hospital or a care home if you have influenza-like symptoms.
- **Please refrain from visiting** a hospital or a care home with suspected or confirmed with influenza unless it is essential.
- **If you are at risk** because you are pregnant, aged 65 or over, a child or a person with a long-term health condition we advise you refrain from visiting.
- **Please remember to clean your hands** on entering the ward or care home and again when leaving if you must visit a person, ward or home where influenza is suspected or confirmed.
- **You may be asked** to wear an apron, gloves and a surgical mask while you are visiting, this will be discussed with you before you visit and will be provided for you.
- **When you are ready to leave** you must remove any protective equipment you are wearing and dispose of it in the waste bag provided in that area, then clean your hands.
- **Don’t spread flu around.** If you think you might have flu you can help reduce the chances of spreading it to others by catching your sneezes in a tissue, putting that tissue straight in the bin and then washing your hands.
- **Catch it Bin it Kill it.**
- **Don’t miss out, get vaccinated.** The single best way to protect against catching or spreading flu is with annual flu vaccination. It helps protect against the flu strain currently circulating in Wales. Vaccine remains available and still offers some protection, so individuals in eligible groups who have not had a flu vaccine yet this winter should speak to their GP surgery or community pharmacy about getting their flu vaccine soon.
- **Do the right thing.** Flu vaccine remains the single best way to protect against catching and spreading flu so if you are a carer, in a risk group, or a frontline health or social care worker find out about getting your flu vaccine as soon as possible to protect yourself and those you care for.

**Please REMEMBER!!!!**

- **Flu symptoms** tend to come on quickly and can include:

> headache  
> runny or stuffy nose  
> sore throat  
> coughing  
> abdominal pain, vomiting, diarrhoea  
> aching muscles  
> cilia  
> fever (usually high)  
> aching joints  
> tiredness

Most healthy people with flu can care for themselves at home and should drink plenty of fluids, take paracetamol or ibuprofen, keep warm, rest and stay away from others as much as possible - especially people who are at increased risk of complications. Symptoms usually resolve in about a week. Whilst you are unwell, avoid visiting hospitals or care homes to help reduce the chances of spreading flu in these settings.

Most people do not need to visit their GP surgery if they think they might have flu. However, those who are aged 65 or over, have a long-term health condition, are pregnant or are worried about a young child should seek advice from their GP surgery, as should those whose symptoms are deteriorating or are not improving after a week.

People should only attend A&E or call an ambulance if they need urgent care, for example feeling short of breath, chest pain or coughing up blood or have other serious symptoms or deteriorate quickly.

Advice on self-care and assessing your symptoms is available at NHS direct on the links below and NHS Direct Wales on 0845 46 47 (or 111 in areas where the 111 Wales service is available) OR you can speak to your community pharmacist

www.nhsdirect-wales.nhs.uk  
https://www.nhsdirect.wales.nhs.uk/SelfAssessments/symptomchecker/coldflu/
Negeseuon allweddol – i ymwelwyr â chyfleusterau gofal iechyd yn ystod tymor y ffliw

- **Gall ffliw fod yn ddifrifol.** Mae ffliw yn y gymuned yn awr ac mae’n gallu bod yn ddifrifol i rai pobl, yn enwedig merched beichiog, pobol 65 oed a hŷn, plant a phobl â chlyflyrau iechyd tymor hir.

- **Osgoi unigolion yn ymweld sy’n fwy agored i gymhlethdodau o ddal y ffliw.**

- **Peidiwch â mynd i ysbyty na chartref gofal poen i chyfleusterau gofal iechyd yn ystod tymor y ffliw wedi’i gadarnhau, neu amheuaeth o fflw, os nad yw hynny’n hanfodol.**

- **Os ydych chi mewn perygl ohonynt,** mae ffliw yn y gymuned yn awr ac mae’n gallu bod yn ddifrifol i rai pobl, yn enwedig merched beichiog, pobl 65 oed a hŷn, plant a phobl â chlyflyrau iechyd tymor hir.

- **Osgoi unigolion yn ymweld sy’n fwy agored i gymhlethdodau o ddal y ffliw.**

- **Peidiwch â mynd i ysbyty na chartref gofal poen i chyfleusterau gofal iechyd tymor hir wedi’i gadarnhau, neu amheuaeth o fflw, os nad yw hynny’n hanfodol.**

- **Efallai y gofynnir i chi wisgo ffedog, menig a masg llawfeddygol wrth ymweld. Bydd hyn yn cael ei drafod gyda chi cyn i chi ymweld a byddant yn cael eu darparu i chi.**

- **Pan rydych chi’n barod iadael rhaid i chi ddynt unigolion unrhyw offer gwarchod rhag dal neu ledaenu′r ffliw. Bydd hyn yn cael ei drafod gyda chi cyn i chi ymweld a byddant yn cael eu darparu i chi.**

- **Efallai y gofynnir i chi wisgo ffedog, menig a masg llawfeddygol wrth ymweld. Bydd hyn yn cael ei drafod gyda chi cyn i chi ymweld a byddant yn cael eu darparu i chi.**

- **Peidiwch â lleadaenu’r fflw.** Os ydych chi mewn perygl o boel gennych chi fflw, gallwch helpu i leihau′r siawns o’i ledaenu i eraill drwy ddefnyddio i’r ffliw unigolion unrhyw offer gwarchodol rydych chi’n ei wisgo a chael gwared arno

- **Efallai y gofynnir i chi wisgo ffedog, menig a masg llawfeddygol wrth ymweld. Bydd hyn yn cael ei drafod gyda chi cyn i chi ymweld a byddant yn cael eu darparu i chi.**

- **Bydd hyn yn cael ei drafod gyda chi cyn i chi ymweld a byddant yn cael eu darparu i chi.**

- **Pan rydych chi’n barod iadael rhaid i chi ddynt unigolion unrhyw offer gwarchod rhag dal neu ledaenu′r ffliw. Bydd hyn yn cael ei drafod gyda chi cyn i chi ymweld a byddant yn cael eu darparu i chi.**

- **Wynneswch y peth iawn.** Brechiad y ffliw yw′r ffordd unigol orau o warchod rhag dal a lleadaenu′r fflw fel os ydych chi’n ofalwr, mewn grynog risg, neu’n sefyll iechyd neu ofal cymdeithasol rheng flaen, holwch am gael brechiad y fflw cyn gystadleu’r unigolion a ddynt i’w gwarchod.