



Care Home Guidance for managing outbreaks of Acute Respiratory Illness

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Contents

1. Introduction.....	3
2. Background	3
3. Routes of Transmission	4
4. Incubation and Communicability	5
5. Prevention of Influenza	5
6. Recognition of single case of Influenza	6
7. Recognition of outbreak of Influenza	7
8. Investigation	7
9. Outbreak Control Measures.....	8
9.1 Infection control measures	8
9.2 Environmental control measures.....	10
9.3 Containment and alert measures	11
9.4 Specific control measures for Influenza	12
10. Environmental cleaning and disinfection guidance	15
10.1 Routine general cleaning.....	16
10.2 Enhanced Cleaning	16
10.3 Terminal Cleaning	16
11. Care Home reporting during outbreak	26
Appendix 1: PHA Duty Room Contact Details	27
Appendix 2: Virology Request Form for Regional Virology Laboratory -Form R4.....	28
Appendix 3: Poster on flu guidance for care homes	29
Appendix 4: Summary checklist of infection control measures.....	30-31
Appendix 5: Visitor notice poster	32
Appendix 6: Care Home daily update reporting form – Form R1	33
Appendix 7: Care home end of outbreak summary report –Form R2.....	34-35
Appendix 8: Care Home Transfer Form for FLI Outbreak – Form R3	36

1. Introduction

This guidance provides advice to staff working in care homes on the management of respiratory-related outbreaks in Nursing and Residential Care Homes. As the majority of such outbreaks are due to influenza virus, the guidance provides more detail on managing influenza outbreaks.

General guidance on influenza can be found on the following web sites:

www.fluawareni.info

www.publichealth.hscni.net

<http://www.dhsspsni.gov.uk/hss-md-13-2015.pdf>

www.rqia.org.uk

<http://www.infectioncontrolmanual.co.ni/www.infectioncontrolmanualni.org>

<https://www.gov.uk/government/organisations/public-health-england>

The PHA's flu bulletin is the definitive source of public health surveillance information on flu activity for Northern Ireland. Publication starts fortnightly around the beginning of October, moving to weekly once flu begins to circulate more widely.

The flu bulletins may be accessed online at: www.fluawareni.info

2. Background

Acute respiratory illnesses (ARI), including influenza, can affect people of all ages. However, individuals with underlying co-morbidities may be more severely affected. As a result, people living in Care Homes (who are predominantly older people) can suffer more severe illness and a more rapid deterioration, due to underlying disease, general debility and/or immune deficiency.

When people are living in close proximity infection may spread rapidly and more widely. In the Care Home setting, staff and visitors moving between residents may

exacerbate this situation unless stringent infection prevention and control measures are in place.

An outbreak of ARI (especially if due to influenza) may therefore cause rapid and significant morbidity and mortality. It is important that such illness is promptly identified, investigated and appropriately managed.

Outbreaks of ARI are more common in the winter, with the normal winter 'flu' season typically between October and April/May. However, they may occur throughout the year. In particular, influenza outbreaks in care homes may occur early in the autumn before immunisation campaigns have been fully implemented or late in spring when immunity from flu vaccination may have declined.

Staff and visitors should therefore be reminded to be alert to the signs and symptoms of ARI in Care Home residents at all times.

3. Routes of Transmission

Respiratory infections are spread through one or more of three main routes:

1. Contact transmission:

Direct contact transmission – organisms may be passed inadvertently from an infected person to the hands of a susceptible individual who then transfers the organisms into their nose, mouth or eyes.

Indirect contact transmission – organisms may be passed when a susceptible individual touches a contaminated surface/object, such as furniture or equipment, and transfers the organisms to their mouth, nose or eyes.

2. Droplet transmission:

Droplets greater than 5 microns in size may be generated from the respiratory tract by coughing, sneezing or talking. If droplets from an infected person come into contact with the mucous membrane or conjunctiva of a susceptible individual, they can transmit infection. The size of these droplets means that they do not remain in the air for long periods and travel 1-2 metres, so fairly close contact is required for infection to occur.

3. Airborne transmission:

Aerosol generating procedures, such as coughing, can produce droplets less than 5 microns in size. These small droplets can remain suspended in the air. This can sometimes occur during medical procedures, such as intubation or chest physiotherapy. These droplets can be dispersed widely by air currents and cause infection if they are inhaled by susceptible individuals. Such procedures are not normally performed in a care home facility and do not include nebulising procedures.

4. Incubation and Communicability

Incubation period is the period between infection and the appearance of symptoms of the disease. Communicability is the period when the disease can be transmitted between people. The following table shows information for influenza virus.

Infection	Reservoir	Dominant mode of transmission	Incubation period	Period of communicability (infectious period)
Influenza virus	Humans are primary reservoir for human influenza	Respiratory droplets, direct and indirect contact with respiratory secretions.	Short, usually 1 to 4 days, but possibly up to 5 days.	Up to 5 days after symptom onset in adults; up to 7 days in young children and occasionally longer

5. Prevention of influenza

Vaccines are available against both influenza and pneumococcal disease and these can be used to prevent or reduce the likelihood of outbreaks of these diseases and their complications.

Vaccination is of limited use as a control measure during an acute outbreak of influenza. It takes about a week to 10 days for the body to make antibodies to the influenza virus included the vaccine. Antibodies are proteins that recognise and fight

off germs that have invaded the blood, such as viruses. Antibodies help protect against any similar viruses which people then come into contact with. The influenza virus changes every year, so influenza immunisation is required annually to ensure protection against the latest strain of the virus.

All Care Home residents should receive seasonal influenza vaccine. Frontline Healthcare Workers, including care home staff, are also advised to receive the seasonal influenza vaccination annually.

6. Recognition of single case of influenza

Box 1: Definition of Flu-like Illness (FLI)

*Oral temperature of 37.8° or more **PLUS** new onset or acute worsening of one or more respiratory symptoms:*

Cough (with or without sputum), hoarseness, nasal discharge or congestion, shortness of breath, sore throat, wheezing, sneezing, chest pain

OR

In older people an acute deterioration in physical or mental ability without other known cause

Prompt action is necessary if residents develop symptoms suggestive of a flu-like illness (Box 1). The person in charge of the Care Home should contact the symptomatic resident's own GP for clinical assessment of the individual. Anti-viral treatment may be prescribed by the GP.

Staff should remain vigilant for further cases of flu-like illness in either residents or staff.

7. Recognition of outbreak of Influenza

Box 2: Definition of FLI outbreaks

Two or more cases (as defined below) arising within the same 48 hour period OR three or more cases arising within the same 72 hour period, which meet the same clinical case definition and where an epidemiological link can be established.

It is important that potential outbreaks are identified early so that immediate steps can be taken to prevent spread. If two or more suspected cases of FLI arise within the same 48 hour period in residents or staff the person in charge of the Care Home should first contact the symptomatic resident's own GPs for clinical assessment of each individual.

The Care Home Management should then notify the Public Health Agency (PHA) Duty Room (appendix 1 for contact details), where a clinical risk assessment will be undertaken jointly by the Care Home Management, PHA Duty Officer and General Practitioner (s).

8. Investigation

Laboratory confirmation of the responsible organism should be ascertained as quickly as possible because ARIs often share similar clinical features.

Following risk assessment, the PHA Duty Room will advise the Care Home Management on what sampling is required. A maximum of five residents that have flu-like symptoms should have samples taken to test for influenza. If more than five residents have symptoms, those with the most recent onset should be prioritised.

Influenza testing kits are available, and should be used if possible. Testing for influenza only takes place in the Regional Virology Laboratory, within the Belfast Trust. Samples should be sent to this laboratory using the virology request form (Appendix 2). It is the responsibility of Care Home Management to ensure that there are procedures in place to deliver the samples to the Regional Virology Laboratory in a timely manner.

9. Outbreak Control Measures

Outbreak control measures should be taken to interrupt transmission of a respiratory organism and thereby reduce morbidity and mortality of residents and staff.

Control measures include:

- Infection control measures (standard infection control and respiratory-based precautions)
- Environmental control measures, including cleaning and waste disposal
- Containment and alert measures to reduce exposure
- Specific control measures, such as antiviral medications for influenza

The PHA poster, '*Guidance on outbreaks of influenza in Care Homes*' summaries information on recognising and notifying an outbreak of FLI to the PHA, and infection prevention control measures (Appendix 3). Appendix 4 covers a summary checklist of the infection control measures that the PHA Duty Room will discuss with care home staff.

9.1 Infection control measures

Standard infection control principles should be maintained to prevent cross-transmission from recognised and unrecognised sources of infection. In the event of a respiratory outbreak, standard infection control measures alone are insufficient to interrupt transmission, and additional transmission-based precautions (contact, droplet and airborne- page 5) are indicated.

The measures included in this section cover standard infection control measures, droplet and contact precautions. Airborne transmission is not an important mode of transmission of respiratory organisms in the absence of aerosol generating procedures. Certain procedures/equipment may generate an aerosol from material other than patients' secretions but are NOT considered to represent a significant infectious risk. Procedures in this category include:

- obtaining diagnostic nose and throat swabs
- administration of pressurised humidified O₂
- administration of medication via nebulisation

Resident placement

- Isolate resident in a single room
- If single room not possible, cohort residents with a confirmed FLI caused by the same pathogen and following a risk assessment considering the possibility of other infections
- Limit the movement of residents outside of their room to those only necessary for patient management. If resident movement is necessary, then the patient should if possible wear a surgical face mask to minimise the dispersal of respiratory secretions and reduce environmental contamination
- if the patient is wearing a face mask during transport, then no mask is required by HCWs transporting or accompanying patients for whom droplet precautions are indicated, but careful hand hygiene should be observed; 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 one to two metres of the patient should wear face masks

Respiratory Hygiene / Cough Etiquette

- Use a disposable, tissue to cover mouth and nose when coughing, sneezing, wiping or blowing their nose.
- Dispose of tissues promptly in a bin
- Hands should be washed with soap and water and drying thoroughly after coughing, sneezing and using tissues.
- Some residents may need assistance with containment of respiratory secretions.

Hand hygiene

Hand hygiene is the most effective way to prevent transmission by direct contact. As a minimum, hand hygiene must be performed at the WHO five moments:

- Before touching a patient
- Before clean / aseptic procedure
- After body fluid exposure risk
- After touching a patient
- After touching the patient's surroundings

Use of personal protective equipment (PPE)

- Plastic apron and gloves should be worn in accordance with standard infection control precautions
- Wear a plastic apron if soiling of clothes/uniform with a patient's respiratory secretions is anticipated; in reality this would apply to most situations
- Wear gloves if hand contact with respiratory or potentially contaminated surfaces is anticipated.
- Wear a surgical face mask when in close contact with the patient (within 3 to 6 feet / 1 to 2 metres)
- Eye protection is advisable where there is assessed to be a risk of eye exposure to infectious sprays – for example, when caring for patients with persistent cough or sneezing
- Change plastic apron and gloves and perform hand hygiene between contacts with patients (even when they are in the same room)
- PPE should be removed and disposed of inside the patient room once the healthcare worker is more than one metre from the patient(s)

Patient care equipment

- equipment should, as far as possible, be allocated to the individual patient or cohort of patients
- reusable equipment must be decontaminated after patient use and between each patient. Follow local decontamination policy and equipment specific manufacturers' instructions
- avoid use of fans that re-circulate the air

9.2 Environmental control measures

Cleaning (see section 10 for more detail)

- ensure that rooms of patients with infection are cleaned daily
- frequently-touched surface cleaning (e.g. over-bed tables, lockers, lavatory surfaces in patient bathrooms, door knobs and equipment in the immediate vicinity of the patient) should be prioritised three times a day and immediately if visibly contaminated

- all frequently-touched surfaces and all horizontal surfaces should also be decontaminated
- keep the patient environment clean and clutter free
- use disposable cleaning materials in accordance with local policy
- carry out terminal cleaning of all isolation / cohort rooms following the local infection prevention and control policy on terminal decontamination

Clinical and non-clinical Waste

- Treat linen as infected, bag linen as per local policy for handling infected linen safely
- All waste should be disposed of in accordance to local waste disposal guidance.

9.3 Containment and alert measures

Containment measures are put in place to reduce exposure between those with symptoms and those without symptoms. This includes residents, visitor and staff, both within and outside the Care Home.

Residents

- New admissions or transfers to the facility should be stopped
- Whether this affects the whole establishment or a unit or wing within the establishment will depend on the feasibility of establishing self-contained areas for segregation of symptomatic and exposed residents and the staff caring for them
- The length of closure will be dependent on the joint clinical risk assessment.

Identification of close contacts

- In general, individuals with influenza are considered to be infectious only when symptomatic
- close contacts are usually those in the same room as the case plus any others who have had an equivalent degree of contact with a symptomatic case
- However, in the confines of a Care Home where there may be considerable socializing, it may be appropriate to consider the whole wing or home as the equivalent of close contacts with a case.

Staff

- Staff should be assessed individually based on their own level of contact with the case
- Symptomatic staff should be excluded from the Care Home until they are no longer symptomatic
- Staff at risk of complications if infected (e.g. pregnant or immuno-compromised individuals) should avoid caring for symptomatic patients
- If possible, Care Home staff should work either with symptomatic or asymptomatic residents (but not both) and this arrangement should be continued for the duration of the outbreak
- Agency and temporary staff that are exposed during the outbreak should be advised not to work elsewhere.

Visiting and alert measures

- Care Home should display written notification of the outbreak in their reception area or entrance (Appendix 5)
- Visiting should be discouraged during the outbreak (consistent with patient welfare) where this is feasible and does not adversely affect the social/emotional needs of the residents
- Visitors should minimise physical contact and be at a distance of at least one metre from possible cases
- Visitors should clean their hands thoroughly with soap and water before and after visiting residents
- Symptomatic visitors should not visit the Care Home until they are symptom free

9.4 Specific control measures for influenza

If influenza is suspected, specific outbreak control measures should be implemented promptly as an adjunct to properly implemented infection control precautions.

Specific control measures for influenza consist of:

- Treatment of certain symptomatic individuals with antiviral medications
- Prophylaxis of some individuals without symptoms that have been exposed to the influenza virus with antiviral medications

Antiviral medications are currently recommended in accordance with National Institute for Health and Care Excellence (NICE) Guidance.^{4,5}

Treatment

Unless contraindicated, antiviral medications (known as antiviral neuraminidase inhibitors - oseltamivir or zanamivir) are only recommended for the treatment of influenza in an individual who is aged 65 years and over or in a clinical at-risk group (Box 3).

The person in charge of the Care Home should contact the symptomatic resident's own GP for clinical assessment of the individual. It is the GP's decision to prescribe antiviral medications based on the overall clinical picture. In some circumstances the GP may feel it is not clinically appropriate for the individual.

Prophylaxis

Prophylaxis involves giving a drug to prevent infection occurring. It is not the same as a vaccine and protection only lasts while the drug is being taken.

Antiviral medication is recommended for individuals in clinical at-risk groups (Box 3) following exposure to a person in the same residential setting with flu-like illness (within 48 hours of exposure for oseltamivir or within 36 hours for zanamivir).

In the event of an influenza outbreak in a care home, the decision to recommend antiviral prophylaxis for residents (and staff) in clinical at-risk groups will be made following the risk assessment by the Care Home Management, PHA Duty Room and General Practitioner.

In some circumstances, the risks of prescribing antivirals to residents may outweigh the benefits and in this situation residents (or only a small number) may not be offered them.

On-going monitoring of residents

As an alternative to prophylaxis, close monitoring of residents that have been exposed to influenza may be recommended with advice to commence antiviral medication promptly as treatment if symptoms of influenza start.

This arrangement would only be suitable in certain circumstances and would be recommended only after careful discussion with the Care Home Management, PHA Duty Room and General Practitioner.

Box 3: Clinical at-risk groups

- Chronic lung disease
- Chronic heart disease
- Chronic kidney disease
- Chronic liver disease
- Chronic neurological disease
- Diabetes mellitus
- Immunosuppression (whether caused by disease or treatment)
- Pregnant women (including up to two weeks post-partum)
- Children under 5 years old
- Age 65 years and older
- Morbid obesity (BMI ≥ 40)

10. Environmental cleaning and disinfection guidance

Each care facility should have written protocols to guide routine general cleaning together with a written cleaning schedule that ensures all areas of the environment are regularly cleaned to a satisfactory standard. Staff undertaking cleaning should follow agreed protocols which are clearly set out. Staff should have access to adequate resources and equipment to achieve required standard of cleaning. COSHH regulations should always be adhered to and staff should use appropriate personal protective equipment (PPE) to protect themselves at all times.

Cleaning is a process that removes visual dirt and contamination and many micro-organisms. Warm water and detergent should be used and most of the time cleaning is effective at decontaminating both equipment and the environment.

However in certain situations (e.g. during an outbreak or increased incidence of infection or in the case of *influenza*, surfaces and equipment require both cleaning and disinfection.

Disinfection is a process that reduces the number of germs to a level at which they are not harmful. It is only effective if surfaces and equipment have been cleaned thoroughly with detergent and water beforehand (if a combined detergent/disinfectant product is not used). Warm water and detergent (diluted as per manufactures' instructions) should be used to clean hard surfaces followed by disinfection with 1000ppm (0.1%) chlorine releasing agent/hypochlorite solution or chlorine dioxide solution (diluted as per manufactures' instructions). The hypochlorite or chlorine dioxide solution will kill both bacteria and viruses provided it is used as per manufactures' instructions. Hypochlorite solutions are corrosive; it is recommended the solution is rinsed off commodes, mattresses and stainless steel surfaces with warm water at the end of the process. Some chlorine dioxide solutions do not need to be rinsed off.

10.1 Routine general cleaning

Routine cleaning of the environment should be undertaken at least **daily** within the care facility. Thorough cleaning with neutral detergent and water is the most common means of removing micro-organisms and dirt. If soiling (with blood and/or bodily fluids) is evident then general cleaning should be followed with a disinfectant clean - using a chlorine releasing product/sodium hypochlorite or a chlorine dioxide solution at the appropriate concentration and for the correct contact time. If using a hypochlorite solution the area should then be rinsed and dried. Some chlorine dioxide solutions do not need to be rinsed off.

Always ensure that surfaces that are being disinfected are compatible with the product being used.

10.2 Enhanced Cleaning

During an outbreak of infection or an unusual increase in incidence of a particular organism, enhanced routine cleaning (**minimum twice daily**) is recommended. This will entail cleaning/disinfection of the environment including frequently touched surfaces, and any area/piece of equipment that may potentially be contaminated. Depending on the type of outbreak in the care facility, certain areas will require more frequent cleaning and disinfection e.g. sanitary areas will require more frequent cleaning and disinfection during an outbreak of gastrointestinal infection.

Note: Examples of frequently touched surfaces are-bed tables, bed rails, the arms of chairs, sinks, call bells, door handles and push plates.

10.3 Terminal Cleaning

Terminal cleaning is the thorough cleaning/disinfection of all surfaces including floors and re-useable equipment either within the whole care facility or within a particular part of the facility (e.g. an individual ward/department/unit). This may be required in the following scenarios:

- Following an outbreak or increased incidence of infection
- Following discharge, transfer or death of individual patients who have had a known infection – **individual patient room/bay/unit**
- Following isolation/contact precaution nursing of a patient – **individual patient room/bay/unit**

A terminal clean will generally be commenced following discussion and agreement between the Infection Prevention & Control Team and the nurse or manager in charge of the ward/unit/facility. The terminal clean should not commence until the relevant room/area has been fully vacated.

Note: The cleaning schedule in use in the facility should clearly advise which member of staff is responsible for cleaning different areas of the room/areas included in the terminal clean.

Note: In addition to the above some facilities/organisations employ the use of other technologies when doing terminal cleans (e.g. Steam, vaporised hydrogen peroxide). This is an additional step in the cleaning process which is undertaken in some organisations but should not substitute the physical decontamination of the environment/equipment with detergent & water and disinfectant.

***N.B. Administration of medication by nebulisation is NOT likely to generate infectious aerosols i.e. not requiring FFP3 level protection.**

Terminal cleaning procedure

- Gather all equipment required for the terminal clean to the point of use i.e. mop bucket, shaft and mop head/ disposable colour coded cloths/disposable roll /yellow clinical waste bags and tags/alginate& red bags/wet floor sign/vacuum cleaner fitted with a HEPA filter.
- Don Personal Protective Equipment (PPE) - disposable apron and gloves - before entering the room, discard all disposables in the room/bed space/unit (e.g. hand towels, magazines, bottles, toilet rolls, etc.) All materials must be treated as clinical waste. Dispose of this waste, remove PPE and decontaminate hands.
- On commencing the terminal clean don PPE as before.
- Prepare cleaning solutions in a container (dilution as per manufacturer's instruction). Do not mix chemicals and only use a cleaning product provided by your employer. It is important to follow the manufacturer's guidelines for dilution of the product and contact time.

- Ventilation of the area/room being cleaned must be adequate; if there is no window, the door should be left open when applying the hypochlorite/chlorine dioxide solution. Please note that COSHH regulations must be adhered to when using chemical disinfectants.
- Prepare rinse water to rinse all items following cleaning and disinfecting (if rinsing is required) before drying. In particular it is important to rinse chlorine containing solutions from stainless steel surfaces to prevent corrosion.
- Use disposable cloths/paper roll for cleaning throughout the terminal clean. Where available and appropriate use disposable mop heads - after use these should be disposed into clinical waste bag prior to exiting the area/room.
- Ensure that PPE is changed when moving from one room/area to another and disposed PPE into clinical waste.
- Always decontaminate your hands after removing and disposing of PPE.

Terminal cleaning regime

Using neutral detergent and water followed by a sodium hypochlorite solution	Using a combined detergent and sodium hypochlorite solution	Using a chlorine dioxide solution
<p>Remove soft furnishings (bedclothes, curtains if applicable) and place in a water soluble bag and into a red linen bag. Process all linen, laundry etc. as infected linen.</p> <p><i>Some curtains may require specialist cleaning. The dry-cleaning specialist should be informed that the curtains have come from an outbreak situation.</i></p>	<p>Remove soft furnishings (bedclothes, curtains if applicable) and place in a water soluble bag and into a red linen bag. Process all linen, laundry etc. as infected linen.</p> <p><i>Some curtains may require specialist cleaning. The dry-cleaning specialist should be informed that the curtains have come from an outbreak situation.</i></p>	<p>Remove soft furnishings (bedclothes, curtains if applicable) and place in a water soluble bag and into a red linen bag. Process all linen, laundry etc. as infected linen.</p> <p><i>Some curtains may require specialist cleaning. The dry-cleaning specialist should be informed that the curtains have come from an outbreak situation.</i></p>

<p>Take down blinds (if appropriate) and clean using a prepared solution of neutral liquid detergent in warm water (dilution as per manufacturer's instruction). Continue by wiping with a solution of 1000ppm (0.1%) sodium hypochlorite solution (dilution as per manufacturer's instruction), rinse and dry if appropriate.</p>	<p>Take down blinds (if appropriate) and clean using a prepared solution of combined detergent and hypochlorite (dilution as per manufacturer's instruction), rinse and dry if appropriate.</p>	<p>Take down blinds (if appropriate) and clean using a prepared solution of chlorine dioxide (dilution as per manufacturer's instruction).</p>
<p>Commence cleaning of high level surfaces. Clean first with a solution of neutral detergent and warm water (dilution as per manufacturer's instruction). Continue by wiping with a solution of 1000ppm (0.1%) sodium hypochlorite solution (dilution as per manufacturer's instruction), rinse and dry if appropriate.</p> <p><i>High level cleaning will include: Curtain rails/tracks /high level</i></p>	<p>Commence cleaning of high level surfaces using a prepared solution of combined detergent and hypochlorite (dilution as per manufacturer's instruction), rinse and dry if appropriate.</p> <p><i>High level cleaning will include: Curtain rails/tracks /high level</i></p>	<p>Commence cleaning of high level surfaces using a prepared solution of chlorine dioxide (dilution as per manufacturer's instruction).</p> <p><i>High level cleaning will include: Curtain rails/tracks /high level</i></p>

<p><i>window ledges and frames/ screen rail if present /walls /television (stands and leads)/top of wardrobes units/light fittings/lampshades and any other high level equipment.</i></p>	<p><i>window ledges and frames/ screen rail if present /walls /television (stands and leads)/top of wardrobes units/light fittings/lampshades and any other high level equipment.</i></p>	<p><i>window ledges and frames/ screen rail if present /walls /television (stands and leads)/top of wardrobes units/light fittings/lampshades and any other high level equipment.</i></p>
<p>Place bed in horizontal/flat position. Clean first with a solution of neutral detergent and warm water (dilution as per manufacturer's instruction). Continue by wiping with a solution of 1000ppm (0.1%) sodium hypochlorite solution (dilution as per manufacturer's instruction), rinse and dry if appropriate.</p>	<p>Place bed in horizontal/flat position. Clean using a prepared solution of combined detergent and hypochlorite (dilution as per manufacturer's instruction), rinse and dry if appropriate.</p>	<p>Place bed in horizontal/flat position. Clean using a prepared solution of chlorine dioxide (dilution as per manufacturer's instruction).</p>
<p>Commence cleaning of furniture, fixtures and fittings in the area. Radiator covers must be removed to permit cleaning of the radiator. Cleaning will include, locker, table, chairs, stool, lamp, tops of oxygen tanks and suction equipment,</p>	<p>Commence cleaning of furniture, fixtures and fittings in the area. Radiator covers must be removed to permit cleaning of the radiator. Cleaning will include, locker, table, chairs, stool, lamp, tops of oxygen tanks and suction equipment,</p>	<p>Commence cleaning of furniture, fixtures and fittings in the area. Radiator covers must be removed to permit cleaning of the radiator. Cleaning will include, locker, table, chairs, stool, lamp, tops of oxygen tanks and suction equipment,</p>

<p>wardrobe, sink, mirror, doors, door handles, bin (inside and out), hand towel holder (inside and out), clean using a solution of neutral detergent and warm water (dilution as per manufacturer's instruction). Continue by wiping with a solution of 1000ppm (0.1%) sodium hypochlorite solution (dilution as per manufacturer's instruction), rinse and dry if appropriate.</p> <p><i>Please note that oxygen & suction connections should be changed and single patient use equipment should be discarded and replaced with new.</i></p>	<p>wardrobe, sink, mirror, doors, door handles, bin (inside and out), hand towel holder (inside and out), clean using a prepared solution of combined detergent and hypochlorite (dilution as per manufacturer's instruction), rinse and dry if appropriate.</p> <p><i>Please note that oxygen & suction connections should be changed and single patient use equipment should be discarded and replaced with new.</i></p>	<p>wardrobe, sink, mirror, doors, door handles, bin (inside and out), hand towel holder (inside and out), clean using a prepared solution of chlorine dioxide (dilution as per manufacturer's instruction).</p> <p><i>Please note that oxygen & suction connections should be changed and single patient use equipment should be discarded and replaced with new.</i></p>
<p>Hospital environments do not normally contain soft furnishings; however if applicable, soft furnishings must be steam cleaned if the fabric can withstand required temperature. Steam cleaning not only removes dust and debris</p>	<p>Hospital environments do not normally contain soft furnishings; however if applicable, soft furnishings must be steam cleaned if the fabric can withstand required temperature. Steam cleaning not only removes dust and debris</p>	<p>Hospital environments do not normally contain soft furnishings; however if applicable, soft furnishings must be steam cleaned if the fabric can withstand required temperature. Steam cleaning not only removes dust and debris</p>

<p>but also uses a high temperature to achieve decontamination.</p> <p>Consideration should be given to industrial steam clean and records should confirm that all soft furnishings/carpeted areas have been cleaned using this method.</p>	<p>but also uses a high temperature to achieve decontamination.</p> <p>Consideration should be given to industrial steam clean and records should confirm that all soft furnishings/carpeted areas have been cleaned using this method.</p>	<p>but also uses a high temperature to achieve decontamination.</p> <p>Consideration should be given to industrial steam clean and records should confirm that all soft furnishings/carpeted areas have been cleaned using this method.</p>
<p>Commence cleaning of toilet if cleaning an ensuite. Clean all fixtures and fittings clean using a solution of neutral detergent and warm water (dilution as per manufacturer's instruction). Continue by wiping with a solution of 1000ppm (0.1%) sodium hypochlorite solution (dilution as per manufacturer's instruction), rinse and dry if appropriate. Cleaning will include sink, mirror, towel holder, toilet roll holder, bin (inside and out), door handle and toilet bowl and cistern.</p> <p>Clean and reline bin.</p> <p>Replenish supplies of toilet</p>	<p>Commence cleaning of toilet if cleaning an ensuite. Clean all fixtures and fittings using a prepared solution of combined detergent and hypochlorite (dilution as per manufacturer's instruction), rinse and dry if appropriate. Cleaning will include sink, mirror, towel holder, toilet roll holder, bin (inside and out), door handle and toilet bowl and cistern.</p> <p>Clean and reline bin.</p> <p>Replenish supplies of toilet rolls and soap.</p>	<p>Commence cleaning of toilet if cleaning an ensuite. Clean all fixtures and fittings using prepared solution of chlorine dioxide (dilution as per manufacturer's instruction). Cleaning will include sink, mirror, towel holder, toilet roll holder, bin (inside and out), door handle and toilet bowl and cistern.</p> <p>Clean and reline bin.</p> <p>Replenish supplies of toilet rolls and soap.</p>

rolls and soap.		
Damp mop floor using a solution of neutral detergent and warm water (dilution as per manufacturer's instruction). Continue by wiping with a solution of 1000ppm (0.1%) sodium hypochlorite solution (dilution as per manufacturer's instruction), rinse and dry if appropriate. Ensure that surfaces that are being disinfected using a chlorine based product are compatible with the product being used and rinsed. Skirting boards must be cleaned thoroughly.	Damp mop floor using a prepared solution of combined detergent and hypochlorite (dilution as per manufacturer's instruction), rinse and dry if appropriate. Ensure that surfaces that are being disinfected using a chlorine based product are compatible with the product being used and rinsed. Skirting boards must be cleaned thoroughly.	Damp mop floor using a prepared solution of chlorine dioxide (dilution as per manufacturer's instruction). Ensure that surfaces that are being disinfected using a chlorine dioxide product are compatible with the product being used. Skirting boards must be cleaned thoroughly.
Decontaminate domestic equipment following use Treat mops as infected linen / dispose of single-use mop-heads. Mop buckets must be emptied and cleaned using a solution of neutral detergent and warm water (dilution as per	Decontaminate domestic equipment following use Treat mops as infected linen / dispose of single-use mop-heads. Mop buckets must be emptied and cleaned using a prepared solution of combined detergent and hypochlorite (dilution as	Decontaminate domestic equipment following use Treat mops as infected linen / dispose of single-use mop-heads. Mop buckets must be emptied and cleaned using a prepared solution of chlorine dioxide (dilution as per manufacturer's

<p>manufacturer's instruction). Continue by wiping with a solution of 1000ppm (0.1%) sodium hypochlorite solution (dilution as per manufacturer's instruction), rinse and dry if appropriate.</p>	<p>per manufacturer's instruction), rinse and dry if appropriate.</p>	<p>instruction).</p>
<p>Waste bags should be sealed using twist swan-neck method and secured with a tag (provided by the waste contractor) when <u>$\frac{3}{4}$ full</u>. Free liquid clinical waste should be disposed of in appropriate container provided by the waste contractor, secure lid and attach traceable tag when <u>$\frac{3}{4}$ full</u>.</p>	<p>Waste bags should be sealed using twist swan-neck method and secured with a tag (provided by the waste contractor) when <u>$\frac{3}{4}$ full</u>. Free liquid clinical waste should be disposed of in appropriate container provided by the waste contractor, secure lid and attach traceable tag when <u>$\frac{3}{4}$ full</u>.</p>	<p>Waste bags should be sealed using twist swan-neck method and secured with a tag (provided by the waste contractor) when <u>$\frac{3}{4}$ full</u>. Free liquid clinical waste should be disposed of in appropriate container provided by the waste contractor, secure lid and attach traceable tag when <u>$\frac{3}{4}$ full</u>.</p>
<p>Remove P.P.E. and decontaminate hands.</p>	<p>Remove P.P.E. and decontaminate hands.</p>	<p>Remove P.P.E. and decontaminate hands.</p>
<p>Notify nurse in charge on completion of work to facilitate review and assurance that the terminal clean has been completed to required specification and standard.</p> <p><i>Inspection and /or audit of</i></p>	<p>Notify nurse in charge on completion of work to facilitate review and assurance that the terminal clean has been completed to required specification and standard.</p> <p><i>Inspection and /or audit of</i></p>	<p>Notify nurse in charge on completion of work to facilitate review and assurance that the terminal clean has been completed to required specification and standard.</p> <p><i>Inspection and /or audit of</i></p>

<i>the terminal clean will provide assurance that deep clean has been completed to the required specification.</i>	<i>the terminal clean will provide assurance that deep clean has been completed to the required specification.</i>	<i>the terminal clean will provide assurance that deep clean has been completed to the required specification.</i>
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AVOID LEAVING AND RE-ENTERING THE AREA UNTIL THE TERMINAL CLEAN IS FULLY COMPLETED.

THOROUGH PREPARATION AND SYSTEMATIC APPROACH IS KEY TO ACHIEVING SUCCESSFUL TERMINAL CLEAN!

11. Care Home reporting during outbreak

During an outbreak of ARI, it is important for the Care Home to provide a regular update on the situation to the PHA Duty Room, including information on newly symptomatic individuals (residents or staff). This allows us to monitor the impact of the outbreak control measures that have been put in place. The Care Home should aim to provide a daily update report to the Duty Room by midday every day (Appendix 6).

It is also important for the PHA to obtain a summary of the outbreak when the outbreak has been declared over and terminal clean of the facility has been completed. Outbreaks in care homes caused by influenza may predate influenza activity in the community and thus provide valuable information. Information on all outbreaks is collected by the PHA surveillance team and reported both regionally and nationally. Appendix 7 provides a copy of the summary outbreak reporting form.

If residents with suspected or confirmed influenza require transfer to a hospital setting, the receiving Trust should be informed of the diagnosis. This enables the Trust infection control team to ensure the necessary infection control precautions are in place. Written documentation will assist communication of this information between Care Homes and the receiving organisation (Appendix 8- suggested Transfer Form).

**PUBLIC HEALTH AGENCY
HEALTH PROTECTION
DUTY ROOM
4th FLOOR
12-22 LINENHALL STREET
BELFAST
BT2 8BS**

Tel: 0300 555 0119

Fax: 02895 363947

Email: pha.dutyroom@hscni.net

Appendix 2: Virology Request Form for Regional Virology Laboratory -Form R4

Virology request form for investigation of potential Influenza outbreaks

Regional Virus Laboratory, Kelvin Building, Royal Hospitals, Belfast BT12 6BA. Discuss with lab before sending samples.

Phone 028 90632662 Fax 028 90634803, Duty virologist 07889086946 (Mon-Fri 9-6) or virology via RVH switch out of hours.

Location of outbreak (ward or institution e.g name of Care Home) _____

For residential homes etc. specify the GP (name & cypher no.) so that results can be reported

Name	DOB	Source (ward / GP & cypher / Care Home room)	Spec date	Specimen type (Nose/Throat swab, sputum)	Specimen number & test code	Result (RVL use only)

Tel no. for reporting results _____ (note results will be communicated to PHA Duty room if available in office hours)


Authorisation by PHA, Microbiologist or Infection Control

Signature: _____ Name: _____

Max 5 specimens-prioritise patients with most recent onset. Best to use influenza testing kits if available. **Nasopharyngeal swabs** – Take one specimen. Insert swab into nostril parallel to the palate, rotate gently for a few seconds to absorb secretions and collect nasal epithelial cells. **Oropharyngeal swabs** - Take one specimen. Swab both posterior pharynx & tonsil areas, avoid tongue. **Place both the nose and throat swabs into one tube of preservation medium enclosed in the pack. The Copan swabs snap off into the tube. Make sure that the lid is tightened to prevent leaks. Label the tube with the patient's name and return in the transport container and envelope provided.** If testing kits/preservation medium is not available, send dry swabs; cut the tips off into a dry sterile container. Do **not** place the swab into gel. Do **not** use charcoal swabs. **Other acceptable specimens** include respiratory secretions or sputum, in a container of appropriate size. Note: lysis buffer preservation medium is a **skin and eye irritant**. **DO NOT PREWET SWAB BEFORE SAMPLING**

Appendix 3 - Poster on flu guidance for care homes

Guidance on outbreaks of influenza in care homes



Do residents or staff have the following symptoms?
Fever of 37.8°C or above.
OR
Sudden decline in physical or mental ability
PLUS
New onset or acute worsening of one or more of these symptoms:

- cough (with or without sputum)
- runny nose or congestion
- sore throat
- sneezing
- hoarseness
- shortness of breath
- wheezing
- chest pain

If you notice 2 or more residents or staff with these symptoms occurring within **2 DAYS (48 HOURS)**, in the same area of the care home and their GP(s) confirm the illness may be influenza,
you might have an outbreak.

Contact the Public Health Agency immediately and take the infection control measures listed below.

What the Public Health Agency will do:

- Work with care home staff to identify the cause of the outbreak.
- Work with care home staff to advise on infection control measures.
- Work with care home staff to provide treatment which will be prescribed by GPs.

INFECTION PREVENTION AND CONTROL MEASURES

All residents and staff should be offered seasonal flu vaccination each year.

Hand hygiene and protective clothing

- Ensure that liquid soap and disposable paper towels are available at all sinks.
- Wash hands thoroughly using liquid soap and water **before and after** any contact with residents.
- Provide 70% alcohol hand rub for visitor use and supplementary use by staff.
- Staff should wear single-use plastic aprons and gloves as appropriate when dealing with affected residents. Dispose of these as clinical waste.

Cleaning and waste disposal


- Provide tissues and foot operated bins for used tissue disposal in public areas.
- Provide tissues and covered sputum pots for affected residents. Dispose of these as clinical waste.
- Wash residents' clothes, linen and soft furnishings on a regular basis, and keep all rooms clean.
- Clean surfaces of lockers, tables and chairs, televisions and floors etc frequently. Always clean hoists, lifting aids, baths and showers thoroughly between patients.

Reducing exposure

- Close the home (and any day care facility) to new admissions and transfers if the Public Health Agency confirms an outbreak.
- Residents should **not transfer** to other homes or attend external activities.
- Residents should only attend out-patient or investigation appointments where these are clinically urgent.
- Care for residents with symptoms in **single rooms** until fully recovered **and for at least 6 days** after the symptoms started.
- Affected residents should remain in their rooms as far as possible. Discourage residents with symptoms using common areas.
- Staff should work in **separate teams**: one team caring for affected residents and the other caring for unaffected residents.
- Agency and temporary staff in contact with residents with symptoms should **not work elsewhere** (eg in a local acute care hospital) until the outbreak is declared over (ie 7 days after the onset of the last case).
- Staff and visitors with symptoms should be excluded from the home until fully recovered **and for at least 6 days** after the onset of symptoms.
- The elderly, very young and pregnant women, who are at **greater risk** from the complications of flu, should be discouraged from visiting during an outbreak.
- Inform visiting health professionals of the outbreak and **rearrange non-urgent visits** to the home.
- Inform the hospital in advance if a resident requires admission to hospital during the outbreak.

Public Health Agency duty room 0300 555 0119.

Adapted with kind permission from the Health Protection Agency



Appendix 4: Summary checklist of infection control measures

Infection Control, Hand Hygiene and Personal Protective Equipment (PPE)

- Isolate affected resident(s) in single room for at least 5 days after symptoms started or until fully recovered
- Ensure liquid soap and disposable paper towels are available at all hand wash sinks. Wash hands thoroughly using liquid soap and water, using 7 step technique before and after contact with residents or their environment (5 moments for hand hygiene).
- Staff should wear single use plastic aprons and gloves when caring for affected residents (standard precautions).

Cleaning, waste disposal and laundry

- Increase cleaning of the environment. Pay special attention to touch points e.g. toilet flush, door handles. Clean with detergent and a chlorine release product/or a combined detergent & chlorine release product/or chlorine dioxide product
- Encourage respiratory etiquette
- Provide tissues and covered sputum pots for affected residents. Dispose of these and PPE as clinical waste. Provide foot operated bin for used tissue disposal in public areas
- Ensure proper cleaning and replacement of oxygen/nebuliser equipment
- Affected residents laundry should be treated as infected

Alert Measures

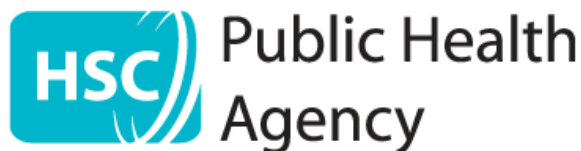
- Outbreak signage in reception area/entrance
- Advise restricted visiting, in particular the elderly, very young and pregnant women, as they are at greater risk from the complications of flu
- Identify a hand hygiene point for visitors on entering and leaving Home. Ensure that liquid soap and disposable paper towels are available. Visitors should be encouraged to wash hands thoroughly using liquid soap and water.

Containment Measures

- Close home to admissions/transfers until 5 days after the last resident became symptomatic and a terminal clean is complete. In the event of

an existing resident in acute care requiring transfer back to the care home, PHA (duty room) will risk assess on an individual basis.

- No day centre attendance
- No group activities e.g. Therapies, games, hairdressing
- No outpatient appointment unless deemed essential
- Cohort of staff to symptomatic/asymptomatic residents
- Bank/agency staff to refrain from working in other homes until outbreak declared over (i.e. 7 days after the onset of last case)
- Exposed staff should not attend external training
- Staff and visitors with symptoms should be excluded from home until fully recovered and for at least 5 days after the onset of symptoms



ALL VISITORS **IMPORTANT NOTICE**

- **If you/or someone you live with, has been suffering from a 'Flu like illness you must not visit.**
- **Instead of visiting please 'phone the nurse in charge of the home to make an enquiry.**
- **Wash your hands before and after visiting your relative or friend.**
- **In the current circumstances we would recommend that babies and children are discouraged from visiting.**
- **Please avoid visiting more than one relative/friend**

Thank you for your cooperation

Appendix 6: Care Home daily update reporting form – Form R1

Please complete daily and email to pha.dutyroom@hscni.net or fax to 028 95363947 before 12 midday

Date: _____ Care Home: _____

Completed by: _____

Number of new symptomatic cases today:

****Please complete table 1 for new symptomatic cases only****

Residents (if none, record '0'): _____

Staff (if none, record '0'): _____

Residents hospitalised (if none, record '0'; if unknown, record UK): _____

Resident deaths (if none, record '0'; if unknown, record UK): _____

Number of specimens sent to date: _____

Results: _____

Nursing home symptom free status– How many hours? _____

Any other information:

Appendix 7: Care home end of outbreak summary report –Form R2

Please complete when outbreak is declared over and terminal clean completed. Please return to pha.dutyroom@hscni.net or fax to **028 95363947**

Home Details	
Name:	
Address:	
Telephone	
Email	

Outbreak details	
Number of Residents in Home at time of Outbreak	
Number of staff in home	
Name of Staff Member responsible for Infection Control	
Nurse in Charge	
Date Outbreak Declared:	
Notified to: (name of person at Public Health Agency)	
Number of Residents ill	
Number of Staff ill	
Number of Persons Admitted to Hospital	
Number of Persons Deceased	
Number of Samples Obtained	
Results	

Was a virus/organism detected If yes, state results	
Control Measures Main measures taken to contain outbreak (please list)	
Any additional information	

Completed by: _____

Job title: _____

Date: _____

Appendix 8: Care Home Transfer Form for FLI Outbreak – Form R3

Please be advised that _____(name of resident)

is being transferred from a facility where there is a **potential OR confirmed influenza** outbreak.

Please ensure that appropriate isolation precautions are taken upon receipt of this resident.

At the time of transfer, this resident was:

Confirmed

Suspected

Appears free of influenza

Resident commenced on antiviral medication on _____

Antiviral prescribed and dose _____

Resident's vaccination status:

Pneumococcal: Yes No

Influenza: Yes No

For further information, please contact: _____

Title: _____

Care Home: _____

Telephone: _____