Public Health England

Protecting and improving the nation's health

PHE guidelines on the management of outbreaks of influenza-like illness (ILI) in care homes

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1. Background

Influenza and other respiratory infections are a major cause of hospitalisation, morbidity and death among the elderly. Underlying chronic health conditions make patients both more susceptible and vulnerable to severe disease [1], and hospitalisation rates during outbreaks can be high. Respiratory infections may also spread rapidly in care homes, resulting in high attack rates due to prolonged close contacts between residents, and between patients and their carers [2, 3].

The most common causes of outbreaks of acute respiratory illness in care homes are influenza viruses, as well as non-influenza viruses such as respiratory syncytial virus (RSV), rhinovirus, parainfluenza and human metapneumovirus (hMPV) [3]. Those viruses tend to be seasonal, peaking during the winter months, although not necessarily at the same time. For example, while the incidence of RSV diagnosis is consistently highest around the new year, the intensity of influenza activity varies by season and dominant strain, and the peak activity can occur any time between December and April [4]. In addition, despite their seasonal peaks outbreaks can occur throughout the year. In particular, influenza outbreaks in care homes may occur early in the autumn before seasonal immunisation campaigns have been fully implemented and before any increased influenza activity is detected in the wider community, or late in spring when influenza activity in the rest of the community has declined.

Seasonal influenza vaccination of care home residents and staff is central to limit the risk of flu outbreaks and reduce the risk of severe infection. However, as the vaccine effectiveness varies by year, and tends to be generally lower among care home residents (due to the patients' age profile and associated reduced immune responses to vaccination), influenza outbreaks may still occur despite good vaccine uptake.

This guidance provides information and advice for staff in Health Protection Teams (HPTs), when requested to advise on the management of influenza-like illness (ILI) outbreaks in care homes. The guidance includes information on risk assessment, surveillance, infection control, outbreak management, as well as antiviral treatment and prophylaxis.

2. Definitions

2.1 Influenza-like illness

The PHE definition of influenza-like illness (ILI) in care home residents maintains a degree of specificity to support public health action within the care home setting by including a raised temperature of 37.8°C or higher. A more detailed explanation of the definitions can be found in Appendix 1.

The PHE ILI case definition for use in care homes is as follows:

(i) Oral or tympanic temperature ≥37.8C

AND one of the following:

acute onset of at least one of the following respiratory symptoms: cough (with or without sputum), hoarseness, nasal discharge or congestion, shortness of breath, sore throat, wheezing, sneezing

OR

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

Alternatively, a laboratory detection of influenza virus would fulfil the definition of a case of influenza.

Although fever is not necessary to define ILI using the European Centre for Disease Prevention and Control (ECDC) definition, it is a necessary symptom in both the World Health Organization (WHO) and the US Centers for Disease Control (CDC) definitions of ILI. WHO defines ILI as an acute respiratory infection with fever (≥38.0C) and cough [15] while the CDC traditionally defines ILI as fever (≥37.8C) with a cough and/or a sore throat [16]. The PHE case definition is therefore consistent with WHO and CDC.

It is acknowledged that older persons may not always develop a fever with influenza; if an influenza outbreak is suspected due to respiratory symptoms or acute deterioration in physical or mental ability without fever, prompt laboratory testing is recommended to confirm the diagnosis. See section 4.2 for details of laboratory testing.

2.2 Outbreak

Two or more cases which meet the clinical case definition of ILI (or alternatively two or more cases of laboratory confirmed Influenza) arising within the same 48-hour period with an epidemiological link to the care home.

3. Epidemiological parameters

Incubation period: The median incubation period of influenza is two days (range 1-4)
Period of infectiousness: For influenza it is generally assumed that the period of infectiousness (ie communicability) starts with the onset of ILI symptoms and lasts for the duration of symptoms. For operational purposes, isolation or closure is generally recommended for a period of 5 days after the onset of the most recent case. Closure should be considered based on an assessment of the attack rate, the severity of the illness and the availability of facilities to isolate patients.

However, evidence shows that viral shedding following influenza infection can be prolonged among some elderly persons, particularly among people with chronic long-term medical conditions and individuals on immunosuppressive therapy [6, 7]. Hence, isolation of patients and infection control precautions in care homes in a confirmed influenza outbreak may need to be applied for a longer period of time for cases with the following risk factors:

- case has other major medical conditions (including malignancy, chronic lung disease, renal disease, heart disease, liver disease, stroke)
- case has an impaired immune system from conditions including systemic corticosteroid use; chemotherapy, organ or bone marrow transplantation, or advanced HIV/AIDS infection
- case was diagnosed with pneumonia
- antiviral therapy of case was started > 48 hours after symptom onset
- case did not receive antiviral therapy
- case has persistent respiratory symptoms after five days of antiviral treatment

In these instances, infection control measures, including isolation, may need to continue for persons in the above groups until they are asymptomatic. See Section 5 for further details.

Transmission routes: Respiratory viruses are transmitted primarily by close contact, via droplet transmission or through direct interpersonal contact, but can also be transmitted through aerosols (eg produced by cough) and through indirect contact, with some evidence suggesting that respiratory viruses may remain on inanimate surfaces for several hours. Infection control

precautions are therefore based on limiting and avoiding contact, aerosol and droplet transmission, as well as environmental cleaning.

4. Investigation and surveillance

4.1 Risk assessment

When an outbreak is initially notified to a health protection team (HPT), a range of information (see box below) will be required to inform a local risk assessment. This information will help assess the likelihood of ILI, the severity and extent of the outbreak, and guide control measures such as ward closure, options for patient isolation etc.

Box 1

Information about the care home
Size of the care home (number of staff and number of residents)
Type of care home
Details of the person to contact
Influenza vaccine uptake among residents and staff members
Details of GP practices associated with the home
Characteristics of the outbreak
Number of cases among residents and staff affected (either initial or final numbers since the start of the outbreak)
Onset date of the first case
Onset date of the most recent case
Nature of the symptoms
Any results from virological testing
Number of virologically confirmed cases, if known
Number of deaths associated with the outbreak
Number of hospitalisations, and number of ICU admissions
Layout of the care home, and relation of cases to each other
Influenza vaccination status of the cases (for staff and residents)
Information on whether antivirals were provided for treatment or prophylaxis, if known

4.2 Swabbing

Obtaining viral swabs from symptomatic residents and/or staff at an early stage, is important for the management of the outbreak (eg to decide on the type of antivirals if strains at high risk of resistance are identified). In particular, swabbing out of season, or early or late in the flu season, is important to obtain influenza diagnosis when influenza may not be circulating

widely in the community and therefore to inform decisions about public health action.

While swabbing at the peak of the influenza season might be perceived as less important given that the probability that ILI is caused by influenza is high, there is still benefit in terms of eliminating other potential respiratory viral infections, tracking the evolution of the viruses during a season, and their likely resistance patterns. It is therefore recommended to also undertake limited testing in care home outbreaks at the peak of the season.

Generally, it is advisable to test up to five of the most recently symptomatic patients/staff members during a care home outbreak. Swabbing five different patients provides a balance between the number of swabs required to confirm the aetiological agent(s) of an outbreak, and maintenance of local clinical, microbiological and public health capacity. Wider sampling would be considered if the affected care home consisted of different discrete units without routine transfers of patients/staff between them, or if additional factors were applicable (such as high hospital admission rate).

It is important for the local public health virologist or microbiologist to be consulted about any testing that is being considered, and HPTs should ensure that arrangements are in place for the swabbing, couriering of swabs, and local testing.

Some health protection teams have successfully implemented joint arrangements for postal swabbing kits, with their local public health laboratory to address this need (see **Appendix 2**).

Further advice on testing can be sought from the local public health laboratory, Respiratory Diseases Department and/or the Respiratory Virus Unit at PHE Colindale.

4.3 Monitoring

Enhanced surveillance for further cases should be initiated by way of daily monitoring of all residents by care home staff, for elevated temperatures and other respiratory symptoms. It is important to identify infected patients as early as possible in order to implement infection control procedures such as isolation to reduce the spread of infection.

The situation at the care home should be followed-up periodically according to local PHE Centre HPT protocols.

4.4 Recording and surveillance

Information about outbreaks should, in the first instance, be recorded on HPZone as per routine practice.

Local health protection teams are requested to complete and send a surveillance form to the Respiratory Diseases Department at PHE Colindale (email: respcdsc@phe.org.uk). The purpose of the surveillance form is to monitor the number of outbreaks and their causative organisms and identify dominant flu subtypes and any changes that may occur to the virus (such as resistance acquisition). Outbreaks in care homes caused by influenza may also predate influenza activity in the community and thus provide valuable information on circulating viral subtypes and clinical impact.

The national reporting form for care home outbreaks is available from the influenza web page at:
https://www.gov.uk/government/collections/seasonal-influenza-guidance-data-and-analysis

This can be submitted with partial information at the beginning of the incident and then submitted with final information at the end of the outbreak (if further information is available, as per local protocols).

5. Outbreak control and communications

The following individuals may either be involved in the response to an ILI outbreak in a care home or need to be informed about this:

- health protection specialist from the local HPT
- care home manager
- care home occupational health practitioner (if identified)
- GPs
- local DPH or appropriate representatives from the local authority
- communications leads
- microbiologist from the local laboratory
- representative from Infection Control in the local trust
- representative from Community Infection Control Teams (if applicable)

However, exact communication arrangements in these outbreaks will be defined according to local HPT protocols.

Although the HPT will provide advice in response to an outbreak, the care home management has the final responsibility to communicate information, including to staff and visitors, and also to consider how to implement any infection control recommendations from the HPT.

5.1 Infection control

Detailed information on infection control applicable to these settings can be found in the PHE Guidelines on Infection Control Precautions to minimize transmission of acute respiratory tract infections in healthcare settings [8].

5.1.1 Residents

If possible, symptomatic residents should be cared for in single rooms or cohorted. If this is not possible, symptomatic residents with compatible symptoms should be cared for in areas well away from residents without symptoms.

If the design and capacity of the care home and the numbers of symptomatic residents involved are manageable, it is preferable to isolate residents into separate floors or wings of the home. Signage to control entry into isolation rooms or areas of the care homes should be in place for all staff and visitors. The movement of symptomatic residents should be also be minimised.

If possible, staff should work with either symptomatic patients only, or asymptomatic patients, but not both, such as to limit the risk of cross contamination of residents by staff members. The care home may consider using staff vaccinated against influenza at least 14 days beforehand to care for symptomatic patients and any other asymptomatic staff to care for asymptomatic residents.

However, staff should always use PPE and adhere to infection control measures, regardless of vaccination status. Movement of staff between areas with and without symptomatic residents should also be restricted as far as possible.

5.1.2 Staff

Staff members who become unwell with ILI-related symptoms should be excluded from work until they have recovered.

Agency and temporary staff who are exposed during the outbreak should be advised not to work in any other health care settings until two days after last contact with the home or if exposure is continuous, when the home re-opens according to criteria above.

Depending on the causative organism, there may be a case for staff at risk of complications if they become infected (eg pregnant or immuno-compromised individuals) to avoid caring for symptomatic patients. A risk assessment will need to be carried out on an individual basis.

5.1.3 Visitors

Symptomatic visitors should be excluded from the home until no longer symptomatic and visitors with underlying health conditions and at risk of more severe infection (as defined in the Green Book [9]) should be discouraged from visiting during an outbreak. Consistent with patient welfare, visitor access to symptomatic residents should be kept to a minimum. Any visitors should be provided with hygiene advice as in Section 5.1.4. Non-urgent visits should be rescheduled until after the outbreak is over.

5.1.4 Hygiene

During outbreaks messages about respiratory hygiene and cough etiquette (‘Catch it, Bin it, Kill it’) and hand hygiene should be reinforced among residents, staff and visitors. Hand washing after any cough, sneeze or tissue use is critical in limiting the risk of contamination, and symptomatic residents should be provided with tissues and hygienic methods to dispose of those.

Hand hygiene is a key infection control precaution to reduce transmission between staff and patients. Staff should wash their hands as a minimum before touching the patient,

before any clean/aseptic procedure, after exposure to body fluids, after touching the patient and after touching the patient's environment, as per WHO Five moments in hand hygiene [10]. In an outbreak situation visitors should also be encouraged to wash their hands before touching the patient/resident and after touching the patient or the patient's environment.

5.1.5 Cleaning and waste disposal

Resident's clothes, linen and soft furnishings should be washed on a regular basis and all rooms kept clean. More frequent cleaning of surfaces, such as lockers, tables, chairs, televisions and floors is indicated, especially those located within one metre of a symptomatic patient. Hoists, lifting aids, baths and showers should also be thoroughly cleaned between patients.

Uniforms and other work clothing should be laundered at work if there are facilities for this. If laundered at home the general advice on washing work clothes would apply. Uniforms should never be worn between home and the place of work.

Clinical waste should be disposed of according to standard infection control principles.

5.1.6 Ward or home closures

Care home closures or part closures to new admissions may be considered for at least 5 days after the onset of the most recent case to minimise transmission risk, according to the local risk assessment.

However, individual cases at high risk of prolonged shedding of influenza virus (see Section 3) may need to be isolated until their symptoms end; this may be longer than the routine five-day period from the onset date of symptoms. A decision to re-open a care home to new admissions after the five-day period described above would therefore be based on a local discussion about how easily the home could maintain isolation for such individuals while re-opening to new admissions.

It is also advisable to suspend transfers to other care homes during the outbreak period. Visits or other transfers to acute medical facilities should be considered based on medical necessity and the destination facility should be warned in advance about the infection risk.

5.1.7 Personal Protective Equipment (PPE) for staff

Staff should ensure that they use appropriate personal protective equipment (PPE) when looking after residents who are unwell.

In addition to single use aprons, barrier measures such as gloves, gowns and surgical facemasks may be considered to reduce the spread of respiratory viruses. Any decision about the use of PPE needs to be taken in the light of the impact on the home; this can be discussed with the relevant occupational health/infection control leads for the care home where available.

More stringent infection control is needed when aerosol generating procedures (such as airway suction and CPR) are carried out on cases or suspected cases. Such procedures should be performed only when necessary and in well ventilated single rooms with the door closed. Numbers of staff exposed should be minimised during the procedure and FFP3 respirators and eye protection used.

5.2 Antivirals

Detailed recommendations about the use of antiviral neuraminidase inhibitors (ie 'antivirals') can be found in [11] the PHE guidance on use of antiviral agents for the treatment and prophylaxis of seasonal influenza.

In keeping with current recommendations by NICE [12], PHE recommends the targeted use of antivirals as follows:

- for treatment of uncomplicated influenza among specific at-risk groups
- treatment of complicated influenza regardless of underlying individual risk factors. See Box 2 below
- for influenza post-exposure prophylaxis among care home residents in at-risk groups in specific outbreak situations

The recommendation for use of antivirals in an outbreak situation may be made by a PHE centre health protection team, following a local risk assessment, usually on the advice of the consultant on duty.

If a recommendation for post-exposure prophylaxis is made, it is important that this is targeted as far as possible to those who are most likely to have been exposed to cases of influenza. Within larger care homes, this may be possible by identifying specific units within the home where residents share specific common spaces. However, it is recognised that in some care homes, it may not be possible to identify such a subgroup due to small sizes or uncertain social mixing patterns.

Importantly, antivirals may only be prescribed by general practitioners in England when the Chief Medical Officer has announced that influenza is circulating in the community.

It should also be noted that some of the recommendations made in the PHE antivirals guidance include off-label use of antivirals, which is based on PHE's view and may not necessarily reflect the manufacturer's position. Health protection teams do not themselves prescribe antivirals for outbreaks of seasonal influenza.

All details of first and second line treatments, including their indication, dosage and mode of administration can be found in the PHE guidelines on use of antiviral agents for the treatment and prophylaxis of seasonal influenza. In particular, prescribers should be referred to the oseltamivir dose requirements for individuals with renal dysfunction [11].

Box 2: Description of uncomplicated influenza, complicated influenza and risk factors for complicated influenza

1. Uncomplicated influenza: Influenza presenting with fever, coryza, generalised symptoms (headache, malaise, myalgia, arthralgia) and sometimes gastrointestinal symptoms, but without any features of complicated influenza.

2. Complicated influenza: Influenza requiring hospital admission and/or with symptoms and signs of lower respiratory tract infection (hypoxaemia, dyspnoea, lung infiltrate), central nervous system involvement and/or a significant exacerbation of an underlying medical condition.

3. Risk groups for complicated influenza:

a. Neurological, hepatic, renal, pulmonary and chronic cardiac disease.
b. Diabetes mellitus.
c. Severe immunosuppression.
d. Age over 65 years.
e. Pregnancy (including up to two weeks post-partum).
f. Children under six months of age.
g. Morbid obesity (BMI ≥40).

For full details refer to 'Immunisation against infectious disease', known as the Green Book [9].

The British Geriatrics Society Community Geriatrics Special Interest Group have provided advice about antiviral prescribing in localised seasonal influenza outbreaks in care homes for older persons (Appendix 5).

5.2.1 Treatment

Antivirals may be considered for treatment and ideally should be provided within 48 hours (for adults) of onset of symptoms. Although there might be some benefit of antivirals provided up to five days after symptom onset, the use of antivirals in such context is unlicensed and should be based on an individual clinical decision. Early identification of potential cases and urgent contact with relevant health services in the initial stages of the outbreak is therefore important to ensure that antivirals can be administered in a timely fashion.

For treatment, the choice between antiviral therapy (oseltamivir or zanamivir) will depend on several aspects, including the dominant circulating strain at the time, the patient's characteristics, and whether or not the patient presents with complicated influenza.

5.2.2 Post Exposure Prophylaxis

5.2.2.1 Residents

As detailed in the NICE guidance [12], antivirals can be considered for post exposure prophylaxis (PEP) among care home residents in at-risk groups during influenza outbreaks in care homes, regardless of their vaccination status.

Both oseltamivir and zanamivir can be used for prophylaxis, and the use of one or another will depend on the health status of the resident, and the characteristics of the dominant circulating strains. Details about the choice of antiviral, their dosage and mode of administration can be found in the prophylaxis chapter of the **PHE guidance on antivirals.**

If there are concerns about high attack rates or high case fatality rates, prophylaxis could be considered more than 48 hours after contact with a case or for longer durations following a risk assessment of the situation; however it should be noted that such use is currently unlicensed.

5.2.2.2 Staff

Antiviral prophylaxis and treatment should be considered for staff who have not had the seasonal flu vaccination and are either pregnant, or in an at-risk group for influenza, as defined in the PHE antivirals guidance.

5.2.2.3 Vaccination

Seasonal influenza vaccination may be offered to unvaccinated staff and residents who are in at-risk groups while seasonal influenza vaccine is available. As two weeks are required for the immune response to vaccination to develop, this may not prevent secondary cases but may prevent further transmission, as well as provide an opportunity to protect against infection from other influenza strains at later points in the season.

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Appendix 1: Definitions of ILI

The PHE definition of influenza-like illness has been designed to be specific to seasonal influenza, in order to support associated public health actions. A less specific case definition would potentially lead to some influenza-specific public health actions being inappropriately used. A range of case definitions have been proposed by public health organisations. The European Centre for Disease Control (ECDC) defines ARI as an illness clinically assumed to be infectious, with sudden onset of at least one of the following respiratory symptoms: cough, sore throat, shortness of breath[13]. ECDC defines influenza-like illness (ILI) as any ARI with at least one systemic symptom, such as myalgia, headache, malaise, fever, or feeling feverish.

Fever is therefore not necessary to define ILI using the ECDC definition; whereas it is a necessary symptom in both the WHO and the CDC definitions of ILI. WHO defines ILI as an acute respiratory infection with fever (≥38.0C) and cough[14] while the US Centers for Disease Control (CDC) traditionally defines ILI as fever (≥37.8C) with a cough and/or a sore throat [15]. The PHE case definition is therefore consistent with WHO and CDC. It is acknowledged that older persons may not always develop a fever with influenza; if an influenza outbreak is suspected due to respiratory symptoms or acute deterioration in physical or mental ability, prompt laboratory testing is recommended to confirm the diagnosis.

Appendix 2: Postal swabbing kits

The contents of a postal swabbing kit may include the following items

- Swab packet containing:
  - Pair of viral swabs (not charcoal swabs)
  - Virus transport medium to insert the swab into
- Absorbent sheet
- DG Pathoseal 95 bag
- Test request form
- Security seal
- Postage, through either:
  - Outer carton (cardboard box) with pre-paid return address label
  - Outer carton (cardboard box) with pre-paid envelope

The introduction of swabbing kits will need to be agreed in advance with the local public health laboratory, from which swabs can be obtained. The HPTs are responsible for the postage and packaging costs associated with the kits.

Appendix 3: Frequently asked questions about infectiousness and duration of shedding

When can hospitalised care home residents diagnosed with influenza or other respiratory viruses be discharged?

Care home residents admitted to hospital with a diagnosis of influenza, or other respiratory viral infections such as respiratory syncytial virus (RSV), may remain infectious to others even after discharge from hospital, and infection control measures as outlined in PHE guidance are indicated to prevent transmission to others.

Residents may be discharged from hospital at any point when the following criteria are satisfied:

- in the view of the treating clinical staff, the resident has clinically recovered sufficiently to be discharged to a care home. Note that there is no requirement for the resolution of all symptoms or a minimum period of treatment
- all appropriate treatment will be completed after discharge
- appropriate infection control measures to prevent transmission of infection, including single room dwelling or cohorting, will be continued outside hospital until a minimum of five days after the onset of symptoms. Note that in some circumstances (see below) it may be considered necessary to continue infection control measures for longer than five days
- the discharge is planned in accordance with local hospital policy

Care homes may close wholly or in part to new admissions during outbreaks of influenza or other respiratory viruses. Where all the above criteria are satisfied and appropriate outbreak control measures have been taken at the care home, residents hospitalised with a respiratory viral infection may return home during a period of closure occasioned by an outbreak of the same type of respiratory virus.

Can hospitalised care home residents hospitalised for reasons unrelated to influenza or respiratory viral infections be discharged to a care home with an outbreak of a respiratory virus?

Care home residents hospitalised for reasons unrelated to influenza or respiratory viral infections should only be discharged back to a care home with an on-going respiratory virus outbreak after a careful assessment of the risk of exposure to cases of infection, as respiratory viral infections may have severe consequences in care home residents; prevention is key to

minimising impact. The assessment of the likelihood of exposure to infection should take account of the affected sections of the care home, the location of the resident within the care home, the overall geography of the care home, contacts between residents or cross-over of staff or visitors between affected and unaffected sections of the care home and satisfactory compliance with infection control precautions by care home staff (including seasonal influenza vaccination uptake).

How long should infection control measures be continued for care home residents with respiratory viral infections?

Influenza cases sometimes shed virus for a lengthy period following infection.[1] Hospitalised cases of influenza may shed virus for longer than community cases; one reported hospitalised case was still shedding influenza virus 34 days after symptom onset.[2] Whilst it is generally true that children excrete influenza virus in higher titre and for longer than adults, there are circumstances under which virus shedding in the elderly may be prolonged.[3,4]

The following risk factors have been associated with prolonged shedding of influenza virus:

1. Case has other major medical conditions[4] (including malignancy, chronic lung disease, renal disease, heart disease, liver disease, stroke)
2. Case has an impaired immune system from conditions including systemic corticosteroid use;[3] chemotherapy, organ or bone marrow transplantation, or advanced HIV/AIDS infection[5]
3. Case was diagnosed with pneumonia[2]
4. Antiviral therapy of case was started > 48 hours after symptom onset[4]
5. Case did not receive antiviral therapy[3]
6. Case has persistent respiratory symptoms after five days of antiviral treatment[4]

Infection control measures against influenza, including isolation, should therefore be considered for a duration of longer than five days for a care home resident with a diagnosis of influenza who has one or more of the above risk factors, particularly if it is known that secondary transmission may have occurred from this resident to others. Where isolation facilities are limited, priority for continuing isolation should be given to residents with a greater number of risk factors for prolonged shedding.

Due to the heterogeneity of published studies it is not currently possible to give a minimum period of isolation for residents with risk factors for prolonged shedding of influenza virus; residents with risk factors for prolonged shedding should be isolated with appropriate infection control measures at least until completely recovered from illness, with no on-going respiratory or other influenza-like symptoms.

Where none of the above risk factors for prolonged shedding are present, appropriate infection control measures to prevent transmission of infection, including single room dwelling or cohorting, should be continued until a minimum of five days after the onset of symptoms.

Cases with severely impaired immune systems may have very lengthy viral shedding and specialist advice on infection control measures may be required from the Respiratory Diseases Department at the Centre for Infectious Disease Surveillance and Control (CIDSC).

For residents with other respiratory viral infections, appropriate infection control measures to prevent transmission of infection, including single room dwelling or cohorting, should be continued until a minimum of five days after the onset of symptoms.

Where care homes have closed wholly or in part to new admissions because of an outbreak of a respiratory virus, when can they reopen?

Provided infection control measures are implemented according to guidance for residents with respiratory viral infections and care home staff are aware of the importance of an immediate response to new cases, care homes may re-open to new admissions two median incubation periods after the onset of the most recent case. For influenza and RSV this corresponds to reopening approximately five days after the onset of the most recent case.

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Appendix 4: Possible audit indicators for use by PHE Centre HPTs

Note: As local protocols vary between PHE Centres, not all indicators may be applicable.

Reporting/ Notification

- Were there any delays in notification of outbreak to HPT? ie assess time from onset date of outbreak to the date of notification/reporting to HPT

Swabbing

- Was swabbing undertaken where indicated?
- If swabbing was not undertaken, was the rationale documented clearly in HPZone

Infection control guidance

- Was appropriate infection control guidance given by HPT?

Antiviral treatment

- If Antiviral treatment indicated, was this advised within correct timescales (date onset most recent case – to date HPT requested AV) – *aspiration would be within 48 hours*
- Where AV treatment was not advised, was rationale for this clearly documented in HPzone?
- Was AV treatment advised prior to knowledge of swab results?
- If AV treatment was not prescribed – was the reason documented?

Antiviral prophylaxis

- If Antiviral prophylaxis indicated, was this advised within correct timescales (date onset most recent case – to date HPT requested AV) – *aspiration would be within 48 hours*
- Where AV prophylaxis was not advised, was rationale for this clearly documented in HPzone?
- Was AV prophylaxis advised prior to knowledge of swab results?
- If AV prophylaxis not prescribed AV – was the reason documented?

PHE reporting

- Was ARI form completed and sent to Colindale?

HPZone recording:

- Was outbreak onset date noted?

- Were metrics uploaded?
- Were relevant context(s) added?

Acknowledgement: Dr Sarah Lock

Appendix 5: British Geriatric Society advice on antiviral prescribing

Advice from The British Geriatrics Society Community Geriatrics SIG, November 2017 about consideration of renal impairment in prescribing of antivirals in localised community outbreaks of seasonal influenza.

In situations where an individual has a documented renal function within the last 6 months indicating no renal impairment, then they can be prescribed the standard dose of antivirals. For those individuals with a known renal impairment and where the prescriber has access to the renal function results in an emergency outbreak, then they can be prescribed an adjusted dose according to existing guidance. However, in those emergency outbreak responses where there is no information about the presence or absence of renal impairment (or lack of available routine renal function results from the past 6 months), there is a high likelihood of abnormal renal function in care home residents, so we would recommend a reduced daily dose of oseltamivir in all care home residents. This would be for a dose appropriate to CrCl of 31-60 mL/min . We would not recommend routine measurement of renal function prior to treatment due to the logistical challenges of collecting bloods en masse in care home populations and the likely delays introduced by waiting for lab results to return in the community. Where time permits, checking renal function in specific patients at high risk of significant renal impairment, for example those on high dose diuretics, may be useful.

The importance of vaccination in care home populations, and of vaccinating staff, is to be reinforced. Importantly, vaccination provides an opportunity for less hurried conversations, with families of those care home patients who lack capacity to consent to therapy, to consider the relative merits of antiviral therapy in advance. It would be useful to discuss in advance, with residents' families, the rationale for antiviral therapy in the event of outbreaks and asks them to consider whether their relative would have been likely to want to opt out of such an approach. This would help to anticipate any issues relating to care home residents' lack capacity to consent. Clinicians are advised to consider this in relation to their own local polices on capacity to consent.

Inhaled Zanamivir should be primarily used for cognitively intact residents requiring antiviral therapy, such as those with recognised renal dysfunction or with suspected or confirmed oseltamivir-resistant influenza.

This advice was kindly facilitated by the SIG Chair, Dr Adam Gordon, Clinical Associate Professor in Medicine of Older People - University of Nottingham.