

Protecting and improving the nation's health

Guidelines for PHE health protection teams on the management of outbreaks of influenza-like illness (ILI) in care homes

Version 5.0 November 2020

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health and Social Care, and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

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Summary of changes in this version of the guidance (November 2020)

1. Incorporation of COVID-19 throughout the document

Since 2020, COVID-19 has been in circulation within the UK and cases and outbreaks have occurred within care home settings. Co-circulation of COVID-19 and influenza in the UK this winter is probable. Symptoms are difficult to distinguish between COVID-19, influenza and illness caused by other respiratory viruses. It is anticipated that COVID-19, influenza and other respiratory illnesses will need to be investigated and managed simultaneously. Consequently, outbreaks of acute respiratory illness in care homes should initially be managed by immediate implementation of the more stringent infection control measures required for COVID-19 (as per COVID-19 guidance) until the causative organism is shown not to be SARS-CoV-2 by viral testing.

2. Updated definitions

Including definitions of ILI, COVID-19 and outbreaks of Acute Respiratory Infection (ARI), influenza and COVID-19 and end-of-outbreak definitions.

3. Information to be collected in the event of an outbreak

Minor additions and deletions in Box 1.

4. Testing

Now incorporates advice on testing in the context of COVID-19.

5. Infection Control

If the presence of COVID-19 with or without influenza or other respiratory virus is a possibility, then stricter IPC measures should be adhered to, including isolation of cases and contacts.

Staff: If the presence of COVID-19 with or without flu or other respiratory virus is a possiblity, then stricter exclusion periods for COVID-19 should be followed.

Visitors: Visitor guidance for COVID-19 to the care home should be applied throughout the pandemic.

Closure of the care home: Closure is not automatic during an outbbreak. A risk assessment should be made and discussed with with the commissioning authority and hospital discharge team.

Hygiene/cleaning/waste disposal: See COVID-19 guidance https://www.gov.uk/government/publications/supported-living-services-during-coronavirus-covid-19

PPE: See COVID-19 guidance:

https://www.gov.uk/government/publications/covid-19-how-to-work-safely-in-care-homes

and here:

https://www.gov.uk/government/publications/personal-protective-equipment-ppe-illustrated-guide-for-community-and-social-care-settings

Isolation periods for COVID-19: As per COVID-19 guidance.

Isolation period for residents with influenza and respiratory viruses other than SARS-CoV-2 (suspected or confirmed) should be for a minimum of 5 days after the onset of symptoms and until feeling well.

If COVID-19 or co-infection with COVID-19 is suspected, then isolation should be maintained for at least 14 days after onset of symptoms. See: Coronavirus (COVID-19): admission and care of people in care homes.

Close contacts of a resident with a respiratory virus other than COVID-19 do not need to self-isolate.

If staff members test negative for SARS-CoV-2 and have symptoms of, or are confirmed as having influenza, they should remain off work for a minimum of 5 days after the onset of symptoms and until feeling well.

(A case-specific risk assessment may be necessary if, for example, the SARS-CoV-2 test was significantly delayed but the symptoms are highly compatible with COVID-19, and/or there is a COVID-19 outbreak in the care home where the staff member works.)

6. Monitoring

Criteria added for when care homes should be encouraged to contact the HPT or Community Infection Control in ongoing outbreaks.

7. Recording and surveillance

Replacement of the ARI outbreak reporting form (which had to be sent to the NIS at the beginning and end of each outbreak) with a select survey¹⁵ form, to be completed at the end of the outbreak.

- **8. Appendix 1:** Process for postal swabbing kits updated.
- **9. Appendix 2:** FAQs about infectiousness and duration of shedding incorporates links to COVID-19 guidance.
- **10. Appendix 3:** Flow chart for acute respiratory outbreaks in care homes added.

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 disease¹ 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}

Since 2020, COVID-19 has been in circulation within the UK and cases and outbreaks have occurred within care home settings. Co-circulation of COVID-19 and influenza in the UK this winter is probable. Symptoms are difficult to distinguish between COVID-19, influenza and illness caused by other respiratory viruses. Furthermore, care home residents often do not present with classic symptoms of COVID-19 or influenza, therefore an acute respiratory infection should be considered if there is a sudden deterioration in physical or medical health, with or without fever, in the absence of a known case. It is anticipated that COVID-19, influenza and other respiratory illnesses will need to be investigated and managed simultaneously.

Consequently, outbreaks of acute respiratory illness in care homes should initially be managed by immediate implementation of the more stringent infection control measures required for COVID-19 (as per COVID-19 guidance) until the causative organism is shown not to be SARS-CoV-2 by laboratory testing.

For management of COVID-19 see PHE guidance Admission and care of residents in a care home during COVID-19 and general infection prevention control advice in the National Infection Prevention and Control Manual.

The most commonly identified causes of outbreaks of acute respiratory illness in care homes, other than COVID-19, 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 late December, the intensity and dominant strain of influenza varies by season. Peak activity can occur any time between December and April4. In addition, despite the seasonal peak, sporadic 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 extremely important in limiting the risk of an outbreak and reducing the risk of severe infection. However, as the vaccine effectiveness varies by year and by subtype/strain, 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.⁵

This guidance provides information and advice for staff in Health Protection Teams (HPTs), when requested to advise on the management of acute respiratory 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 Case definition for Influenza-like illness (ILI)

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. However, it is acknowledged that older persons may not always develop a fever with influenza.⁶

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 acute respiratory (AR) symptoms: cough (with or without sputum), hoarseness, nasal discharge or congestion, shortness of breath, sore throat, wheezing, sneezing

OR

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

Fever is necessary to define ILI using both the World Health Organization (WHO) and the US Centers for Disease Control and Prevention (CDC) definitions of ILI. WHO defines ILI as an acute respiratory infection with fever (≥38.0C) and cough⁷ while the CDC traditionally defines ILI as fever (≥37.8C) with a cough and/or a sore throat.⁸ The PHE case definition is consistent with these approaches.

If an influenza or COVID-19 outbreak is suspected due to respiratory symptoms or acute deterioration in physical or mental ability with or without fever, in the absence of a known cause, prompt laboratory testing should be carried out to confirm the diagnosis. See section 4.2 for details of laboratory testing.

2.2 Case definition for confirmed influenza

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

2.3 Case definition for COVID-19

See PHE guidance: COVID-19: investigation and initial clinical management of possible cases.

It is acknowledged that older persons may not always develop typical symptoms of COVID-19. If a COVID-19 outbreak is suspected due to any COVID-19 or other respiratory symptoms or acute deterioration in physical or mental ability, with or without fever in the absence of a known cause, prompt laboratory testing is recommended to confirm the diagnosis. See section 4.2 for details of laboratory testing.

2.4 Definition for Acute Respiratory Outbreak

Two or more cases that meet the clinical case definition of ILI or COVID-19, in individuals (resident or staff) with an epidemiological link to the care home and onset dates within 14 days but without laboratory confirmation.

2.5 Definition for an Outbreak of Confirmed Influenza

At least one laboratory confirmed case of influenza AND one or more cases which meet the clinical case definition of ILI, among individuals (residents or staff) with an epidemiological link to the care home, arising within the same 48-hour period.

2.6 Definition for an Outbreak of Confirmed COVID-19

At least one laboratory confirmed case of COVID-19 AND one or more cases which meet the clinical case definition of COVID-19 among individuals (residents or staff) with an epidemiological link to the care home and with onset dates within 14 days.

In terms of Infection Prevention and Control, care homes with an acute respiratory outbreak should manage it as a COVID-19 outbreak until indicated otherwise by laboratory testing. For management of COVID-19 see PHE guidance Admission and care of residents in a care home during COVID-19 and general infection prevention control advice in the National Infection Prevention and Control Manual.

2.7 End of outbreak

An outbreak of influenza or other non-COVID-19 respiratory infection should not be declared over until a minimum of 5 days after the onset of symptoms in the latest case. If there are risk factors for prolonged shedding, infection control measures should be maintained for longer than 5 days (appendix 2).

An outbreak for COVID-19 can be declared over, once 28 days have passed since onset of symptoms in the most recent case.

It is important to maintain infection prevention and control measures throughout this winter. COVID-19 precautions should be maintained even after the declaration of the end of an outbreak.

3. Epidemiological parameters

3.1 Influenza

Incubation period: The median incubation period of influenza is 2 days (range 1 to 4 days)⁹.

Period of infectiousness: For influenza it is generally assumed that the period of infectiousness (i.e. communicability) starts with the onset of ILI symptoms and lasts for the duration of symptoms.

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^{10,11}. 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 5 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 via droplet transmission when in close contact or through direct interpersonal contact. Transmission can also occur through aerosols (for example, 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.

3.2 Other common respiratory viruses (including COVID-19)

- Rhinovirus
- Adenovirus
- Parainfluenza
- Respiratory syncytial virus
- Human metapneumovirus
- COVID-19

These may all have similar symptoms including runny nose, sore throat, cough, wheeze, sometimes lethargy, body aches and fever.

Incubation periods vary between viruses but are usually between 12 hours and 5 days, extending up to 8 days for parainfluenza and RSV, and 14 days for COVID-19. Infectious periods also vary but often begin 12-24 hours prior to symptom onset and usually extend for around 5 days afterwards. For COVID-19, the infectious period is thought to begin 2 days prior to symptom onset and extend for up to 10 days post onset of symptoms. See PHE guidance COVID-19: background information, Admission and care of residents in a care home during COVID-19 and general infection prevention control advice in the National Infection Prevention and Control Manual.

4. Investigation and surveillance

4.1 Risk assessment

When an acute respiratory outbreak is initially notified to a PHE health protection team (HPT), a range of information (see box 1, below) will be required to inform a local risk assessment. This will help assess the likelihood of influenza and COVID-19, the severity and extent of the outbreak, and guide control measures such as partial/full closure of care home to new admissions and options for patient isolation. Equivalent local checklists may be employed.

Box 1 – Information to be collected in the event of an outbreak

Information about the care home

Size of the care home (number of staff, number of residents, bed capacity, number of empty beds)

Type of care home (residential/nursing/mixed/dementia or other specialism)

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

Nature of the symptoms

Any results from virological testing

Number of cases among residents and staff affected (either initial or final numbers since the start of the outbreak)

Number of virologically confirmed cases, if known

Influenza vaccination status of the cases

Onset date of the first case

Onset date of the most recent case

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

Control measures

Any issues with isolating cases in their rooms, IPC, PPE

Whether antivirals have been provided for treatment or prophylaxis

Additional pressures, for example expected admissions from hospital, staffing

4.2 Testing

Obtaining viral swabs from symptomatic residents and/or staff at an early stage is important for the management of the outbreak (for example, to distinguish influenza from COVID-19 or other respiratory viruses, or to decide the type of antiviral, if required, depending on the strain identified and risk of resistance).

Sampling undertaken to identify the causative organism for a respiratory outbreak in a care home should be informed by national and local surveillance data.

Within the Chief Medical Officer (CMO)-declared 'Flu season', or outside the 'Flu season', when there is known to be circulation of influenza in the local area, the use of antivirals should be considered without laboratory confirmation based upon a risk assessment. This should be carried out by the HPT in liaison with the care home, community infection control nurses and/or the relevant GP/s to ascertain the likelihood of the outbreak being due to influenza

Factors to consider include:

- symptoms
- national and local surveillance data on Influenza and COVID-19
- previous results of whole home COVID-19 swabbing under Pillar 2 testing
- flu vaccination uptake in staff and residents (although it is known that flu vaccine
 is less effective in the elderly) and any information on vaccine match to circulating
 strains

Outside of the CMO-declared 'Flu season', early testing for influenza is recommended to guide the use of antivirals. Unless there is known to be local circulation of flu in the area, antivirals should not be recommended without laboratory confirmation.

What to test for

In an outbreak of Acute Respiritory Illness (ARI), rapid turnaround diagnostic testing of symptomatic cases is important. Between September and April OR when national/local surveillance indicators suggest there is influenza circulation OR where influenza is clinically suspected, residents who have developed recent symptoms and/or those with symptoms most indicative of influenza should be tested for Influenza A and B, in addition to SARS-CoV-2, and also ideally for RSV, parainfluenza, human metapneumovirus, rhinovirus, adenovirus.

Once the cause of the outbreak is established, new symptomatic cases may arise. A decision to test these individuals should be risk assessed to determine whether a test result is likely to change the management of the outbreak.

If COVID-19 is suspected or confirmed, then whole-home testing for SARS-COV-2 should be conducted for asymptomatic and symptomatic residents and staff, as indicated by national COVID-19 policy.

HPTs should work with local system partners to operationalise testing for COVID-19, influenza and other respiratory viruses through local swabbing service partners and laboratories, including NHS and PHE laboratories as appropriate to the local context.

If Point of Care testing (POCT) for influenza is carried out, there will need to be assurance that the results are fed into the national surveillance system. In addition, positive samples will need to be sent to the laboratory for characterisation. Samples will still also need to be taken for SARS-CoV-2 testing. Use of POC testing may, therefore, require taking 2 swabs from one individual.

In some localities, arrangements for postal swabbing kits have been successfully implemented in conjunction with local public health laboratory to address this need (see Appendix 1).

Further advice on testing during outbreaks can be sought from the local public health laboratory in the first instance.

Further operational guidance can be found in the Standard Operating Procedures for HPTs.

4.3 Consideration of test results

Note that during the winter of 2020 to 2021, there may be simultaneous circulation of SARS-CoV-2 and influenza within a single care home outbreak.

4.3.1 Positive results for seasonal influenza (with or without SARS-CoV-2)

Detection of seasonal influenza with or without the detection of other respiratory viruses, supports the prompt use of antivirals, in accordance with the advice on antivirals in section 5.2.

Results should be further scrutinised to determine if seasonal influenza is limited to a specific sub group of the care home, such as a single unit or floor. This would inform the targeted use of antivirals, which may include the need to change the type of antiviral.

To date, there is no evidence or biologically plausible reason to indicate that antivirals adversely impact on someone who is co-infected with Influenza and SARS-CoV-2

4.3.2 Positive results for SARS-CoV-2

See Admission and care of residents in a care home during COVID-19

4.3.3 Co-infection with influenza and other bacterial pathogens

Detection of seasonal influenza with bacterial pathogens such as S.pneumoniae may prompt additional laboratory investigations and interventions (for examepl, antibiotic use). This is of particularly concern if there is a suggestion of invasive secondary bacterial infections. Local Consultants in PHE Centre HPTs may wish to discuss these situations with specialists within National Infection Service (See PHE Guidance on Managing clusters of pneumococcal disease in closed settings).

4.3.4 Negative results for seasonal influenza

If seasonal influenza has not been detected on testing, then cessation of previously prescribed antivirals may be considered. Factors supporting this include:

- 1. an adequate number of appropriately taken respiratory specimens from recent cases (within 5 days of onset of illness) and including any cases with ILI have been tested (i.e. at least 5, and potentially more, if the care home is divided into self-contained units, with separation of residents and staff
- 2. all respiratory testing results have been received
- 3. other respiratory pathogens have been detected which are consistent with the case presentations observed in the outbreak

Notes

During an influenza season, the dominant circulating strain may vary and could be replaced by second strain later in the same season. Therefore, while it is infrequent for a care home community to experience a second laboratory confirmed outbreak, there could be additional outbreaks in the same season, if (1) a distinct, second strain becomes the dominant circulating strain or (2) several members of the care home community have rotated, such as through transfer of patients and staff. In the event of a second outbreak being identified prior to laboratory confirmation being available, the likelihood of seasonal influenza should be considered within the context of national influenza surveillance data, to inform decision making.

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 public health advice in response to an outbreak (including potential closure to new admissions), the care home management has the final responsibility to communicate information, including to staff and visitors and to consider implementation of any infection control recommendations and any advice on closure to admissions from the HPT as the care home has the primary responsibility for the safety of its staff and residents).

5.1 Infection control

If there is a respiratory outbreak in a care home during the COVID-19 pandemic, more stringent IPC and PPE measures should be implemented, unless COVID-19 has been ruled out. For COVID-19 specific guidance see links below. Application of guidance should always be informed by a situation specific risk assessment.

- PHE/DHSC/NHSE/CQC guidance Coronavirus (COVID-19): admission and care of people in care homes
- PHE guidance COVID-19: how to work safely in care homes
- NHS guidance: National Infection Prevention and Control Manual

It is important to note, that during periods of sustained community transmission of COVID-19, the more stringent measures for IPC, PPE and social distancing will continue to be required even outside of outbreak situations.

5.1.1 Residents

Ideally, symptomatic residents should be cared for in single rooms or cohorted into separate floors or wings of the care home. If there is co-circulation of more than one respiratory virus (for example, SARS-CoV-2 and Influenza), consider separate cohorting of residents with different viruses if possible. If this is not possible, symptomatic residents with compatible symptoms should be cared for in areas well away from residents without symptoms.

Signage to control entry into isolation rooms or areas within the care home should be in place for all staff and visitors. The movement of symptomatic residents should 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.

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.

For COVID-19, recommendations for isolation of residents and their close contacts should be followed - see Coronavirus (COVID-19): admission and care of people in care homes.

Isolation for Influenza and respiratory viruses other than SARS-CoV-2 (suspected or confirmed) should be until a minimum of 5 days after the onset of symptoms (see appendix 2) and until feeling well.

If there is any doubt as to infection with COVID-19 or co-infection with COVID-19, then isolation should be maintained for at least 14 days after onset of symptoms. See Coronavirus (COVID-19): admission and care of people in care homes.

Close contacts of a resident with a respiratory virus other than COVID-19 do not need to self isolate.

5.1.2 Staff

Staff members who become unwell with acute respiratory symptoms should leave work and get tested for COVID-19 as a minimum.

If COVID-19 is confirmed, they should remain off work for 10 days after their onset of symptoms (as per COVID-19 guidance)

If staff members test negative for SARS-CoV-2 and have symptoms of or are confirmed as having influenza, they should remain off work for a minimum of 5 days after the onset of symptoms and until feeling well. (A case specific risk assessment may be necessary if, for example, the SARS-CoV-2 test was significantly delayed but the symptoms are highly compatible with COVID-19, and/or there is a COVID-19 outbreak in the care home where the staff member works).

During the COVID-19 pandemic it is strongly recommended that care homes do all they can to restrict staff movement wherever feasible. This includes ensuring that staff work in only one care home wherever possible - see DHSC/CARE guidance: COVID-19 Guidance on redeploying workers and involving volunteers.

Depending on the causative organism, there may be a case for staff at risk of complications, if they become infected (for example, 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

Visitor guidance for the prevention of introduction of COVID-19 to the home should be applied throughout the COVID-19 pandemic – see DHSC Update on policies for visiting arrangements in care homes.

5.1.4 Closure of care home to new admissions or suspension of transfers

Once an outbreak of ARI is identified, closure of the home to new admissions should be considered. A risk assessment should be informed by the number of residents and/or staff affected, their location within the home, whether symptomatic residents can be effectively isolated, cohorting possibilities for staff, staffing levels, availability of PPE and the ability of the home to comply with all required infection control measures. Decisions around potential closure are not straightforward and the care home should discuss this with the hospital discharge team and commissioning authority.

It may also be 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.

See also PHE/DHSC/NHSE/CQC guidance:

Coronavirus (COVID-19): admission and care of people in care homes.

5.1.5 Hygiene, cleaning, waste disposal

As per COVID-19 guidance:

- PHE/DHSC/NHSE/CQC guidance Coronavirus (COVID-19): admission and care of people in care homes
- NHS guidance: National Infection Prevention and Control Manual

5.1.6 Personal Protective Equipment (PPE) for staff

During the COVID-19 pandemic PPE should be worn as per COVID-19 guidance.

- PHE Guidance: COVID-19: how to work safely in care homes
- PHE Guidance: PPE an illustrated guide for community and social care settings
- PHE/DHSC/NHSE/CQC guidance: Coronavirus (COVID-19): admission and care of people in care homes

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

5.2 Influenza antivirals and vaccination

Detailed recommendations about the use of antiviral neuraminidase inhibitors (i.e. 'antivirals') can be found in the PHE guidance on use of antiviral agents for the treatment and prophylaxis of seasonal influenza¹³.

In keeping with current recommendations by NICE¹⁴, PHE recommends the targeted prompt 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 on page 22
- for influenza post-exposure prophylaxis among care home residents in at-risk groups in specific outbreak situations

Due to the potential limited effectiveness of vaccination in the elderly, antivirals should be offered to residents regardless of their influenza vaccination status.

For staff, only those in at-risk groups and who have not had an influenza vaccination this season (at least 14 days previously) should be offered antivirals.

The recommendation for use of antivirals in an outbreak situation may be made by a PHE centre HPT, following a local risk assessment, usually on the advice of the consultant on duty. In periods where the CMO letter is in effect (enabling community prescribing of antivirals on the basis of influenza surveillance data), if a risk assessment has supported the use of antivirals this should not be delayed while waiting for influenza testing results. This can be reviewed once results are available as per section 4.3.

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.

In relation to identification and risk assessment of exposed persons, it is recognised that many symptomatic persons will be cared for in their own rooms, as explained in section 5.1.1. If a person with an acute respiratory infection has been in a communal area while symptomatic, then a distance of 2 metres from that individual can be used as a guide to identify exposed persons for a risk assessment for antiviral prophylaxis.

Importantly, antivirals may only be prescribed by general practitioners on FP10s in England when the CMO has announced that influenza is circulating in the community. Local NHS commissioners should have arrangements in place for prescription of antiviral treatment and prophylaxis, for both when England is in the CMO 'flu season' and when it is not, as per NHS England guidance.

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

Although the groups eligible for influenza vaccination have broadened for the winter season of 2020 to 2021, the groups at high risk of complications from influenza remain the same as in previous years.

- **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 2 weeks post-partum).
- f. Children under 6 months of age.
- g. Morbid obesity (BMI ≥40).

For full details refer to 'Immunisation against infectious disease', known as the Green Book¹²

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 known renal dysfunction.¹³

In emergency circumstances where renal function information will not be readily available, the British Geriatrics Society Community Geriatrics Special Interest Group have provided separate advice about antiviral prescribing in localised seasonal influenza outbreaks in care homes for older persons (see Appendix 5).

5.2.1 Treatment of influenza

Antivirals may be considered for treatment and ideally should be provided within 48 hours (for adults) of onset of symptoms. Although antivirals provided up to 5 days after symptom onset can be beneficial and is encouraged, the use of antivirals in such context is off- label 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. These recommendations are also applicable to symptomatic staff members who are in atrisk groups.

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

5.2.2 Post-exposure prophylaxis for Influenza

As detailed in the NICE guidance¹⁴, 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 influenza prophylaxis, however, this is dependent 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 last 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 off-label.

Antiviral prophylaxis and treatment should be considered for staff who have not had the seasonal influenza vaccination (at least 14 days previously) and in an at-risk group for influenza (including pregnancy), as defined in the PHE antivirals guidance.

5.2.3 Vaccination

Influenza vaccination is a vital tool in the prevention of influenza. Those co-infected with influenza and COVID-19 may have poorer outcomes. Therefore, during the 2020 to 2021 winter season, influenza vaccination will be even more important in reducing mortality and morbidity in residents and staff and also in reducing staff absences from work.

Seasonal influenza vaccination will be available to all care home staff and residents in the autumn. As 2 weeks are required for the immune response to vaccination to develop,

vaccination cannot be a substitute for post exposure prophylaxis of exposed persons in atrisk groups to prevent secondary cases. However, vaccination of unvaccinated people during an outbreak may provide an opportunity to protect against infection from other influenza strains at later points in the season.

5.3 Monitoring

Enhanced surveillance for further cases should be initiated by care home staff, to monitor all residents, 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, in order to reduce the further spread of infection.

Care homes should be encouraged to contact the HPT or Community Infection Control Nurse (as per local protocols) again if:

- there is a death in the care home due to suspected or confirmed Influenza or COVID-19
- there is a large increase in the number of cases
- any of the residents or staff are hospitalised due to suspected or confirmed Influenza or COVID-19
- there is difficulty in applying the relevant outbreak control measures on which the home has been advised

5.4 Recording and surveillance

Detailed information about outbreaks should, in the first instance, be recorded on the HPZone as per routine practice (as per Standard Operating Procedure for HPTs), from which data will be extracted by the national surveillance team.

Outbreaks in care homes caused by influenza may predate influenza activity in the community and thus provide valuable information on when influenza may be circulating, the number of outbreaks, effectiveness of vaccination and antivirals, causative organisms, dominant subtypes and any changes that may occur to the virus (such as resistance acquisition)

Local health protection teams are requested to complete an 'Acute Respiratory Infection: Outbreak Reporting Form' via Select Survey¹⁵ with final information at the end of the outbreak.

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Appendix 1: Postal swabbing kits

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 following leaflet is available.



Appendix 2: Frequently asked questions about infectiousness and duration of shedding for respiratory viruses other than SARS-CoV-2

For specific information about COVID-19 see Guidance for Step Down of Infection Control Precautions and discharging COVID-19 patients and Admission and care of residents in a care home during COVID-19.

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 5 days after the onset of symptoms for non-COVID-19 respiratory infections, 14 days for COVID-19. Note that in some circumstances (see below) it may be considered necessary to continue infection control measures beyond these periods
- 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 infection¹. 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 onset². 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 conditions⁴ (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 infection⁵.
- 3. Case was diagnosed with pneumonia².
- 4. Antiviral therapy of case was started > 48 hours after symptom onset⁴.
- 5. Case did not receive antiviral therapy³.
- 6. Case has persistent respiratory symptoms after 5 days of antiviral treatment⁴.

Infection control measures against influenza, including isolation, should therefore be considered for a duration of longer than 5 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 ongoing 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 5 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 (excluding COVID-19), appropriate infection control measures to prevent transmission of infection, including single room dwelling or cohorting, should be continued until a minimum of 5 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 2 median incubation periods after the onset of the most recent case. For influenza this corresponds to reopening approximately 5 days after the onset of the most recent case. For practical purposes and due to limited availability of data on this topic, the 5 days should also apply to all other respiratory viruses with the exception of SARS-CoV-2.

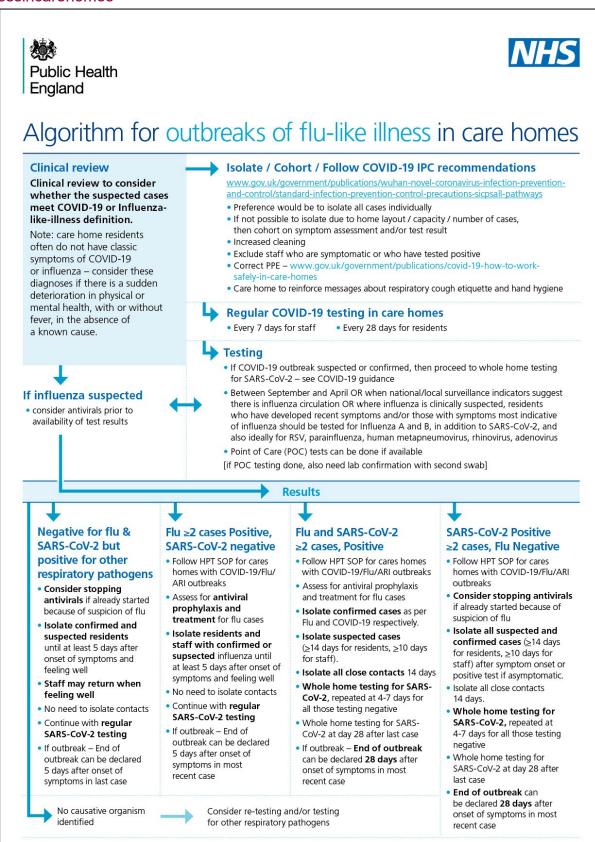
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Appendix 3: Flow chart for acute respiratory outbreaks in care homes

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https://www.healthpublications.gov.uk/ViewArticle.html?sp=Salgorithmforoutbreaksofflulike illnessincarehomes



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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 or notification

 Were there any delays in notification of outbreak to HPT? i.e. assess time from onset date of outbreak to the date of notification or 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
- was the reason documented?

PHE reporting

Was ARI Outbreak Reporting Form completed on Select Survey¹⁵?

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.

If an individual has a documented renal function within the last 6 months, which does not indicate renal impairment, the standard dose of antivirals can be prescribed. For individuals with a known renal impairment and where the prescriber has access to their renal function during an emergency outbreak, they can be prescribed an adjusted dose according to the guidelines.

However, in an emergency outbreak response, 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 both care home residents and staff is to be reinforced. Importantly, vaccination provides an opportunity for additional conversations, with families of 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 to determine 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 at the University of Nottingham.