Guidance on testing for Acute Respiratory Infection (ARI) in Residential Care Facilities* (RCF) – Winter 2021/2022

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Version	Date	Changes from previous version	Author
1.1	26/10/2021	Added link to updated version of 'Public Health & Infection Prevention and Control Guidelines on the Prevention and Management of Outbreaks of COVID-19, Influenza and other Respiratory Infections in Residential Care Facilities' Updated language in certain recommendations	
1 0	22/10/2021	Published version 1	Developed by a subgroup of PICT

*Please note the term residential care facility (RCFs) encompasses all congregated care settings where people live for extended periods for example nursing homes, community hospitals, certain mental health facilities and community housing units for people with intellectual and physical disabilities.

Please note this document provides guidance for testing of Acute Respiratory Infections in Residential Care Facilities only. This document should be read in conjunction with Public Health & Infection Prevention and Control Guidelines on the Prevention and Management of Outbreaks of COVID-19, Influenza and other Respiratory Infections in Residential Care Facilities

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Purpose

One of the challenges of the COVID-19 pandemic for the 2021/2022 influenza season, is the co-circulation of SARS-CoV-2, Influenza and other respiratory viruses, all of which present with similar respiratory symptoms. COVID-19, influenza and other respiratory illnesses are difficult to distinguish based on clinical symptoms alone and require a laboratory confirmation for definitive diagnosis. Integrating the detection and management of influenza into the current processes for the management of COVID-19 cases and outbreaks in nursing homes/residential care facilities (NH/RCFs) during the COVID-19 pandemic is essential. The purpose of this guidance is to provide advice/recommendations regarding the testing of symptomatic individuals for influenza and COVID-19 in nursing homes/residential care facilities.

Background

Persons residing in NH/RCFs are susceptible to the risk of being infected with infectious diseases. Nursing home/RCF residents are at higher risk of serious consequences from infection due to a number of influencing factors such as frailty, close living arrangements and the movement of both healthcare staff and visitors among the residents (1). Transfer of residents which is a common occurrence, is also an influential factor in the spread of infection between other facilities, hospitals and medical centres (2). Taking these factors into consideration, combined with exposure to other infectious diseases circulating in nursing homes, of which respiratory viruses are very common and age-related impairment of the immune system, older persons are at a substantially higher risk from respiratory infections and their consequences.

Seasonal influenza is a serious infectious disease which can often result in significant morbidity and mortality in the elderly and immunocompromised (3). It remains a significant cause of death and hospitalisation among the elderly and the frail. Studies which have examined laboratory confirmed influenza in residents of RCF cite rates of influenza infection to be between 2 – 16% of residents per season (4).

Outbreaks of acute respiratory infections (ARI) in nursing homes/RCFs are a frequent occurrence and can last for long periods of time, resulting in severe illness and mortality. While vaccination provides the best protection against significant respiratory illnesses, it must be noted that evidence shows waning immunity from the inactivated influenza vaccine over the season from time of vaccination (5). As a consequence, the adjuvanted influenza vaccine (Fluad Tetra) is being offered to adults aged 65 years and older in Ireland in the 2021/2022 campaign. An additional vaccination dose for COVID-19 has also been recently

recommended by the National Immunisation Advisory Committee (NIAC) for the over 80s and those aged 65 years and older who are living in residential care facilities (5).

The potential co-circulation of SARS-CoV-2, influenza and other respiratory viruses, in combination with RCF/NH residents being susceptible to infection, means that preventative Public Health interventions such as testing are integral to ensuring early detection of symptomatic infection, so that public health interventions such as treatment with antivirals can be implemented promptly. It is important that infection prevention and control (IPC) measures are maintained and strengthened within NH/RCFs. It is also important that the uptake levels for influenza and COVID-19 vaccines among both residents and staff are optimised.

It is also well understood that early detection, reduces the likelihood of further spread within the facility thus lowering the incidence of morbidity and mortality from these infections.

For the 2021/2022 influenza season, circulation of influenza A(H3N2) viruses is anticipated in Europe with recent global increases in detection of these viruses reported. Influenza A(H3N2) viruses are associated with more severe disease in the elderly and outbreaks in nursing homes/residential care facilities (6).

Based on discussion by a subgroup of PICT, the below definitions were agreed.

Acute respiratory infection (ARI) case definition*

*Please note this case definition is for surveillance and management and pertains to NH/RCF settings for the Winter-Spring 2021/2022

- A patient with acute respiratory infection (sudden onset of at least one of the following; cough, fever[1], shortness of breath) OR
- Sudden onset of anosmia[2], ageusia[3] or dysgeusia[4] with onset of symptoms within the last 14 days

Please note patients may present with other symptoms. Consideration should be given to testing of these patients. Please see list below. Clinical judgement should be applied in the application of criteria to determine who requires testing.

[1] Fever may be subjective or confirmed by healthcare worker (≥38^{0}C) [2] Loss of sense of smell

[3] Loss of sense of taste [4] Distortion of sense of taste

The most common symptoms of COVID-19 (as defined by the WHO) are:

- Fever
- Dry cough
- Fatigue

Other symptoms that are less common and may affect some patients include:

• Nasal congestion • Conjunctivitis (also known as red eyes)

• Sore throat, • Headache, • Muscle or joint pain, • Different types of skin rash,

• Nausea or vomiting, • Diarrhoea, • Chills or dizziness

Acute respiratory infection (ARI) outbreak definition*

*Please note this outbreak definition is for surveillance and management pertains to NH/RCF for Winter 2021/2022.

A cluster/outbreak of two or more cases of acute respiratory infection (ARI) arising within the same 72-hour period in the above settings/situations, which meet the same clinical case definition. Investigation of lower numbers of cases can be undertaken if considered appropriate following public health risk assessment.

Recommendations

The following recommendations were made by the subgroup of PICT:

Residents

- If a resident presents with respiratory symptoms or other symptoms compatible with COVID-19 or influenza (as per the ARI definition above) they should be tested in the first instance for SARS-CoV-2 and Influenza (as a minimum).
- When there is an outbreak of a respiratory tract infection in a long term RCF, it is recommended that up to approximately five symptomatic residents are tested for both COVID-19 and Influenza. If COVID-19 is detected, testing of asymptomatic residents is not routinely required but may be performed based on a Public Health Risk Assessment. In the context of influenza, testing of asymptomatic residents is not appropriate as there is no reason to believe that testing of those who are asymptomatic will assist in managing the outbreak.
- Where possible, laboratories should have systems in place to test a single sample for respiratory viruses, with influenza and SARS-CoV-2 being the priority for testing. It is advisable that swabs are taken on site by trained staff and that only one swab should be taken per symptomatic resident to test for both influenza and SARS-CoV-2 (as a minimum). Please note that only one swab should be taken unless the laboratory providing service is not able to provide testing for both flu and SARS-CoV-2 on the same sample.
- For symptomatic residents, it is recommended that a deep nasal or nasopharyngeal sample is taken using a swab specified as appropriate by the laboratory providing the testing service. This is the lysis swab (primestore) for the National Virus Reference Laboratory (NVRL) but may differ if testing is provided by a local hospital laboratory.
- Please note an anterior nasal swab is not a high-quality sample and is not recommended.
- The NH/RCF should ensure sufficient supplies of viral swabs are ordered as soon as possible. NH/RCF may seek immediate advice from the NVRL/local laboratory (depending on local arrangements) regarding access to viral swabs.
- If the results of the tests are positive for SARS-CoV-2 and/or influenza, please see guidance documents here and here.
- If SARS-CoV-2 and/or influenza are not detected, it is advised following a risk assessment that Public Health discuss with the laboratory whether further testing for other respiratory viruses should be conducted. The NVRL and/or some laboratories may already be testing for multiple pathogens on multiplex PCR systems.

- In the context of an outbreak (two or more cases) of acute respiratory infection, a Public Health Risk Assessment (PHRA) will be undertaken. This PHRA will direct the management of the outbreak. Testing of approximately five symptomatic residents is generally recommended. However, in some circumstances e.g. when infection with more than one respiratory pathogen is suspected in the facility, additional testing of symptomatic individuals may be required following a clinical risk assessment. This will be assessed on a case by case basis.

Staff

- Staff should be informed that they **MUST NOT** attend work if they have a fever, cough, shortness of breath, **or any new respiratory symptoms**. This continues to apply to staff after COVID-19 and/or influenza vaccination/infection.
- If a member of staff is confirmed COVID-19 it is important they follow the advice given to them and remain off work for 10 days. Staff should be aware of their local policy for reporting illness to their line manager and be symptom free for 48-hours prior to returning to work.
- In addition, at the start of each shift, all staff should confirm with their line manager that they do not have any symptoms of respiratory illness, such as fever, cough, shortness of-breath or myalgia. **This continues to apply to staff after vaccination/infection.**
- Staff members who become unwell at work should immediately report to their line manager and should be sent home. They should contact their GP and be referred for testing.
- Asymptomatic staff should **NOT** be offered testing.
- Occupational health guidance for healthcare workers is available at: https://www.hse.ie/eng/staff/workplace-health-and-wellbeing-unit/covid-19-guidance/

References

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3. Smetana J, Chlibek R, Shaw J, Splino M, Prymula R. Influenza vaccination in the elderly. Human vaccines & immunotherapeutics. 2018 Mar 4;14(3):540-9. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5861798/
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5. National Immunisation Advisory Committee (NIAC): Chapter 5a: COVID-19. 2021 https://www.hse.ie/eng/health/immunisation/hcpinfo/guidelines/covid19.pdf
6. World Health Organization, Influenza Update N° 403. 2021 Sept https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring/influenza-updates/current-influenza-update

Appendix 1

Case definitions

COVID-19 case definition

https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/casedefinitions/covid-19interimcasedefinitionforireland/

Clinical criteria

- A patient with acute respiratory infection (sudden onset of at least one of the following; cough, fever[1], shortness of breath) **OR**
- Sudden onset of anosmia[2], ageusia[3] or dysgeusia[4]

  OR
- A patient with severe acute respiratory infection (fever and at least one sign/symptom of respiratory disease (e.g. cough, fever, shortness of breath)) **AND** requiring hospitalisation (SARI) **AND** with no other aetiology that fully explains the clinical presentation.
- Clinical judgement should be applied in application of these criteria to determine who requires testing.

Influenza case definition:

https://www.hpsc.ie/a-z/respiratory/influenza/casedefinitions/

Sudden onset of symptoms AND at least one of the following four systemic symptoms: fever or feverishness, malaise, headache, myalgia AND at least one of the following three respiratory symptoms: cough, sore throat and shortness of breath. The case definition for influenza is available at: http://www.hpsc.ie/hpsc/NotifiableDiseases/CaseDefinitions/

A hospitalised person with acute respiratory infection, with

- AND at least one of the following symptoms: cough, fever, shortness of breath
- OR sudden onset of anosmia, ageusia or dysgeusia with onset of symptoms within 14 days prior to hospital admission.

RSV case definition

https://www.hpsc.ie/a-z/respiratory/respiratorysyncytialvirus/casedefinitions/

Clinical criteria

Any person presenting with a compatible clinical illness. Primary infection with respiratory syncytial virus (RSV) manifests clinically as pneumonia, bronchiolitis, tracheobronchiolitis or upper respiratory tract infection (often accompanied by fever and otitis media). The infection is rarely asymptomatic.

COVID-19 outbreak case definition

Version 3.0

- A cluster/outbreak, with two or more cases of laboratory confirmed COVID-19 infection regardless of symptom status. This includes cases with symptoms and cases who are asymptomatic. **OR**
- A cluster/outbreak, with one laboratory confirmed case of COVID-19, and at least one additional case of illness with symptoms consistent with COVID-19 infection (as per the COVID-19 case definition)

* From September 21st 2020, report suspected COVID-19 outbreaks with the disease category 'Acute Respiratory Infection (ARI)'. If one or more cases linked to the outbreak are subsequently confirmed as COVID-19, the ARI outbreak should be reclassified to being a COVID-19 outbreak. Outbreaks of suspected COVID-19 which were notified before September 21st 2020, and met the previous COVID-19 outbreak definition should remain as COVID-19 outbreaks on CIDR

Last updated: 21 September 2020