Guidance on testing for Acute Respiratory Infection (ARI) in Residential Care Facilities* (RCF) – Winter 2022/2023

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Version	Date	Changes from previous version	Author
1.2	17/11/2022	Reviewed to align with 2022/2023 NIAC recommendations Updated to include updated EU/ECDC case definition for acute respiratory infection (ARI)	HPSC influenza team and the HSE Research and Guideline Development Unit
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	HPSC influenza team and the HSE Research and Guideline Development Unit
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 for the 2022/2023 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 viruses are difficult to distinguish based on clinical symptoms alone and require laboratory confirmation for definitive diagnosis. 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. Vaccination provides the best protection against significant respiratory illnesses. The inactivated **quadrivalent influenza vaccine (QIV)** is being offered to adults aged 65 years and older in Ireland in the 2022/2023 season. A third COVID-19 booster vaccination is recommended by the National Immunisation Advisory Committee (NIAC) for those aged 65 years and older who are living in residential care facilities, while those aged 12-49 years living in residential care are advised to obtain their second booster dose (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 interventions such as treatment and prophylaxis 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.

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 2022/2023. This case definition aligns with the European Commission/ European Centre for Disease Prevention and Control EU case definition.

Acute respiratory infection (ARI)

- Sudden onset of symptoms

AND

At least one of the following four respiratory symptoms:

- Cough, sore throat, shortness of breath, coryza

AND

- A clinician's judgement that the illness is due to an infection

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

- fever
- cough
- tiredness
- loss of taste or smell.

Less common symptoms:

- sore throat
- headache
- aches and pains
- diarrhoea
- a rash on skin, or discolouration of fingers or toes
- red or irritated eyes.

Acute respiratory infection (ARI) outbreak definition*

*Please note this outbreak definition is for surveillance and management pertains to NH/RCF for Winter 2022/2023.

A cluster/outbreak of two or more cases of acute respiratory infection (ARI) arising within the same 48-hour period in the above settings/situations, which meet the same clinical case definition. Investigation of lower numbers of cases in a shorter timeframe can be undertaken if considered appropriate following public health risk assessment.

Recommendations

The following recommendations were initially made by the subgroup of PICT in 2021 and were subsequently reviewed by the HPSC influenza team and the HSE Research and Guideline Development Unit in 2022.

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.
- 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 document 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 are testing for multiple pathogens on multiplex PCR systems and some other 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 has confirmed COVID-19 infection, it is important they follow the advice given to them and remain off work for **7** days from the onset of symptoms, or until they are well enough to return. Staff should be aware of their local policy for reporting illness to their line manager.
- If a member of staff has confirmed influenza infection, it is important they follow the advice given to them and remain off work for **5** days from the onset of symptoms, or until they are well enough to return. Staff should be aware of their local policy for reporting illness to their line manager.
- 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.
- 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/
4. Deguchi Y, Takasugi Y, Nishimura K. Vaccine effectiveness for influenza in the elderly in welfare nursing homes during an influenza A (H3N2) epidemic. Epidemiology & Infection. 2000 Oct;125(2):393-7. https://www.cambridge.org/core/journals/epidemiology-and-infection/article/vaccine-effectiveness-for-influenza-in-the-elderly-in-welfare-nursing-homes-during-an-influenza-a-h3n2-epidemic/95A6778D6828332FFECC4127CBE7D6C8
5. National Immunisation Advisory Committee (NIAC): Chapter 5a: COVID-19. 2022 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/

Influenza case definition:

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

http://www.hpsc.ie/hpsc/NotifiableDiseases/CaseDefinitions/

RSV case definition

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

COVID-19 outbreak case definition
https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/casedefinitions/covid-19outbreakcasedefinitionforireland/