Respiratory infections, encompassing a wide range of illnesses affecting the respiratory system, present significant challenges to public health.

These infections can range from **mild colds** to potentially more severe respiratory diseases, such as **influenza, tuberculosis, legionnaires' disease, COVID-19 and emerging threats**.

Rapid transmission, potential for outbreaks, and significant morbidity and mortality rates underscore the critical importance of robust surveillance systems in promptly detecting and responding to these infections.

Surveillance of respiratory infections is a critical public health tool that facilitates early detection, informed decision-making, and effective responses to protect the population's health. By continually monitoring and analysing data, the Public Health Agency can strengthen their preparedness and ability to mitigate the impact of respiratory infections on communities in Northern Ireland.

Further information on respiratory infections, including COVID-19 can be found on NI Direct.

Weekly reporting:

- Health protection situational awareness (HPSA) report
- COVID-19 genomics bulletin
- Respiratory surveillance report

Monthly reporting:

- Pertussis (whooping cough) update
- Scarlet fever and IGAS

Annual reporting:

- Seasonal influenza - annual surveillance reports
- Epidemiology of tuberculosis (TB) in Northern Ireland: annual surveillance report 2025 (data up to end of 2024)
- Legionellosis: Northern Ireland surveillance report 2014 to 2024

Access Respiratory diseases and infections page for more information on the infections we monitor and report on:

- Avian influenza | HSC Public Health Agency
- Legionellosis | HSC Public Health Agency
- Pertussis (whooping cough) | HSC Public Health Agency
- Respiratory Syncytial Virus (RSV) | HSC Public Health Agency
- Seasonal influenza (flu) | HSC Public Health Agency
- Tuberculosis (TB) | HSC Public Health Agency

Information on the respiratory surveillance report

Information on the respiratory surveillance report

Click here for respiratory surveillance report

PHA has integrated influenza, respiratory syncytial virus (RSV) and COVID-19 reporting into a new report to provide a single overview of the epidemiology of these infections.

The new Respiratory Surveillance Report includes:

- Episodes of influenza, RSV and COVID-19 by epidemiological week, and by age and local government district (LGD).
- Overall testing and positivity for influenza, RSV and COVID-19 by epidemiological week.
- Episodes of influenza subtypes by epidemiological week.
- Sentinel and non-sentinel surveillance of influenza and RSV. Presentation of COVID-19 will be included at a later date.
- SARS-CoV-2 genomic variants.
- Consultation rates for influenza/influenza-like-illness (‘flu/FLI’) and acute respiratory infection (ARI) by epidemiological week, and by age and Health and Social Care Trust (HSCT).
- Influenza, RSV and COVID-19 care homes outbreaks.
- Influenza, RSV and COVID-19 community-acquired emergency hospital admissions and occupancy.

- Medical certificate of cause of death for respiratory-associated deaths and COVID-19 related deaths.

Information on the COVID-19 genomics bulletin

Information on the COVID-19 genomics bulletin:

Click here for COVID-19 genomics bulletin

As part of the COVID-19 pandemic response, the Public Health Agency Health Protection Surveillance team established a new surveillance system to monitor SARS-CoV-2 genomic variants. The Surveillance team used reflex assay (genotyping) to screen for variants of concern, and used whole genome sequencing results to monitor the prevalence of genomic lineages, which provided a more detailed view of the genome. The team also used transmission chain analysis to provide predictions on potential transmission events, in order to identify the source of infection and help reduce the chance of more transmission.

During the COVID-19 pandemic, variants in Northern Ireland were identified using genomic surveillance. This information was used to advise public health action in controlling the spread of COVID-19. Screening for variants continues to be important for making informed public health decisions, particularly if we identify a variant shown to cause more severe illness, or if vaccines might not offer as much protection against a new variant.

Further information about SARS-CoV-2 variants can be found in UKHSA’s reports here:

- Investigation of SARS-CoV-2 variants: technical briefings - GOV.UK (www.gov.uk)
- SARS-CoV-2: genome sequence prevalence and growth rate - GOV.UK (www.gov.uk)

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