

## Editorial

# The impact of viral respiratory infections in the winter season (2024/25): what we have learned so far and the need to strengthen disease surveillance and prevention

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In many countries of the Northern Hemisphere, we have seen a trend in acute respiratory infections increase at this time of year. These trends are typically caused by seasonal epidemics of respiratory pathogens such as seasonal influenza, respiratory syncytial virus (RSV), and other common respiratory viruses, including human metapneumovirus (hMPV), as well as *Mycoplasma pneumoniae*. Many countries conduct routine surveillance for acute respiratory infections and common respiratory pathogens [1].

## Respiratory viruses

During the winter period and as the weather turns colder, we notice more people feeling unwell with some of them showing symptoms like coughing and sniffing on the buses, trains, offices or walking on the streets. There is a ‘cold and flu’ season that repeats on a year-by-year basis and we should learn from the previous ones as we deal with a similar situation this winter.

By the end of 2024, we faced a “quademic,” with high incidence of influenza, RSV, covid-19 (omicron subvariants), and the winter vomiting bug (norovirus) all putting pressure on the National Health Service (NHS) in the United Kingdom (UK) and other healthcare systems across the world. In terms of the NHS, the number of hospital admissions with influenza rose by more than 300% from the end of November to the end of December. This was triple the number of admissions recorded at the same point last year [2].

In UK, we have also seen that during the winter period hospitals have declared critical incidents and the rise in demand on healthcare services as consequence. High rates of hospital admissions with flu aren’t

unprecedented: we saw a similar peak in the 2022-23 winter season [3].

## What are we seeing at the pick of this winter period?

*‘Brothers in arms’ (influenza A and respiratory syncytial viruses)*

### Influenza

Flu is a viral infection affecting the nose, throat, and lungs, mostly during the winter months. It is known to be far worse than an ordinary cold, which usually causes a runny nose, sneezing, watery eyes and throat irritation.

Flu can lead to serious illness, especially in children, with more than 8,000 hospitalisations last winter. Older people, those with a weakened immune system, and people with long-term health conditions are found to be at higher risk. Over the past 2 winters, at least 18,000 deaths were associated with flu [4].

According to the latest data from the UK Health Security Agency (UKHSA; surveillance report - week 3: 16/1/2025), influenza activity is showing a mixed picture with some indicators suggesting that activity may have reached a peak and was circulating at medium levels. Emergency department (ED) attendances for influenza-like-illness (ILI) decreased overall. The number of influenza-confirmed acute respiratory infections (ARI) incidents in week 2 increased slightly compared with the previous week [5].

This season, so far influenza A (H1N1) has been the predominant subtype detected with recent increases in the number of that specific subtype detections.

Because of the variance in flu strains this season (as in the previous seasons), people’s immune systems are

struggling harder to fight off the symptoms than they typically would.

Those eligible for the flu vaccine include everyone aged 65 and over; those aged between 6 months and 65 with certain medical conditions; pregnant women and all children aged 2 and 3 years via their GP and school children (reception to year 11) offered a nasal spray vaccine through the school vaccination teams. For anyone who took up the offer, last year's flu vaccine had a significant impact on reducing severe illness, with a 30% reduction in the number of those aged 65 and over being hospitalised, and a 54% reduction in those aged between 2 and 17 years.

#### Respiratory syncytial viruses (RSV)

RSV is a prevalent respiratory virus that is common over the winter period (typically recorded from November to February), that can spread and has similar symptoms as Influenza viruses [4].

While the symptoms are mild for many, RSV can cause bronchiolitis [6] in infants, which can make it difficult for them to breathe and feed. This accounts for approximately 20,000 hospitalisations annually in children aged under 1.

RSV can also cause severe episodes in older adults, associated with pneumonia and flare-ups of existing lung disease and other long-term conditions. It causes around 9,000 hospitalisations in those aged 75 and over in the UK each year.

An NHS vaccine has been introduced for pregnant women, to protect babies once they are born, and for those aged 75 to 79 years. If received during pregnancy, the vaccine reduces the risk of severe bronchiolitis by 70% in the first six months of a baby's life [4].

#### Covid-19 latest

While for most people COVID-19 is not as severe as during the early years of the pandemic, the virus is still causing severe illness, hospitalisations, and deaths – particularly among those with a weakened immune system and certain long-term health conditions, as well as older people [7].

We have seen COVID-19 symptoms change over time. The latest descendant of the Omicron variant of SARS-CoV-2, XEC had arisen through recombination, a process where two other variants had forged their genetic material together [8]. Tests seemed to indicate that this would easily allow it to evade the immune protection offered by past infections or the latest iterations of the Covid-19 vaccines, based on the older JN.1 and KP.2 variants. Despite that, many people now only experience cold-like symptoms with more

vulnerable people experiencing fever or chills, continuous cough, shortness of breath, tiredness, body aches and more. Experts advise that all vulnerable groups should get the latest Covid-19 vaccine, which can provide vital protection against serious illness, hospitalisation and death. And while XEC seems to cause less severe disease, there's no guarantee that more severe variants won't emerge in the future.

#### **Human metapneumovirus (hMPV) and the latest outbreak this winter in China**

The Chinese Centre for Disease Control and Prevention (CDC) has reported a sharp increase in respiratory viral infections, including human metapneumovirus (hMPV) infections, in northern China since December 2024, despite reports about a “mysterious” covid-like virus overwhelming Chinese hospitals making international headlines initially. The collected and disseminated data afterwards suggest that this outbreak was indeed caused by hMPV that is known to be a common winter bug that is following an expected seasonal outbreak pattern.

hMPV is not a new virus (like SARS-CoV-2) and has been circulating in its current form for decades and known since the Dutch researchers first isolated it in 2001 as they found antibodies in almost all children that they tested aged 5 and older [9].

This is a virus that can be more serious in infants, elderly people, and people who are immunocompromised, who may develop bronchiolitis or a more severe disease and pneumonia. It kills at about the rate of RSV and influenza, with higher death rates among infants in low income and lower middle-income countries.

Unlike influenza A and respiratory syncytial virus (RSV), from which this virus shares a common symptomatology, there is no vaccine against hMPV. However, hMPV causes a mild illness and patients usually recover after a few days. Immune treatment and antivirals are occasionally used, but bed rest and fluids are the primary treatment [9].

#### **Conclusions**

We see cases of flu, RSV, COVID-19 and norovirus throughout the year, but in winter they circulate at the same time and can reach high levels.

Developing a strong surveillance system that track the most prevalent and other respiratory viruses including rhinovirus, adenovirus, human metapneumovirus (hMPV) and parainfluenza – that can also peak over the autumn and winter months – is of great public health importance.

Flu, COVID-19 and RSV have vaccines, which are offered to different vulnerable groups. For example, the flu vaccine is designed to target the most likely circulating strains each winter season, meaning that its effectiveness can vary depending on how well it matches the predominant strains. Studies suggest that flu vaccinations can reduce hospital admissions by 30-50% in vaccinated people [10].

Staying at home when you have symptoms of flu or COVID-19 helps protect those who are vulnerable. If you need to go out when unwell, consider wearing a mask around other people.

Simple measures like catching coughs and sneezes in a tissue, regular handwashing, and opening a window when meeting others indoors can all help reduce the spread of respiratory infections.

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### Conflict of interests

No conflict of interests is declared.

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