Respiratory viruses in the EU: an epidemiological overview and public health needs

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ESWI Summit, Thursday, 11 June 2026

Epidemiological situation of respiratory viruses under routine surveillance in the EU

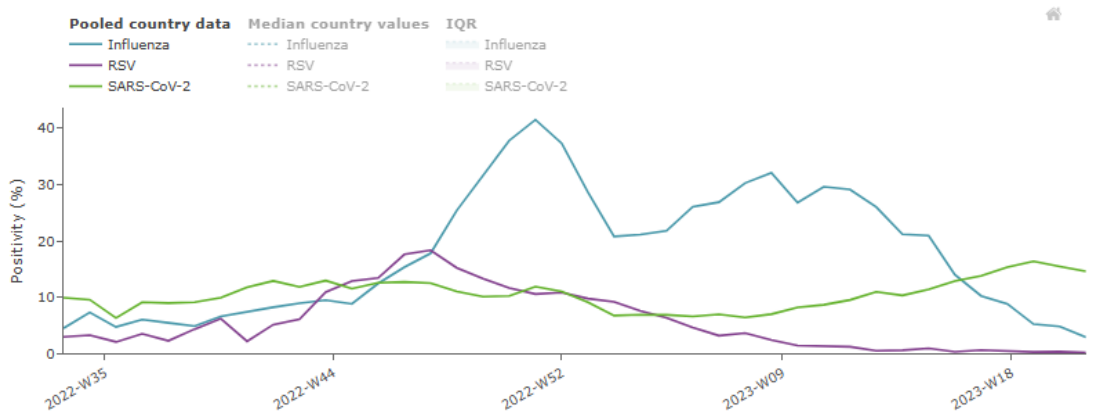
Epidemiology

Changes in epidemics of respiratory viruses in post-COVID-19 pandemic years:

- Influenza back to regular seasonality
- RSV with long test positivity tail into the spring
- COVID-19 with no clear seasonality established

Seasonal patterns – last four seasons

Aggregate weekly test positivity



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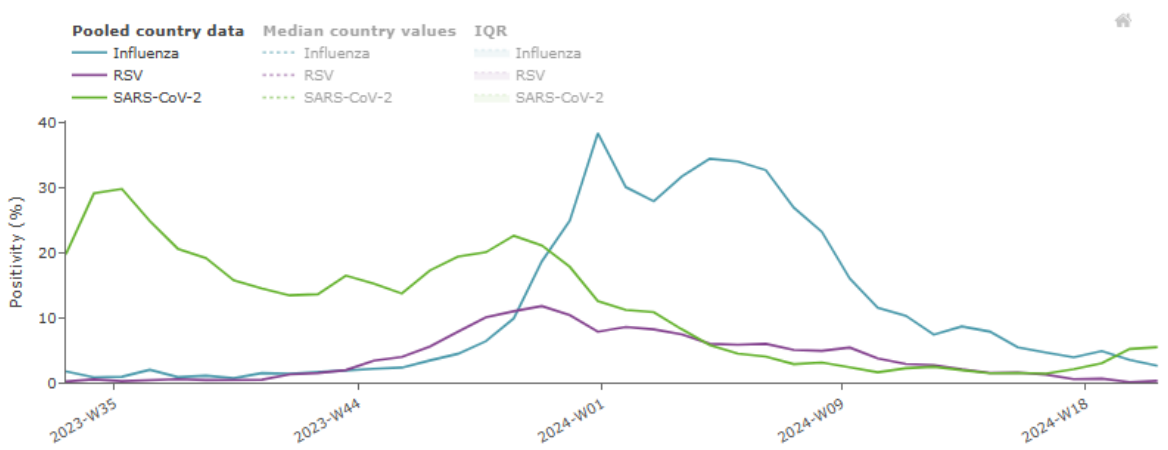

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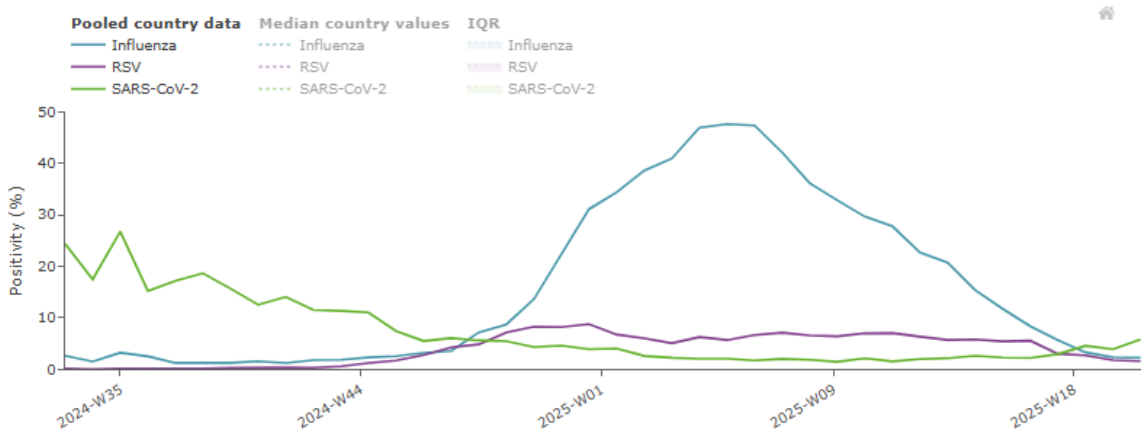

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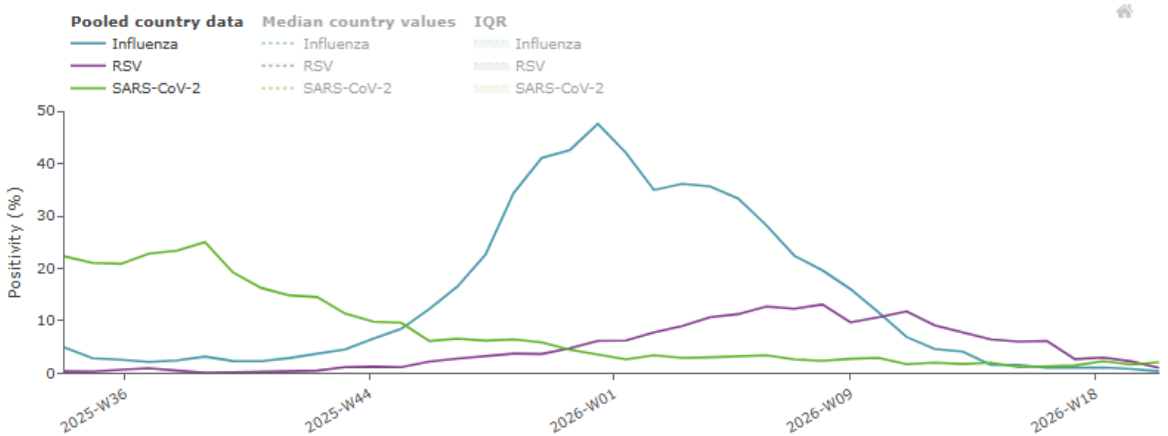
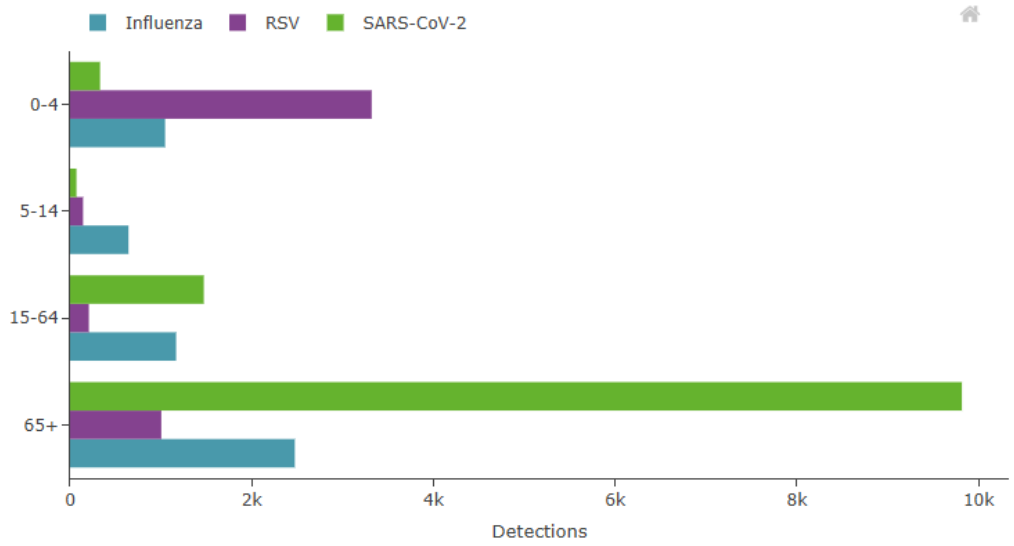


SARI - virological detections by age

Cumulative detections by age, 2022-W20 to 2023-W20



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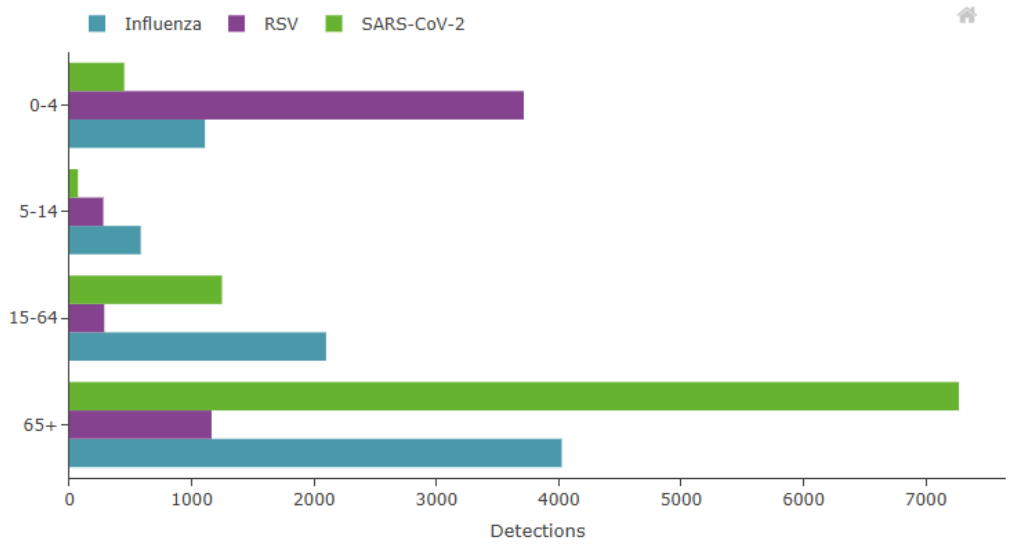
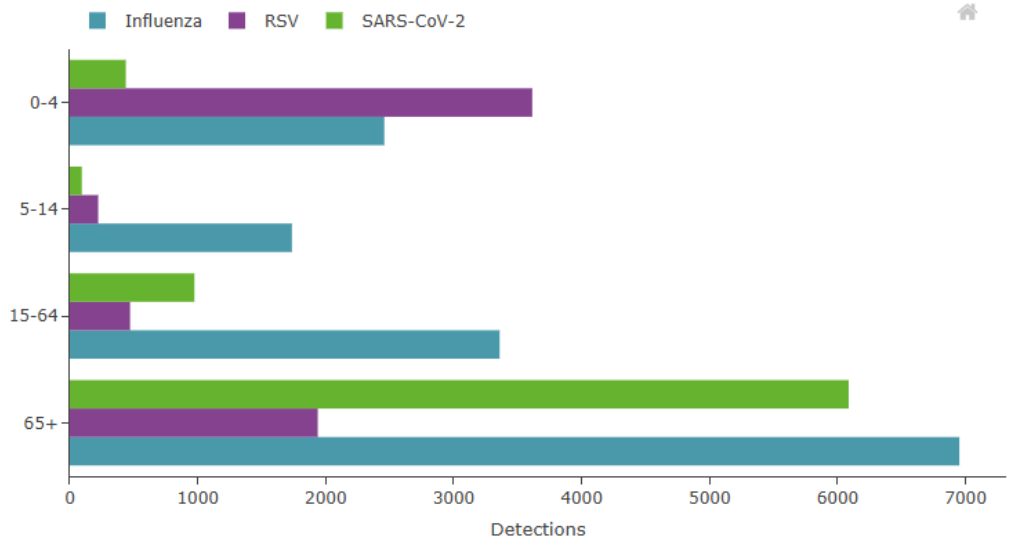




Influenza

Burden of influenza

In a typical season, influenza causes substantial morbidity in the European population, with **up to 50 million symptomatic cases**

Influenza also causes **15 000 to 70 000 deaths annually**.

It is estimated that **up to 20% of the population contract influenza annually**.

This results in absence from school and work and a significant impact on healthcare systems.

A higher impact is seen in closed settings such as long-term care facilities (LTCFs), where outbreaks of seasonal influenza can have high morbidity and mortality.

https://www.ecdc.europa.eu/en/publications-data/threat-assessment-brief-assessing-risk-influenza-november-2025

Compared to previous years, influenza increased unusually early in the EU/EEA, with A(H3N2) driving the increases in recent weeks.

In-vitro antigenic and serological analyses also suggested a mismatch between the vaccine and this new subclade.

"*Even if a less well-matched A(H3N2) virus dominates this winter, the vaccine is still expected to provide protection against severe disease*"

THREAT ASSESSMENT BRIEF

Assessing the risk of influenza for the EU/EEA in the context of increasing circulation of A(H3N2) subclade K

20 November 2025

Summary

Circulating respiratory viruses, including influenza viruses, SARS-CoV-2 and RSV, all contribute to pressure on healthcare systems during winter in the EU/EEA. In a typical season, influenza causes substantial morbidity in the European population, with up to 50 million symptomatic cases and 15 000 to 70 000 deaths annually. All age groups are affected, although children have higher rates of illness and are usually the first to become sick and transmit the disease in their households, which can drive transmission in the community. It is estimated that up to 20% of the population contract influenza annually. This results in absence from school and work and a significant impact on healthcare systems. A higher impact is seen in closed settings such as long-term care facilities (LTCFs), where outbreaks of seasonal influenza can have high morbidity and mortality.

ECDC decided to assess the risk of influenza for the EU/EEA in the context of early circulation of seasonal influenza in the region and the recently emerged influenza A(H3N2) subclade K that is circulating globally. This is to raise awareness of potential implications and provide recommendations to public health authorities. However, considerable uncertainty remains around the likely public health impact of this subclade on the influenza season.

Epidemiological situation

Compared to previous years, influenza is increasing unusually early in the EU/EEA, with A(H3N2) driving the increases in recent weeks. This situation reflects developments recently reported by other northern hemisphere countries.

The newly-emerged A(H3N2) subclade K (former J.2.4.1) has been now detected on all continents and accounts for a third of all A(H3N2) sequences deposited in the Global Initiative on Sharing All Influenza Data (GISAID) between May and November 2025 globally, and almost half in the EU/EEA. Phylogenetic analysis shows a significant divergence of subclade K from the northern hemisphere A(H3N2) vaccine strain. In-vitro antigenic and serological analyses also suggest a mismatch between the vaccine and this new subclade. Real-world vaccine effectiveness data are currently limited.

A(H3N2) has not been the dominant virus in recent seasons which may lead to lowered immunity in populations without recent exposure, although serological data are not yet available to assess this further.

https://www.ecdc.europa.eu/en/publications-data/threat-assessment-brief-assessing-risk-influenza-november-2025

Respiratory Syncytial Virus (RSV)

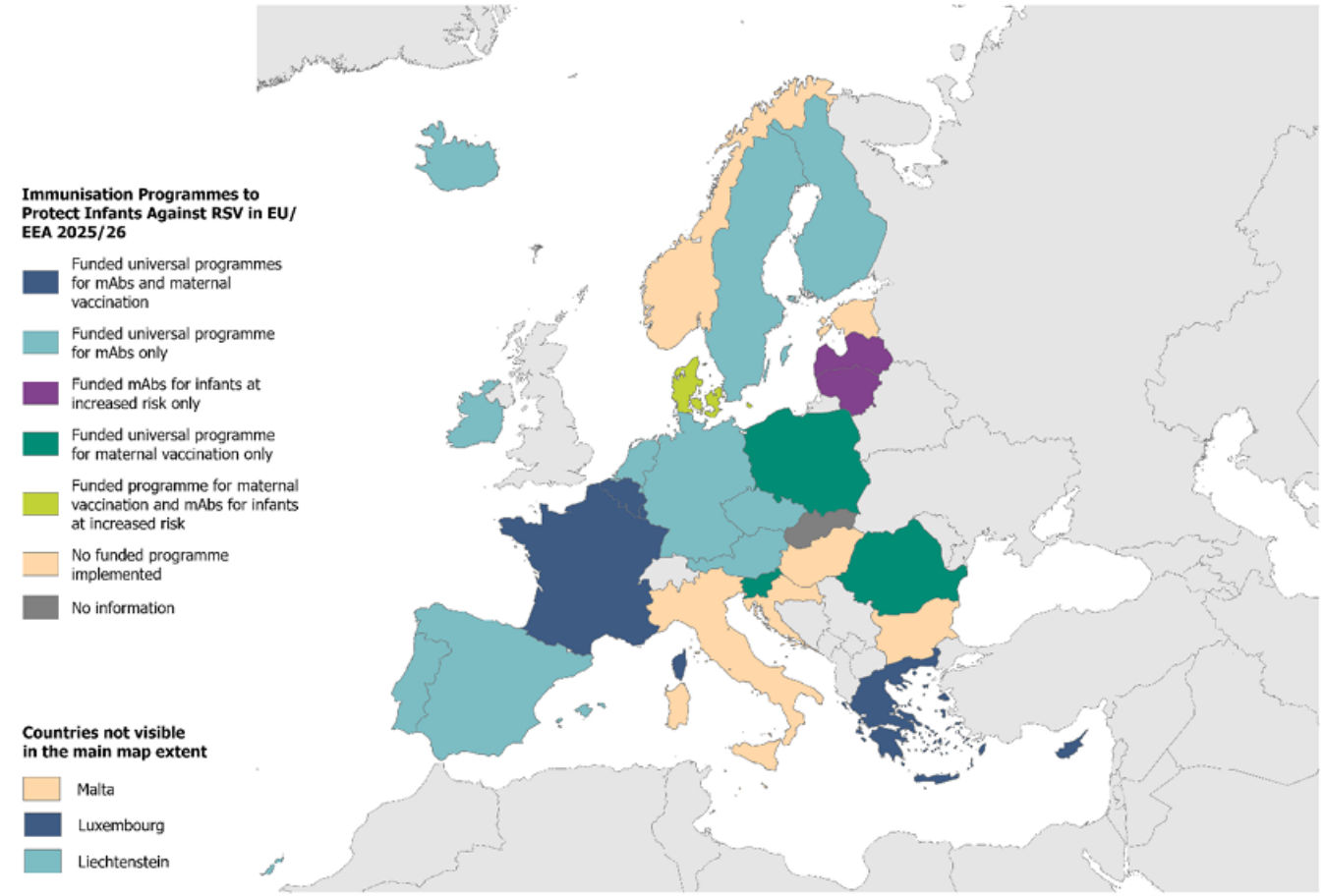
RSV in children

An estimated **250 000 children under the age of five** are **hospitalised each year across Europe due to RSV infection.**

Severe cases of RSV in infants can be prevented by vaccinating pregnant individuals or by immunising infants after birth.

Premature babies and those with chronic lung conditions are particularly vulnerable to severe illness and can be prioritised for immunisation when universal immunisation is not possible.

Figure 2. Implementation of RSV immunisation programmes to protect infants in EU/EEA countries for the 2025-26 season



Map produced on: 22 Oct 2025. Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat. The boundaries and names shown on this map do not imply official endorsement or acceptance by the European Union.

https://www.ecdc.europa.eu/en/publications-data/rapid-scientific-advice-protecting-infants-against-respiratory-syncytial-virus

RSV in adults

- ~1 in 20 older adults ≥60–65 years infected annually
- ~156,000 adult hospitalisations/year in EU
- Non-negligible mortality (~30/100,000 ≥65 years)
- Seasonal epidemics place pressure on healthcare systems, especially during co-circulation with other respiratory viruses
- Vaccines available in EU

ECDC to develop an evidence-based guidance for vaccination of adults in the EU

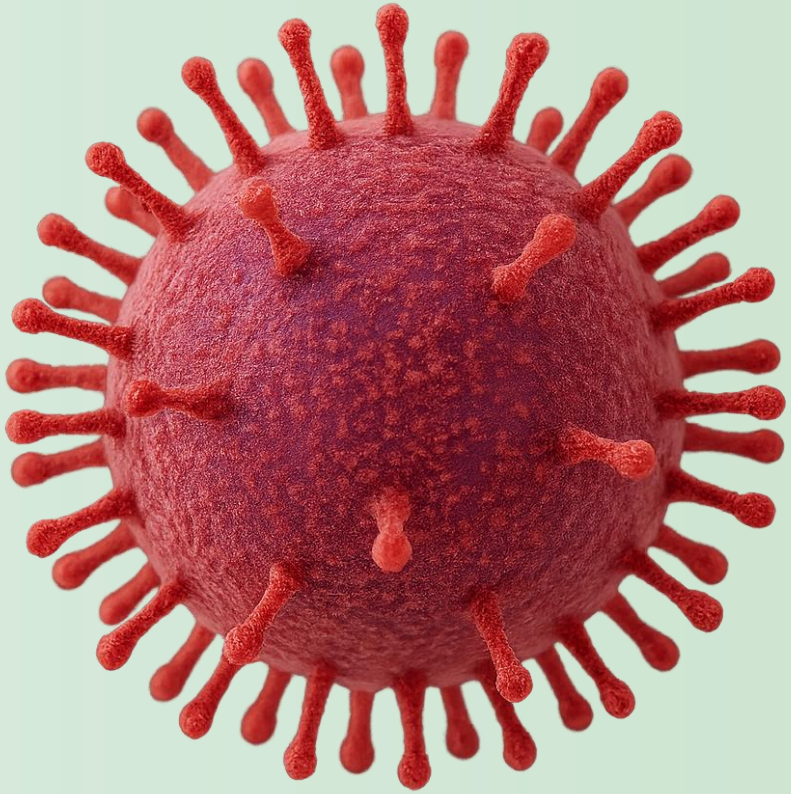
ECDC website: Respiratory syncytial virus (RSV)
Excess mortality and hospitalisations associated with respiratory syncytial virus, influenza, and COVID-19 among adults in Denmark (2015–2024): a modelling study - The Lancet Regional Health – Europe

Other respiratory viruses and links with chronic conditions

Other respiratory viruses currently not under surveillance at the EU level

Adenoviruses
Human metapneumovirus
Rhinoviruses
Human coronaviruses other than SARS-CoV-2
Paramyxoviruses
Enteroviruses

Human Metapneumovirus



Human Metapneumovirus often causes mild respiratory illness in people of all ages and may cause middle ear infections.

It can cause bronchiolitis in young children, and pneumonia in older adults and people with weakened immune system.

It may complicate COPD in adults and exacerbate asthma attacks in children.

Link between respiratory viruses and chronic diseases

A “two-way street”:

- Chronic diseases worsen respiratory viral infections
- Respiratory viruses trigger and exacerbate chronic diseases

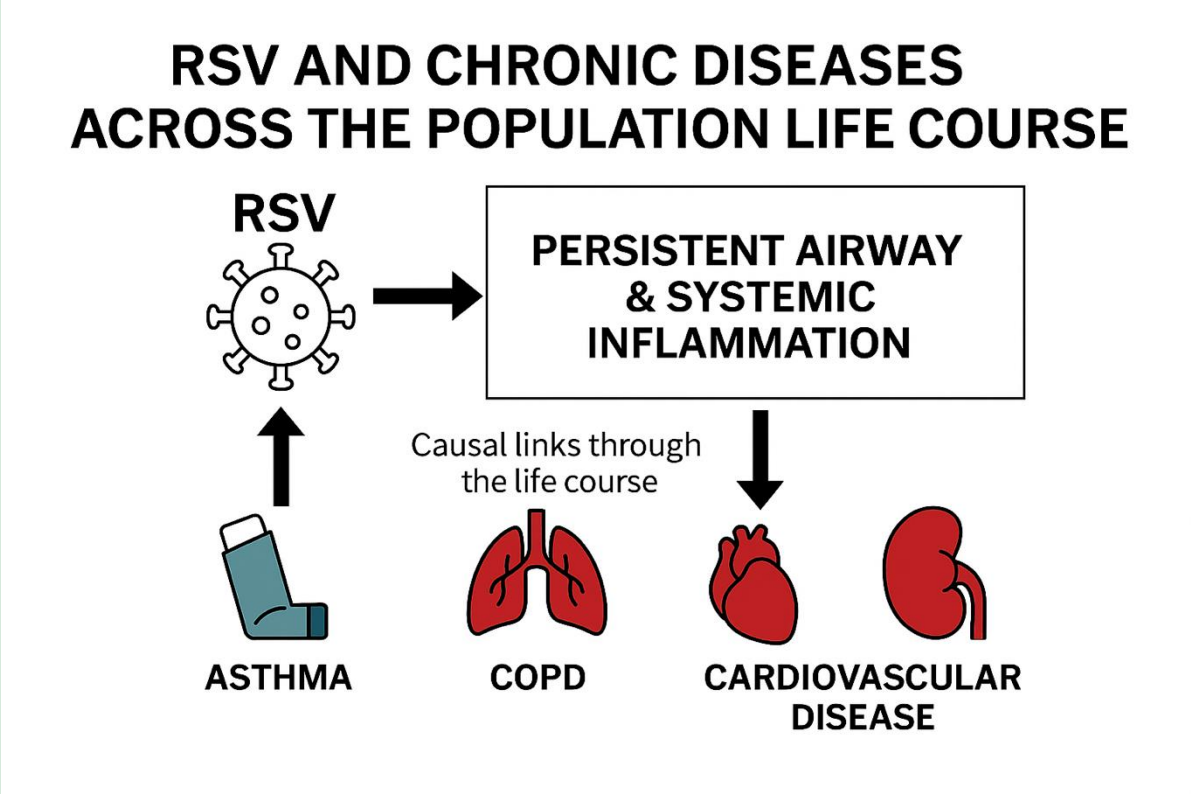
Epidemiological associations of respiratory viruses with cardiovascular disease, chronic lung disease, and chronic inflammation have been observed.

Links also with other chronic conditions

This may translate into an **opportunity for highly impactful preventive measures** like vaccination

There is a need to estimate the preventable burden and identify groups in the population at different level of risk to prioritise them for vaccination

RSV and chronic disease



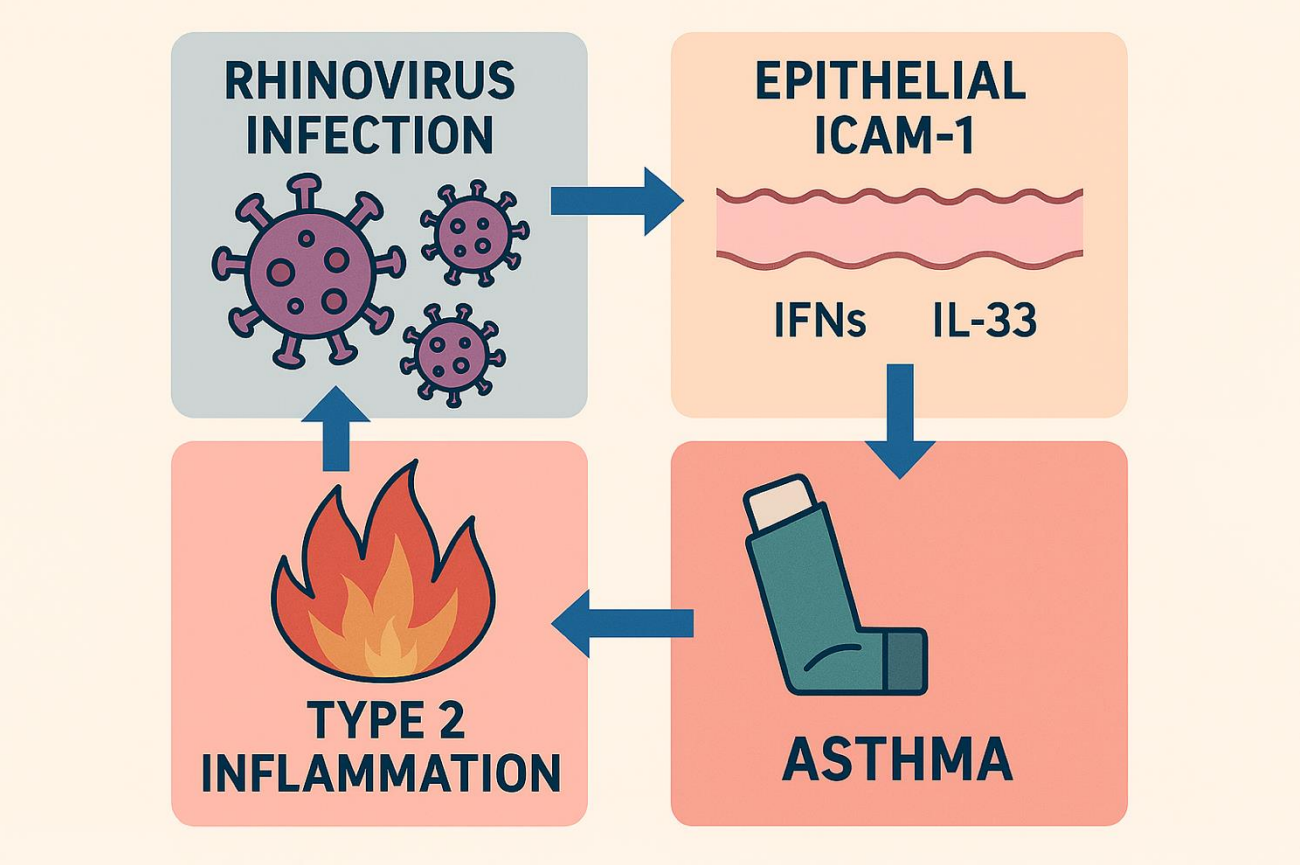
RSV can trigger or exacerbate underlying chronic conditions.

For instance, severe RSV infections in children may cause lasting airway inflammation, significantly increasing the risk of developing recurrent wheezing and asthma

Rhinoviruses

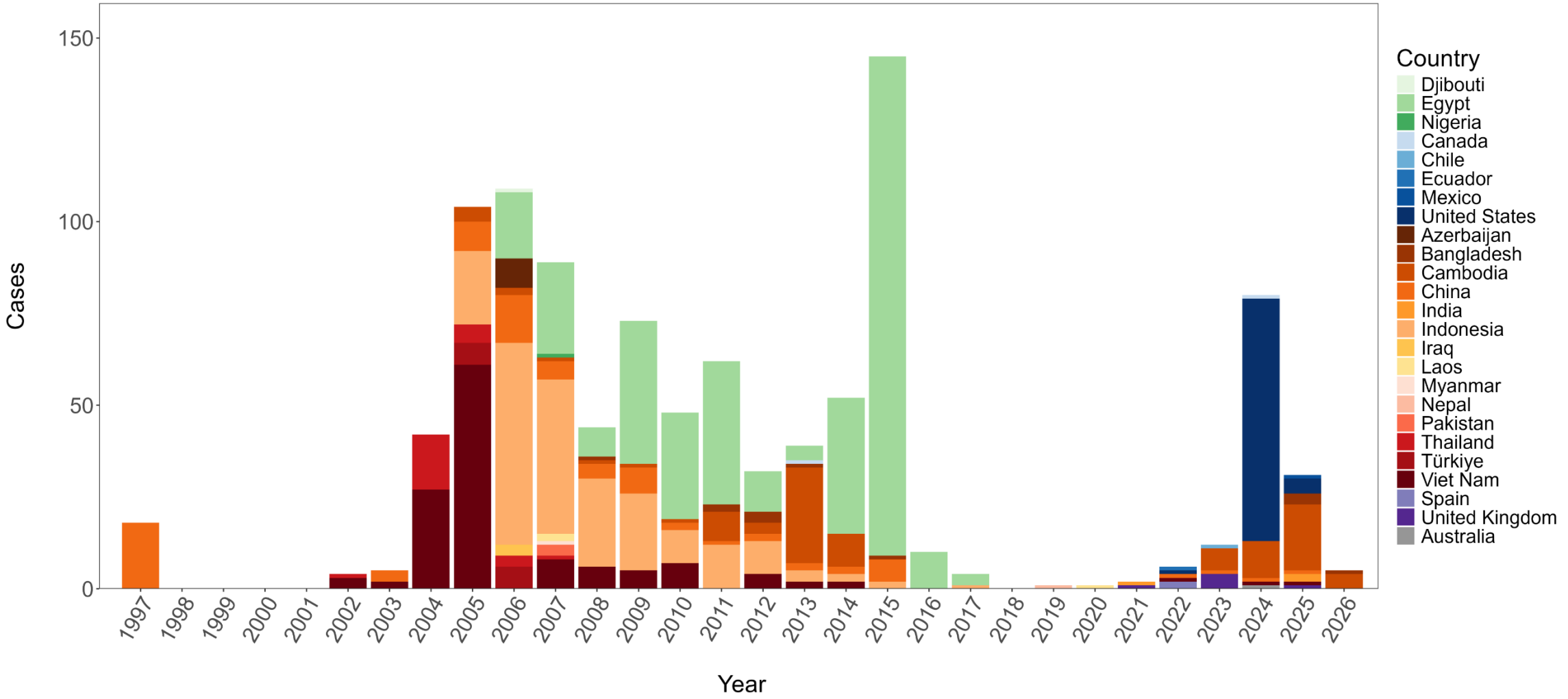
Rhinoviruses are a very common cause of common cold but…

…they do not only cause common cold: they can also frequently contribute to the development of asthma in small children and in exacerbations in people with asthma.



Pandemic-prone respiratory viruses

Reported cases and detections of influenza A(H5N1) in humans 1997 – 30 April 2026



Source: ECDC avian influenza linelist

Human cases of avian influenza A(H5N1)
1 May 2025 – 30 April 2026

25 cases

71%

33%

Exposure

92%

8%

Zoonotic respiratory viral pandemic threats

Horizon scanning for new emerging threats

Novel coronaviruses

Zoonotic (e.g. swine, avian) influenza viruses

Paramyxoviruses

Resources

ECDC Scenarios for pre-pandemic zoonotic influenza preparedness and response

- Scenario document: Zoonotic_influenza_pre_pandemic_scenarios.pdf
- Short instruction manual: pre-pandemic-scenario-document.pdf
- Downloadable Excel tool: excel-tool-scenarios-zoonotic-influenza.xlsx
- Press release: ECDC defines strategies to fight avian and swine flu in humans

Key related documents

- ECDC/EFSA/AI EURL - Avian influenza overview December 2025–February 2026
- ECDC/EFSA - Coordinated One Health investigation and management of outbreaks in humans and animals
- ECDC/EFSA - Preparedness, prevention and control related to zoonotic avian influenza
- ECDC Investigation protocol for human exposures and cases of avian influenza in the EU/EEA

Thank you for your attention