Policy priorities for protecting adults at risk of severe illness from RSV

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The Health Policy Partnership

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About this report

This report was developed to build greater awareness among policymakers of the impact of respiratory syncytial virus (RSV) in adults. We wished to highlight opportunities to reduce its burden on society through appropriate prevention, diagnosis and care. The report was written by Taylor Morris, Oriana Carswell and Jody Tate of The Health Policy Partnership (HPP) in consultation with a group of expert stakeholders. Janssen Pharmaceutica NV provided funding, but HPP held editorial control.

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Executive summary

Respiratory syncytial virus (RSV) is a common respiratory infection that can cause serious illness in older adults and people with certain health conditions. RSV is a common cause of respiratory tract infections.[1] It can spread via droplets when someone with the infection coughs or sneezes.[2] Although RSV usually causes a mild, cold-like illness in healthy adults, it can lead to hospitalisation and death in older adults and people with underlying conditions, particularly those that cause a weakened immune system.[3 4] It can also cause severe, long-term worsening of certain chronic conditions, including chronic obstructive pulmonary disease (COPD) and heart failure.[5 6]

Prevention is key to protecting high-risk adults from severe RSV infection. As there is currently no targeted treatment, with care generally consisting of symptom management,[7] prevention is critical to avoid the worst outcomes. As of December 2022, a vaccine for adults is not yet available. As a result, it is important to implement infection prevention and control measures rigorously – especially in hospitals and long-term care facilities – as they are the only means of prevention. Once a vaccine is available, which is anticipated in the near-to-medium term,[8] effective vaccination campaigns will be a critical component of prevention. Preparations should begin now to achieve the greatest possible benefit.

RSV and its impact on adults at risk of severe illness is under-recognised. Awareness of RSV generally seems to be low,[9] and healthcare professionals are often not motivated to test for it in the absence of targeted treatments.[10 11] As a result of low levels of testing, data collection and surveillance are often inadequate. Consequently, the burden of RSV is underestimated across Europe,[12 13] exacerbating complacency around protecting the individuals most vulnerable to infection.

We propose that policymakers and health system leaders can improve RSV management and prevent avoidable hospital admissions and deaths among adults by taking action in five priority areas:

- Better understanding among healthcare professionals
- Clear, formalised prevention strategies
- Improved public awareness
- Systematic use of diagnostics
- Robust data collection and surveillance

1 Introduction: RSV and its impact on adults at high risk of severe illness

What is RSV, and who is at risk?

Respiratory syncytial virus (RSV) is a common respiratory infection that can cause serious illness among high-risk groups. RSV is a common cause of lower respiratory tract infections around the world.[1] It spreads via droplets – for example, when someone with the infection coughs or sneezes.[2] In healthy adults, RSV typically causes a mild illness that is indistinguishable from other common respiratory infections such as flu or the common cold.[14 15] However, it can be very serious for young children and some groups of adults, including older adults and adults with certain underlying health conditions (*Box 1*).[3 4] Among these groups, RSV can lead to a severe infection, such as pneumonia.[15] It can result in hospitalisation and may lead to higher rates of death than flu.[3 16]

Box 1. Which adults are at increased risk of severe illness from RSV?

Older adults: older adults – often defined as those aged over 60 – are at risk of longer and more serious illness from RSV compared with younger adults due to waning immunity and increased frailty.[15 17] The risk of severe illness and death continues to increase with age, and almost one third of people aged 75 and over who are hospitalised with RSV die within a year of admission.[6]

People living with chronic obstructive pulmonary disease (COPD) or heart failure: of the people hospitalised with RSV, 70% have at least one underlying condition.[18] COPD and heart failure are widely recognised to be major risk factors for serious illness.[15 19] RSV can cause exacerbations (serious worsening of symptoms) of both of these conditions, which may lead to long-term damage and worsening health.[6 20] The exacerbation of heart failure during hospitalisation for RSV is associated with increased risk of death within one year.[6]

People with a compromised immune system: various health conditions, including HIV, can weaken the immune system, as can certain medications, such as those that people may take following an organ transplant or when they have cancer. People who have a weakened immune system are highly susceptible to respiratory infections, including RSV.[21 22] In these individuals, RSV often progresses to lower respiratory tract infection,

and it can result in respiratory failure and death.[22] For example, one study found that more than one in four people who had received haematopoietic stem cell transplants developed a lower respiratory tract infection following infection with RSV.[23] Of these individuals, about half died within 90 days.[23]

What is the impact of RSV in adults?

The burden of RSV infection in older adults is substantial and underestimated. Estimates from 2015 indicate that there were 1.5 million cases of RSV in adults aged 65 and over in industrialised countries, resulting in 336,000 hospitalisations during that year.[13] Before the COVID-19 pandemic, RSV was estimated to account for one in ten acute respiratory episodes in adults in Europe.[24] However, RSV is chronically under-reported, so its burden is often underestimated in both community and hospital settings.[13 25] In addition, RSV data collection and surveillance are inconsistent and often insufficient across the European Union (EU); the current burden at the European level is unclear.[12]

Severe RSV infections are a significant cause of hospital admissions among older adults and adults with underlying health conditions, resulting in considerable healthcare costs. Although experts have estimated often substantial economic costs of acute RSV management in various groups in North America[18 26] and among young children in many countries around the world,[27-29] data focusing on adults in Europe are extremely limited. However, the costs are likely to be high, as around 15% of acute RSV infections are estimated to require hospitalisation,[13] with people with pre-existing conditions having a higher risk of severe infection (see *Box 1*) and subsequent healthcare utilisation.[30] Furthermore, data from the US suggest that more than 20% of adults aged 60 and over who are hospitalised with RSV will require ventilation support, and about 60% of people aged 75 and over will require additional care following discharge from hospital.[6] Regardless of whether they receive this care at home or in nursing facilities or hospices, it will add further costs.

RSV also has a considerable impact on people who are already in hospital or long-term care. RSV transmission risk is significant during outbreaks in hospitals and long-term care facilities.[31 32] Older adults and individuals who have a weakened immune system are particularly vulnerable to RSV infection, are more likely to experience longer hospital stays and have an increased risk of death.[31 32]

Despite the significant burden of RSV among high-risk adults, the condition remains under-recognised by policymakers and health systems. As early as the 1950s, RSV was identified as a virus affecting young children,[33] and despite the mounting evidence of its impact on some adults, it is often still perceived as a childhood illness.[3] As a result, the planning and execution of prevention, diagnosis and data collection are often insufficient,[12] [34] and there is a lack of dedicated clinical RSV guidelines across Europe for adults at high risk.[7]

This report aims to support policymakers across Europe to improve RSV prevention and care for adults who are at high risk of severe illness. It sets out the current gaps in policy and practice and presents specific actions to address these. It also considers the current landscape, in the absence of available vaccines or targeted treatments, as well as future strategies, which will need to incorporate new solutions for prevention and treatment.

2 Policy priorities for improving RSV management in Europe

Policymakers and health system leaders can take action and harness opportunities to improve the prevention and management of RSV in adults. These opportunities will continue to expand as new targeted treatments and vaccines become available in the coming years.

2.1 Healthcare professionals need to be more aware of RSV as a serious risk to certain groups of adults to improve the delivery of best-practice care

What is this, and why is it important?

An understanding among healthcare professionals of the risks RSV poses to vulnerable adults is important to promote best-practice care. For adults at high risk of severe illness to receive optimal care, healthcare professionals must first consider that RSV could be causing the reported symptoms. They should then recognise the serious threat the virus could pose to the health of these adults and the people around them. Health and social care professionals in hospitals, primary care and long-term care settings must be aware of the burden and impact of RSV on adults to encourage appropriate testing, the implementation of preventive measures and the avoidance of inappropriate treatment.[3 35]

Healthcare professionals have a key role in providing health information and advice to older adults. Research shows that healthcare professionals, including doctors, nurses and pharmacists, are often the sources of health information that older people access and trust the most.[36 37] They are, therefore, well placed to increase awareness of RSV in this population and will be critical to encouraging the uptake of a vaccine once it is available. Indeed, healthcare professionals, including pharmacists, have delivered some interventions that have successfully increased flu vaccination uptake in older adults.[38 39] Given the recognised health workforce shortages and other challenges facing health systems around the world,[40] effective delivery of key advice and services will require wider national workforce and investment strategies.

'Nurses can have a significant role in raising awareness about RSV. They are highly trusted, with nearly 30 million nurses globally and more than 7 million in Europe caring for millions of people on a daily basis. Nurses have a pivotal role in positively influencing health outcomes through education in many diverse health settings.'

ELIZABETH ADAMS, EUROPEAN FEDERATION OF NURSES ASSOCIATIONS

What is the current situation in Europe?

Many healthcare professionals seem to view RSV primarily as a risk to babies and young children, and they may be less aware of the risks to older adults and people with underlying health conditions. RSV is often viewed as a childhood disease, as it was first reported as a common cause of respiratory illness in young children.[41] Nearly all children catch it at least once before the age of two years, and some experience severe illness requiring hospitalisation.[42] The acknowledgement of the prevalence of RSV among adults and the associated risk of severe illness is more recent, and clinicians do not always recognise the risks in this population.[3] Data from Europe are scarce but a seven-year study of adults with RSV who presented to an emergency department in the US found that only about 36% received a diagnosis from emergency department physicians.[43] The rest did not undergo testing until they were admitted to hospital.[43] Furthermore, having underlying conditions, such as chronic obstructive pulmonary disease (COPD), did not increase the likelihood of being tested in the emergency department.[43] This study demonstrates that inadequate awareness among physicians may mean that adults with RSV, including those who are known to be most at risk of serious infection, do not receive appropriate testing or diagnosis. This continued low level of awareness contributes to suboptimal testing and diagnosis, potentially leading to inappropriate treatment and insufficient preventive measures.[44]

'Most clinicians think that RSV in adults is not a problem. They view it as a paediatric disease and are totally unaware of its impact on adults.'

ANTONI TORRES MARTÍ, HOSPITAL CLINIC OF BARCELONA, SPAIN

How can this challenge be addressed?

We recommend that policymakers and health system leaders take the following actions to promote the awareness of RSV among healthcare professionals:

- Support the integration of RSV into clinical guidelines for conditions that put adults at particular risk of severe infection, whether they are being treated by generalists, specialists or community-based healthcare professionals. These guidelines will need updating as vaccines and targeted treatments become available.
- Disseminate educational materials targeting healthcare professionals, including primary care professionals and specialists, to coincide with major advances, such as the publication of dedicated guidelines and the roll-out of a vaccination programme.
- Ensure that nurses and pharmacists are well informed about RSV and equipped to provide information and advice to the public – for example, through educational campaigns and the inclusion of RSV education in undergraduate programmes.

2.2 Implementing clear, formalised prevention strategies is important to protect people at the highest risk of severe illness

What is this, and why is it important?

Infection prevention and control (IPC) strategies can reduce the spread of respiratory viruses, including RSV, in community, healthcare and long-term care settings. In the community, virus control guidance and policies during the COVID-19 pandemic demonstrated that simple measures, such as hand washing, physical distancing and mask wearing, can help limit the spread of various respiratory viruses, including RSV.[45 46] In healthcare settings, recommended IPC measures for respiratory viruses typically include practising hand hygiene, wearing personal protective equipment, such as gloves and face masks, observing physical distancing and isolating anyone with the infection in a single room.[47-49] Multicomponent IPC programmes consisting of a range of measures, including those listed above, have reduced the risk of RSV transmission in healthcare settings by more than half.[31] Their rigorous implementation in health, social care and community settings is key to the prevention of institutional outbreaks.

'Prevention is important in long-term care settings. There is a shortage of IPC policies and immunisation strategies in these settings, and that really needs to be addressed from the top, at policy level.'

KATRINA BOUZANIS, INTERNATIONAL FEDERATION ON AGEING

When a vaccine becomes available, it will be central to RSV prevention in adults at risk of severe illness. Researchers are currently evaluating several potential RSV vaccines in clinical trials, and it is expected that a vaccine will become available in the short to medium term.[8 34] These vaccines will target different population groups, including older adults.[50 51] Clinical trial data show that these vaccines are well tolerated and can be effective in preventing the progression of RSV to lower respiratory tract infections.[51 52] Adults at high risk may benefit not only from direct vaccination but also from the vaccination of young children and other adults, as this could help reduce the transmission of the virus in the community.[50]

What is the current situation in Europe?

IPC standards for respiratory viruses are well developed and often include RSV, but more work is needed to support their implementation. The European Centre for Disease Prevention and Control (ECDC) recommends IPC strategies to prevent the spread of the virus responsible for COVID-19,[47] and the World Health Organization (WHO) has created IPC guidelines for other acute respiratory infections, including RSV.[49] Some national and hospital-level strategies also include IPC measures for RSV.[48 53] For example, England's National Health Service recommends that hospital staff place people with RSV in a single room and wear surgical facemasks when providing routine care.[48] Guidance for managing outbreaks of flu-like illnesses in care homes is also in place in England.[54] However, implementation can be inconsistent, owing to insufficient testing and low awareness among staff.[7]

Existing campaigns could integrate RSV vaccines once they become available, although greater efforts may be needed to increase the uptake of seasonal vaccination programmes. All EU countries have national annual flu vaccine recommendations for older people and people with underlying health conditions.[55] National healthcare services usually fund the provision of the flu vaccine for high-risk groups,[56] demonstrating an established commitment to the delivery of seasonal vaccines. During the 2021–22 flu season, many countries began administering COVID-19 vaccines at the same time as flu vaccines.[57] This streamlined approach improved efficiency for both individuals and health systems.[57] It may be possible to incorporate an RSV vaccination into the same programme or to leverage existing administrative processes, physical infrastructure and vaccine monitoring systems to support a separate RSV vaccination programme. However, it is important to note that seasonal flu vaccination programmes have historically fallen well short of target coverage rates,[55 56] so more work will be needed to promote the uptake of a new RSV vaccine and learn lessons from the experience of vaccination programmes for other diseases (*Case study 1*). A summary of key factors known to influence vaccination uptake is provided in *Box 2*.

Box 2. Factors affecting vaccination uptake and the current situation in Europe

Three key factors that influence vaccination uptake are **confidence**, **convenience** and **complacency**.[58] Adequately addressing these factors is essential to encourage adults at high risk to accept a new RSV vaccine when it becomes available.

'Vaccine confidence' refers to trust in the vaccine, the health system and the policymakers behind the vaccination programme.[58] Vaccine confidence received considerable attention during the COVID-19 pandemic, with attitudes varying widely both among and within countries. For example, one study found that hesitancy about the COVID-19 vaccine in Europe ranged from just over 6% of adults in Spain to over 60% in Bulgaria.[59] Around the world, vaccine acceptance is suboptimal, and attitudes towards both the COVID-19 vaccine and the flu vaccine vary based on a number of personal and social factors, including politics, education, ethnicity and age.[60]

'Convenience' describes the physical availability, affordability, accessibility and appeal of a vaccine.[58] Many countries have taken steps to make vaccination more convenient – for example, by delivering the vaccines in community pharmacies, schools, places of worship and mobile vaccination clinics.[61 62] However, legislation around who can deliver vaccines and where varies across Europe.[62]

Complacency occurs when the perceived risk of disease is low, and people do not consider vaccination to be necessary.[58] Given the low awareness of RSV among healthcare professionals and in the population,[3 9] it is likely that many high-risk adults will be complacent, particularly if they continue to view RSV as a virus that mainly affects children and causes mild illness. This could limit the demand for vaccination.

Case study 1. WHO Europe TIP FLU project

To increase flu vaccination uptake among priority groups, in 2013, WHO Europe created the Tailoring Immunisation Programmes for Seasonal Influenza project (TIP FLU).[63] TIP FLU is grounded in social and behavioural change models and provides tools to identify target groups, work with them to determine barriers and facilitators to vaccination, and implement evidence-based interventions.[63]

The TIP FLU approach was first applied to healthcare workers, who are a priority group for seasonal flu vaccination. As well as protecting them from infection, vaccination can protect their patients and reduce the risk of transmission within healthcare settings.[64] The results of this application were published in the TIP FLU guide, which outlines a step-by-step approach, including:[64]

- Conduct a strengths, weaknesses, opportunities and threats (SWOT) analysis of the current vaccination programme for healthcare workers and create a map of the behavioural determinants that influence vaccination uptake.
- Determine the main issues that need to be addressed.
- Conduct new research to further understand motivators for and barriers to vaccination uptake among healthcare workers (if needed).
- Identify, prioritise and describe target groups of healthcare workers, setting objectives, subobjectives and strategies.
- Design, implement, monitor, assess and modify TIP FLU interventions.

The guide aims to assist policymakers in developing interventions that tailor vaccination programmes towards target groups – in this case, healthcare workers – to ultimately improve uptake.[64] The pilot application of the TIP FLU approach took place in Montenegro, focusing on healthcare workers, and the approach has since been applied to pregnant women in Lithuania.[63 65]

How can this challenge be addressed?

We recommend that policymakers and health system leaders take the following actions to prevent the spread of RSV while preparing to deliver effective vaccination campaigns:

- Ensure that national and European IPC guidance for hospitals and long-term care settings specifically mentions RSV and that the implementation of the guidance is consistent.
- In anticipation of new vaccines becoming available, begin exploring the feasibility of integrating RSV into existing seasonal vaccination programmes targeting older adults and those with underlying health conditions. This should involve drawing on the lessons learnt from delivering similar seasonal vaccination programmes for these groups of people.
- Learning from examples of best practice in other adult vaccination campaigns, develop strategies to increase RSV vaccination uptake in the target populations. These strategies should aim to improve confidence, ensure convenience and limit complacency.

2.3 Improved public awareness of RSV could encourage people to take appropriate measures to better prevent and manage the disease

What is this, and why is it important?

Greater awareness of RSV could encourage the implementation of more effective prevention measures. We believe that improved understanding of the potential impact of RSV among adults could improve adherence to preventive measures, such as mask wearing and staying at home if an infection is confirmed or suspected. When vaccines become available, public awareness of the risks of the virus and the benefits of vaccination, alongside other public health measures, will be key to encouraging uptake among high-risk adults.

What is the current situation in Europe?

Greater efforts to improve the awareness of RSV in adults are needed. Published research on this topic is extremely limited, but the current awareness of RSV among adults is reportedly very low.[7 66] In an international survey of parents with young children, only 35% of respondents had a basic or good level of knowledge of RSV,[9] indicating low levels of awareness among the general public. Similar surveys in older people do not appear to have been published. Various public awareness campaigns for RSV are being implemented across Europe, particularly during RSV Awareness Week in October-November every year. However, many of them, including those by the REspiratory Syncytial virus Consortium in EUrope (RESCEU) RSV Patient Network, are targeted at expectant parents or parents of young children rather than high-risk adults.[67-69] Health systems could look at applying the model to adults at high risk of severe illness (*Case study 2*).

Case study 2. RSV Patient Network

As part of the RESCEU project, the RSV Patient Network was formed in 2016 to provide a forum where parents of children with RSV can meet, share experiences and access clear information about RSV.[69] The network focused on raising awareness of RSV among the public in Europe,[69] which it did through a number of activities, including:[69]

- forming an international network of parents of children with RSV that is connected to experts in the medical community

- running RSV awareness campaigns
- participating as patient representatives in RSV research
- providing a platform that allows RSV patients and their families to meet.

The PROMISE (Preparing for RSV Immunisation and Surveillance in Europe) programme has built on the work of the RESCEU project. The RSV Patient Network is now run through the Respiratory Syncytial Virus Network (ReSViNET), which has been a partner in the PROMISE programme since November 2021. This programme now targets parents of young children, pregnant women and adults aged over 60.[70]

Each year during RSV Awareness Week, the network is highly active in producing resources – particularly those targeting parents and young children.

It should be possible to adapt such an approach to awareness-raising for older adults, through national organisations supporting older people, and for adults with underlying health conditions, through activities led by patient organisations. For example, there are many prominent patient associations for people with heart failure across Europe,[71] which could be targeted and encouraged to disseminate educational materials.

How can this challenge be addressed?

We recommend that policymakers and health system leaders take the following actions to increase public awareness of RSV:

- Work with civil society, consumer health groups and patient organisations, including those focused on COPD and heart failure, to promote public messaging about the risks of RSV for adults with those conditions and participate in existing initiatives, such as RSV Awareness Week.
- Facilitate the sharing of information about the risks of RSV in adulthood through healthcare professionals and different health settings, including pharmacies.
- Prepare to deliver RSV vaccination awareness campaigns in advance of the vaccination roll-out.

2.4 The systematic use of diagnostics across healthcare settings is needed to guide clinical and policy-level decision-making

What is this, and why is it important?

Diagnostic tests that determine whether a person has an RSV infection are available for use in a range of settings. There are different types of diagnostic tests for RSV, which are used in primary care, hospitals and long-term care facilities using a nasal swab.[72] Multiplex PCR tests are laboratory-based tests that can detect a range of viruses to identify the cause of respiratory symptoms from a single sample.[72] These panels often test for flu, SARS-CoV-2 (which causes COVID-19) and RSV, among various other viruses.[73] Point-of-care antigen tests, which do not need to be processed in a laboratory and can support clinical decision-making in real time, are also available to test for RSV and other respiratory viruses.[72] Historically, PCR tests have generally been more sensitive than antigen tests.[72] However, some recently developed point-of-care tests may be closer in sensitivity to PCR[74] and offer rapid results that healthcare professionals can use to guide decision-making in real time (*Case study 3*).

Case study 3. Integrating point-of-care testing for RSV within wards of a cancer centre in Scotland

RSV infection can have serious consequences for people with haematological conditions,[75] and outbreaks of RSV in haematological wards can lead to ward closures, increased healthcare costs and avoidable deaths.[76] Such outbreaks have occurred at the Beatson West of Scotland Cancer Centre, causing significant disruption to the regional oncology unit.[77] After analyses of these outbreaks found that delays in receiving the laboratory results of respiratory virus tests may have been a contributing factor, point-of-care testing for RSV and flu was implemented on haematology wards.[76] Such testing can provide results in less than an hour, compared with an average of 29 hours when testing is completed at an off-site virology laboratory.[76]

Following the implementation of point-of-care testing, 93% of people who tested positive were moved from multi-bed to single rooms within 24 hours.[76] On average, these moves took place seven hours after testing, which is sooner than the laboratory test results from PCR tests would even have been available.[76]

The implementation of point-of-care testing for RSV also allowed for testing in the outpatient setting, which was not possible with an off-site laboratory.[76] Testing in this setting facilitates informed decision-making regarding admission and suitable patient placement, which also reduces the risk of transmission within the hospital.[76]

'If people were diagnosed with RSV in primary care using a point-of-care test, they could receive immediate advice to help them protect household members who may be at high risk. This approach has been successful during the COVID-19 pandemic, and it could potentially be effective for RSV as well.'

DEXTER WISEMAN, NATIONAL HEART AND LUNG INSTITUTE, UK

Accurate diagnosis can help minimise the risk of antimicrobial resistance and, in the future, it should be able to guide effective treatment decisions. In addition to helping promote the use of preventive measures to minimise transmission, diagnosing RSV correctly would prevent the prescription of unnecessary antibiotics, which are not effective in treating viral infections.[44] This incorrect use of antibiotics contributes to the threat of antibiotic resistance.[78] When targeted treatments become more widely available, testing will be even more important for informing care decisions.

'People are given antibiotics too frequently without a diagnosis. Testing could really make a difference because if we knew it was RSV, we could avoid a lot of misuse of antibiotics.'

TED VAN ESSEN, DUTCH INFLUENZA FOUNDATION

The consistent use of diagnostics will lead to more comprehensive and accurate data collection and a better understanding of RSV, which will, in turn, contribute to more effective and targeted vaccination programmes. Data from multiple settings will be critical to planning and preparing for vaccination programmes in the coming years, and this will depend on the testing and reporting of results. Testing people with respiratory symptoms in the community, primary care settings, long-term care facilities and hospitals is necessary for several reasons. These include differentiating RSV infections from flu and COVID-19, understanding how and when the virus spreads in the community, and determining the groups most at risk of serious illness who should be prioritised for vaccination.[35 79 80]

Continued testing throughout the RSV season will support the real-world monitoring of vaccination effectiveness.[34]

What is the current situation in Europe?

Testing is inconsistent in the absence of treatment options and standardised guidelines. Testing for RSV is rare in primary care, and the use of tests in hospitals, either during or after admission, is not consistent.[7 35 43] Currently, there are few incentives for healthcare professionals to perform diagnostic tests for RSV because they usually manage the condition in the same way as other similar respiratory infections. Particularly in primary care, many clinicians in Europe and elsewhere may not see a rationale to test.[10 11] There is also a lack of wider health system influences encouraging testing for RSV in children and adults, as there is no Europe-level guidance recommending it and existing programmes and guidance for testing are highly variable among countries.[12 34] Limited awareness of RSV among some healthcare professionals further limits the use of testing across different settings and specialisms,[43] contributing to a poor understanding of the burden and spread of RSV.[10]

'Clinicians do not realise how often pneumonia is caused by RSV. This is mainly because there is no testing for RSV.'

LIES KRIEK, RESVINET RSV PATIENT NETWORK

Changes in clinical practice and public perceptions since the COVID-19 pandemic began could make RSV testing more acceptable. The COVID-19 pandemic has brought about considerable changes to routine testing, which could be applied to other viruses, such as RSV.[66] Across Europe, frequent nasal swab testing for SARS-CoV-2 using rapid antigen tests and/or laboratory-based PCR tests was normalised and became better understood by the public.[66] This could pave the way for permanent respiratory virus testing protocols and more frequent testing in primary and acute care.

How can this challenge be addressed?

We recommend that policymakers take the following actions to increase RSV testing across settings:

- Support the development of integrated national guidance for the management of respiratory viruses, including RSV in adults, which addresses routine testing in primary care, hospitals and long-term care facilities.
- Ensure that healthcare professionals have access to diagnostic tests, that laboratory capacity is adequate to support PCR testing and that there is sufficient funding/reimbursement.

2.5 Robust data collection and surveillance across Europe are needed to support the improved prevention and management of RSV

What is this, and why is it important?

The routine collection, analysis and reporting of data on RSV would help decision-makers take appropriate action to manage the spread of the disease. The monitoring of some other serious respiratory viruses, such as influenza, takes place both at the European level, by the ECDC[80] and the WHO Regional Office for Europe, and at the national level in European countries.[81] These surveillance systems provide policymakers and health service planners with up-to-date information on how many people have the infection, where the virus is spreading, how severe it is, and which groups (e.g. children, older people) are at highest risk.[80] Using such data, decision-makers can plan for and deliver the required supplies and services.[79]

Comprehensive data will also be needed to inform the planning and delivery of vaccination programmes when an RSV vaccine becomes available. One of the most important reasons for monitoring the burden of seasonal infections is to understand how best to design a recurring vaccination programme. Unlike the influenza virus, RSV does not usually undergo rapid genetic changes (antigenic drift),[82] but some changes do occur and new variants have been observed.[83] Comprehensive surveillance with genetic testing of the virus will enable the monitoring of these changes and the assessment of vaccine effectiveness against emerging strains.[66] Surveillance data will also help policymakers understand the seasonality of the virus – including what time of year the virus is circulating most widely in the population – and determine the best time to offer vaccinations to maximise the effectiveness of the campaign.[79] National Immunisation Technical Advisory Groups also rely on accurate data to develop recommendations on whom to vaccinate when.[84]

What is the current situation in Europe?

Routine surveillance of RSV is limited in most European countries, resulting in significant knowledge gaps. Many countries in Europe perform some surveillance of RSV, particularly in hospitals, as part of surveillance initiatives for flu and COVID-19.[34 81] However, there is considerable variation in the types of data collected, the laboratory tests used, the settings involved in surveillance (general practice, hospital, laboratory) and the objectives of the surveillance systems.[34] RSV is not currently designated as a notifiable disease in most

European countries, although such a policy could help improve surveillance, as has occurred in Ireland (*Case study 4*). To improve surveillance in Europe, the ECDC and the WHO Regional Office for Europe have called for the development of population-based surveillance systems for flu, COVID-19 and other respiratory viral infections, such as RSV, as recently as 2022.[85] Progress is being made, and 23 (79%) of the 29 surveyed EU/European Economic Area countries plan to implement integrated surveillance systems for these viruses by the middle of 2023.[86]

Case study 4. RSV as a notifiable disease in Ireland

Since January 2012, RSV has been a notifiable disease in Ireland, which is the only country in Europe to give the virus this designation.[87 88] Making diseases notifiable enables public health authorities to monitor them, detect possible outbreaks and take the necessary steps to control their spread. Public health professionals are required to report data on notifiable diseases.[89]

In Ireland, RSV data are being monitored by the Health Protection Surveillance Centre (HPSC) .[87] The HPSC has collaborated with the Irish College of General Practitioners and the National Virus Reference Laboratory (NVRL) to develop a network of 60 practices that report the number of patients with flu-like illnesses, including RSV, on a weekly basis.[90] The HPSC and NVRL manage the surveillance of RSV year-round, and the data are published in the influenza surveillance reports, the Infectious Disease Weekly Report and the Weekly Outbreak Report.[87 91]

As a notifiable disease within legislation, RSV is embedded into Irish health policy and falls under the public health agenda.[89] Policies focused on infectious diseases will incorporate all notifiable diseases, including RSV.[89]

'RSV is completely under-diagnosed, so it's really difficult to determine its real burden. For now, we just have estimates because there is no clear or standardised guidance for RSV testing or data collection.'

PAUL LOUBET, NÎMES ACADEMIC HOSPITAL, FRANCE

International organisations collate some RSV data as part of wider respiratory virus surveillance, but further progress is needed to standardise and expand data collection and reporting to facilitate the compilation and comparison of international data. In 2017, the WHO piloted an RSV surveillance strategy in 14 countries around the world, using the existing infrastructure of the Global Influenza Surveillance and Response System.[92] This pilot strategy showed that linking RSV and flu surveillance could be mutually beneficial by encouraging more complete data collection and helping ascertain the underlying causes of flu-like illnesses in the community.[92] This project could also potentially help inform the development of a minimum data set for RSV surveillance.[92] A three-year extension to this pilot was initiated in late 2018,[12] but further updates have not been published. In Europe, national RSV data are also collected as part of the European Influenza Surveillance Network,[12 80] but the collection process occurs through a wide range of platforms, so the data are often not comparable between countries.[12]

How can this challenge be addressed?

We recommend that policymakers take the following actions to improve RSV data collection and reporting:

- Support the development of standardised guidance and a minimum data set for RSV surveillance to improve the comprehensiveness and comparability of data.
- Expand existing flu surveillance systems to include data on RSV infection in primary care settings, hospitals and long-term care facilities.
- Consider designating RSV as a notifiable disease nationally.

3 The way forward

Many cases of severe RSV in high-risk adults are avoidable with improved testing, surveillance and prevention. However, these improvements are all reliant on greater awareness among healthcare professionals and the general public. Based on the evidence, and in consultation with expert stakeholders, we recommend that policymakers and health system leaders in Europe implement and support a range of actions and initiatives across settings to address the current gaps in RSV prevention and management, and to prepare to deliver effective vaccination campaigns.

Improve healthcare professionals' understanding of RSV as a serious risk to certain groups of adults

- **Develop and disseminate educational materials for healthcare professionals.** Making RSV in adults part of the undergraduate healthcare professional education curriculum and delivering continuing professional development (CPD) courses on this topic could help educate healthcare professionals. Other strategies include sharing information at professional conferences and disseminating awareness-raising materials in connection with the roll-out of new tests, treatments and vaccines.

Develop and implement clear, formalised prevention strategies for RSV

- **Support the development of clinical guidance that addresses the prevention and management of RSV in all settings.** This should provide explicit recommendations for RSV infection prevention and control. The guidance should include all at-risk groups in all settings (primary care, hospitals, long-term care), and it will need updating as vaccines and targeted treatments become available. Institutional policies and staff awareness strategies should be put in place to ensure that the guidelines are followed.

- **Begin planning RSV vaccination programmes in anticipation of adult vaccines becoming available.** Programmes must aim to address the key drivers of vaccination uptake – convenience, confidence and complacency – through public education and strategies to make vaccines easily accessible. Combining appointments with flu and/or COVID-19 vaccination may also be effective in promoting uptake.

Raise public awareness of RSV and its impact on high-risk adults

- **Work with civil society and patient organisations to promote public messaging and deliver RSV awareness campaigns targeting the specific groups at risk of severe illness.** The options for delivering these campaigns include through social media, mass media and community-based settings, such as pharmacies.

Increase the use of RSV diagnostics across healthcare settings

- **Ensure that healthcare professionals have access to diagnostic tests and encourage their uptake.** This will require adequate funding/reimbursement of testing, as well as investment in the workforce and laboratory capacity to administer and process tests.

Improve data collection and surveillance

- **Roll out comprehensive RSV surveillance based on standardised data collection guidance and a minimum data set for RSV surveillance at the European level.** National policymakers should then adapt this guidance to their respective countries and implement surveillance strategies to achieve data collection targets. It may be possible to incorporate RSV into existing flu and COVID-19 surveillance systems.

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