

PRESS RELEASE

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Europe's project RESCEU sheds new light on the fight against the Respiratory Syncytial Virus and its economic impact

- RESCEU scientists publish supplement in *Journal of Infectious Diseases* revealing impact of RSV, the most common cause of severe respiratory illness in infants and children worldwide.
- Globally, an estimated 33 million young children are diagnosed with RSV each year, over 3 million cases require hospitalisation. Annually, the virus causes 118,000 deaths.
- RSV costs governments around the world nearly 5 billion euros every year. Two potential vaccines and a monoclonal antibody to protect against this virus are in Phase III of the clinical studies.
- The RSV Patient Network organises RSV Awareness Week from 9th – 14th November to educate the public, especially young parents, of RSV symptoms and associated risks such as wheezing and asthma.

Since 2017, a multidisciplinary team of researchers, national and international public health experts, policymakers, pharmaceutical industry and community representatives have been partnering under the umbrella of the **Respiratory Syncytial Virus Consortium in Europe (RESCEU)** to shed new light into RSV – its epidemiological aspects, diagnostic biomarkers and economic impact -- to inform future public health strategies. Scientists involved in this project, funded by the Innovative Medicines Initiative(IMI), have produced a considerable number of scientific publications, compiled now in a [supplement published in the Journal of Infectious Diseases](#).

A significant burden on health systems

Although, RSV is the most frequent cause of acute lower respiratory infections in children below 5 years old in industrialised countries and the second leading cause of death after malaria in developing countries, knowledge about its disease impact and economic consequences has been scarce until recently. According to the newly published studies carried out by the RESCEU consortium, **treating RSV in young children costs governments around the world an estimated 4.8 billion euros every year. Hospitalisations account for 55%** of these costs but are not evenly distributed across the world. Strikingly, although only 10% of hospitalisations take place in industrialised countries, they account for 35% of the total spending.

Furthermore, the study provides detailed information about **the average cost of RSV-related hospitalisation (around €3,450) per patient which is nearly 12 times more than outpatient treatment (around €300)**. These costs increase to €8,591 and €2,191 on average if up to two years follow up is added to the final bill. To obtain these results, researchers worked with data extracted from 41 studies conducted between 1987 and 2017 mainly in Europe, North America and Australia. “These figures

show the substantial economic burden RSV poses on health systems, governments and society in general” reflects Professor Harish Nair, Chair of Paediatric Infectious Diseases and Global Health and lead of the Respiratory Viral Epidemiology research programme at the University of Edinburgh and scientific coordinator of RESCEU.

In line with this, another study based on **data accounting for 398 million children younger than 5 years of age in 58 countries** (59% global population of children under 5 years) **found RSV-related lower respiratory infections account for 514 hospitalisations per 1000 children younger than 5 years with acute lower respiratory infections**. Moreover, experts estimated that RSV was the underlying cause in 33.1 million severe lower respiratory infections in children under 5 years in 2015 worldwide. Of those, 3.2 million were admitted to hospital and 60,000 died in hospital. These estimates, however, may be even higher as data registers, mainly in developing countries, are incomplete and cases often go unreported and even untreated.

Risk period, factors, and clinical practice

The vast majority of infants hospitalized due to RSV are otherwise healthy term babies. Besides prior health conditions, **risk factors** associated with RSV are:

- age - being younger than 4 months
- gender - males are at greater risk
- premature birth
- having other siblings who attend day care or school
- living in cramped conditions
- having a parent who is a smoker

A study carried out in Scotland also revealed infants born during the months of September, October, and November were at higher risk of contracting RSV than those born during December which is the peak of the RSV season. This could be related to the level of **antibodies the mother passes onto the baby which decreases in the weeks** after birth.

RESCEU researchers also address **clinical guidelines for treatment of RSV bronchiolitis** across Europe. “We have found that although there is general agreement in clinical guidelines to treat for example bronchiolitis, the specifics vary widely for each country. For instance, when shall we give oxygen? There is no standard practice across different health systems. We need to not only harmonise our clinical practice guidelines, but also make sure that those are evidence based” explains Nair.

Treatment and vaccination

The virus is very contagious and almost all children have been infected with RSV at least once by the time they are two years old. RSV early symptoms are very similar to those of a common cold - runny nose, coughs - but can rapidly evolve into a more serious condition, such as bronchiolitis or pneumonia and even become life-threatening. RSV bronchiolitis does not usually cause long-term breathing problems, but the more severe cases may be associated with a greater risk of recurrent wheezing in preschool-aged children, and with asthma and impaired respiratory function in school-aged children.

There is no specific treatment for RSV and most drug development efforts are directed to prevention, and immunisation. To aid development, RESCEU is making serious efforts to identify biomarkers associated with disease severity. At this time preventative measures such as two vaccines and a

monoclonal antibody have now entered Phase 3 clinical trials. It is expected in the next five years the RSV prevention landscape will dramatically change, saving an estimated 100,000 lives worldwide and decreasing the economic and operational burden on public health systems.

ABOUT RSV AWARENESS WEEK

RSV Awareness Week will be held between the 9th and 14th of November. This year's theme, **Take Action**, will encourage parents to follow their gut feeling and seek help if their child is experiencing difficulty breathing. During the Awareness Week, the RSV Patient Advisory Board Team will share relevant information on RSV through videos, flyers, infographics, and short informative stories, to be posted in [Instagram](#), [Twitter](#) and [Facebook](#): @RSVPatientNetwork. Please visit our [website](#) for more information.

ABOUT RESCEU

[RESCEU](#) is a public-private partnership funded by the Innovative Medicines Initiative and EFPIA members. Since January 2017, RESCEU has been developing robust evidence on RSV disease burden and economic impact; creating a sustainable Europe-wide multidisciplinary, multi-stakeholder community from academia, public health, scientific societies, patient organisations, regulatory agencies and industry; and providing infrastructure to perform future pivotal trials for RSV vaccines and therapeutics. The project will run through December 2021.

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RESCEU PARTNERS

- University of Edinburgh
- Universiteit Antwerpen
- University Medical Centre Utrecht
- The Chancellor, Masters and Scholars of the University of Oxford
- Teamit Research
- Imperial College London
- Servicio Galego de Saúde
- Varsinais-Suomen sairaanhoitopiirin kuntayhtymä
- Rijksinstituut voor Volksgezondheid en Milieu (Institute for Public Health and the Environment)
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- AstraZeneca AB
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- GlaxoSmithKline Biologicals S.A.
- Sanofi Pasteur
- Janssen Pharmaceutica NV
- Novavax Inc.


ABOUT IMI

The Innovative Medicines Initiative (IMI) is Europe's largest public-private initiative aiming to improve health by speeding up the development of, and patient access to, innovative medicines, particularly in areas where there is an unmet medical or social need.

LINKS:

 RESCEU - <http://resc-eu.org/>

 Twitter [@RESCEUproject](https://twitter.com/RESCEUproject), # RESCEUproject

 Innovative Medicines Initiative www.imi.europa.eu, [@IMI_JU](https://twitter.com/IMI_JU)

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