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## Hansard

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# NHS: Respiratory Syncytial Virus Infections

**Volume 822: debated on Thursday 9 June 2022**

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Question for Short Debate

🕒 3.00pm

Asked by

**Baroness Ritchie of Downpatrick** >

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To ask Her Majesty's Government what assessment they have made of the cost to the NHS associated with managing Respiratory Syncytial Virus infections.

**Baroness Ritchie of Downpatrick** >

(Lab)

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My Lords, I thank the Minister and the Front-Bench speakers in this important debate, particularly as we emerge from Covid-19 and given the other respiratory viruses that are live in the community. I declare a personal interest: as an infant, I had pneumonia, which was one of these deep-seated respiratory viruses. I am talking about 64 years ago, but the viruses were all put in the family of pneumonia. Out of that emerged bronchiolitis.

Several questions are raised about this issue. The first is: what is respiratory syncytial virus infection? It is a leading cause of severe lower respiratory tract infections among young children and infants. An RSV infection usually causes mild and self-limiting symptoms in children and adults, which resolve within a couple of weeks. Symptoms can include a runny nose, fever and persistent cough—something that most of us can identify with. However, modelling suggests that the virus is responsible for 50% to 90% of hospitalisations among young children due to bronchiolitis, which is a common lower respiratory tract infection predominantly affecting babies and children under two years old. Up to 40% of hospitalisations are due to pneumonia.

So why the concern about RSV now? In late 2021 and early 2022, modelling predicted that RSV levels may double compared to a normal year, with a 100% increase in cases in young infants and a 40% increase in overall infections expected. As a result of the Covid-19 pandemic, the 2021-22 RSV season may be longer, with spikes in infection expected sooner than usual. There was a significant reduction in respiratory viruses during Covid-19 lockdowns, which limited infant exposure to RSV and thus impacted overall immunity. As the restrictions eased, it became apparent that there had been a significant rise in RSV cases and admissions.

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Most hospital admissions for RSV in the UK occur in babies who are otherwise healthy. Despite the risk to all infants, studies suggest that 88% of pregnant women and 66% of midwives have no or little awareness of RSV. There are now widespread concerns in the medical community around the impact of RSV on an already stretched health service in the coming months and the cost to the health service of managing RSV infections—hence the subject of this debate.

In an average season in the UK, RSV is estimated to be responsible for more than 450,000 GP visits in children and adolescents, 125,000 cases of ear infection and 416,000 prescriptions of antibiotics. On secondary care, the Academy of Medical Sciences said:

“A lethal triple mix of COVID-19, influenza, and the respiratory virus Respiratory Syncytial Virus (RSV), could push an already depleted NHS to breaking point this winter unless we act now”.

With RSV, there is a cost to the health system, including £48.2 million for secondary care and hospitalisations. There is a direct cost of £65 million, with £15.7 million being spent in primary care on GP consultations. There is also a socioeconomic cost from the direct financial losses of the family and carers of children diagnosed with RSV. These estimated costs are just over £14 million in productivity losses every year. In addition, RSV in children under the age of five is estimated to cost an accumulated total of almost £1.5 million from the out-of-pocket costs incurred to families.

We have to ask what should be done to alleviate the burden on the NHS and to provide relief to infants and young families. In the wake of the Covid-19 pandemic and the nature of RSV infections, what consideration have the Minister and the Department of Health given to this matter? What assessment have the Minister and the department, working with the NHS, undertaken on those costs, bed blocking and the impacts on primary and secondary care? What is the impact on hospital and workforce capacity and waiting lists? What consideration have the Minister and the department given to ensuring that RSV infections could be treated in the community and in homes?

There are other questions to which I would like answers. What steps is the Department of Health and Social Care taking or planning to take to reduce the costs of managing RSV for the NHS, families and the economy, particularly with the overprescription of antibiotics leading to problems with resistance? What is the proper treatment? What discussions have taken place with medical professionals and clinicians to ensure that infants and young children receive the best treatment for full recovery? What learnings from the Covid-19 pandemic is the Department of Health and Social Care considering implementing for other respiratory viruses, such as RSV?

In conclusion, the bottom line is to ask what plans are being made and what funding has been set aside to ensure that protection against respiratory viruses remains a health priority for the upcoming season this autumn and into the winter and that there is better management to deal with them. What new policies are being forged to address RSV infections and to cope with the demands on the NHS? We must not forget that not only the infected child feels the burden of RSV; their families, carers and the health service are also impacted. The seasonal and contagious nature of this infectious disease has raised wider concerns over the possible impact on healthcare capacity, which has been re-emphasised during the Covid-19 pandemic, particularly when the NHS has been overburdened and overstretched.

I look forward to the developing debate and the answers that the Minister can provide. I like to think that this will be the first stage of an opportunity to give this subject a greater level of debate in your Lordships' House, as it will become much more acute and apparent as we emerge from the Covid-19 pandemic and approach this autumn's influenza and RSV season.

🕒 3.09pm

**Baroness Brinton** >

(LD) [V]

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My Lords, I congratulate the noble Baroness, Lady Ritchie, on securing this important, and for me very personal, debate. As she outlined, RSV is a common respiratory virus that affects large numbers, mainly of children younger than five, but also some elderly and immunocompromised people. The burden of RSV includes not only ill health for children but the emotional and practical burdens of the affected families and carers and the impact that that has on productivity in the economy, alongside the costs of providing healthcare.

I found the key findings from a very interesting report by RAND published earlier this year, which did a desktop review of recent literature and published data on RSV in the UK. It approximated the annual healthcare costs of having RSV at £80 million. That equates to a mean cost of £97 to the NHS per child under five with RSV. Just over £40 million of that is due to productivity losses of £1.5

million is due

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“to out-of-pocket costs incurred by parents/carers, and the remaining nearly £65 million to healthcare costs.”

Estimates suggest that each year 33 children under five die from RSV. While most cases of RSV have very short-term impacts, some children may face long-term respiratory issues later in their life.

Children born prematurely account for nearly 20% of the total cost burden of RSV in the under-fives. My twin granddaughters were born very early. The smaller of the two, Amelia, was 700 grams when she was born and at that point 30% of her lung tissue was dead. She was very unwell for the first few weeks of her life; we were lucky that she survived. Once she was home, within two or three days she picked up an infection, which transpired later to be bronchiolitis. It presented with all the traditional things you hear from Public Health England. Two parents were at home with premature twins and one was suddenly finding breathing very difficult. All the signs you are told to look for were already evident in her and 999 was used.

The Evelina Hospital was absolutely brilliant. My granddaughter remained in and out of hospital for the next year of her life; she was about three months old when this happened. The intensity to which the disease took over was extraordinary, on top of her underlying prematurity problems. She was in PICU—the premature intensive care unit—for some time and then did a step down to the next tier of ward. She then spent months on the lovely Snow Leopard ward—in the old days we would have called it a community hospital, but it is inside the Evelina—where the focus is very much on helping the families to understand the consequences of their child’s problems.

That was where I learned as a grandmother how to put on her ventilator every night, which she needed until she was three. I learned how to put on her heart monitor, because she also had heart problems, and to spot the signs of any infection, including future infections of influenza or anything else. Her skin was very pale and blue a lot of the time. I do not believe she was immunised with the monoclonal antibody, but she certainly had a substantial amount of medication as well. The most useful thing my son and daughter-in-law saw was how it was managed and how they could manage it and help her and themselves in the future.

Now, this bouncy six-year-old girl still has lung damage; you cannot revive dead lung tissue. She still cannot run around the way her twin sister does, but without the care of that extended paediatric team she probably would not be with us today. She is a shark expert, a budding oceanographer and absolutely determined to live her life to the full. The cost of her bronchiolitis was certainly in the upper economic numbers provided by the RAND desktop survey. But the benefit to the family is absolutely inestimable—in the support of the hospital and a large range of healthcare professionals who made it possible for her to go home. There were considerable difficulties, but she did.

She has a baby brother, born a year before Covid. His experience of RSV earlier this year, aged two, was very different. He has absolutely no problems. His experience was a very heavy cold with some croup and minor bronchiolitis. He saw the GP, but no more. His parents were very relaxed, while all their friends whose children were having RSV like that were getting very worried—but that is life when you have had a child who has had quite a severe illness.

RSV is with us and will be with us. As the noble Baroness, Lady Ritchie, said, as Covid starts to lift, we must expect to see more of it as small children mix with each other, as it is extremely infectious. She is right to be concerned about the overprescription of antibiotics. For some it is necessary but it needs to be checked. What is really clear from Public Health England’s guidance is that families can help themselves; they can recognise the symptoms of RSV and do what I did as a mother with my eldest child, who had quite severe croup, which is to make sure that there is lots of humidity in the atmosphere—with the kettle boiling away to make sure that there is steam in the room to help the bronchioles open and ensure that your child is protected.

However, it is not just about parents. Unfortunately, far too many GPs, community nurses and childcare staff do not recognise RSV either. I hope that one of the things we can ask of the Minister is to hear that that will change, and that this illness will be part and parcel of normal paediatric training. For some children, RSV is extremely serious, and the cost to the NHS and the families of those children—let alone to their long-term future—can be severe.

🕒 3.15pm

**Baroness Wheeler** >

(Lab)

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My Lords, I too thank my noble friend Lady Ritchie for her excellent speech and her tenacity and determination in drawing this

important issue to the attention of the Committee. Her warning was timely when she la: [Back to top](#) [Previous debate](#) [Next debate](#)  
 the serious impact of the Covid-19 pandemic on the epidemiology of other seasonal viruses such as flu and RSV, pushing them out of sync. It is vital that plans are in place to ensure that the NHS has the capacity and resources to cope with a potentially extended, or more than normally prolonged, winter season, in particular of RSV.

As noble Lords have underlined, raising awareness among parents about RSV and how to spot the more severe symptoms is crucial. I pay tribute to the Sanofi Pasteur Together Against RSV campaign and its excellent report from last November highlighting the costs to the NHS of RSV, which were outlined so ably by my noble friend and the noble Baroness, Lady Brinton. The Mumsnet baby health website is also doing a great job in supporting parents and linking them to the Sanofi guidance and briefings. However, the fact that its recent survey showed that 37% of parents feel that they have a lack of understanding on how to manage their child's respiratory illness from home, while 69% have found online information from various health sources overwhelming or confusing, shows the scale of the work still to be done.

Earlier this year, the Minister assured the House that the NHS has plans in place for raising awareness of RSV among parents and at schools. I look forward to hearing the detail of those plans from him. How will the Government support the Together Against RSV awareness-raising campaign among parents? When will government guidelines be updated to adopt the much more user-friendly and accessible information provided by this campaign and parent support organisations, such as Mumsnet?

The pressures on NHS primary care from RSV in children, in terms of GP visits, hospitalisations and antibiotics prescriptions, as highlighted in the Sanofi report and demonstrated by my noble friend Lady Ritchie, are pretty stark: 450,000 GP visits, 125,000 ear infections, 416,000 prescriptions and 30,000 hospitalisations in an average UK RSV season. Hospitalisations and GP visits are substantially higher among younger children infected with RSV than among those who have flu. Last year, the British Lung Foundation warned parents of young children to be alert for signs of RSV after a sharp rise in cases. It estimated that 1,000 children in England alone had needed hospital care for it in just three months. I thank the noble Baroness, Lady Brinton, for explaining her experience with her own grandchildren and underlining how serious RSV can become, as it did in the case of her granddaughter; I am glad that she is now recovering.

Noble Lords have also underlined the global effect of RSV. Experts behind the recent *Lancet* study, which showed that RSV kills more than 100,000 children worldwide, believe that more children are likely to be affected in future because lockdown and mask-wearing have meant that they have little or no natural immunity to it. Again, my noble friend Lady Ritchie referred to this reduced immunity point.

In the UK, we know that 92% of hospitalisations are estimated to occur in infants under the age of two. During winter months, one in six of all UK paediatric hospital admissions are bronchiolitis-related, with RSV estimated to be the cause of 60% to 80% of those admissions. As the Sanofi guidance warns:

“It is not only the infected child who feels the burden of RSV: families, carers and the health systems are all impacted. The seasonal and contagious nature of this infectious disease has raised national concerns over the possible impact on healthcare capacity at a time when it is already over-stretched ... the UK faces a future with co-circulating RSV, Covid 19 and other respiratory viruses”.

What is the Government's latest assessment of the impact of these co-circulating viruses on primary and secondary care, and on workforce capacity?

We also know that the very young and elderly are at the greatest risk from RSV. The Government guidance points out:

“Only a minority of adult infections are diagnosed, as RSV is not widely recognised as a cause of respiratory infections in adults.”

It also explains:

“Elderly patients are frequently not investigated microbiologically, as there are fewer viruses present in their respiratory secretions compared with children.”

As a result, adult infections are underestimated. Older adults are at greater risk of serious complications from RSV than younger children because our immune systems weaken as we get older. This can lead to exacerbations of underlying lung and cardiac disease. Can the Minister explain what action is being taken to improve testing, reporting and treatment for older adults?

Obviously, the good news is that RSV infection causes mild respiratory illness for most people and can be reduced or prevented through the standard infection control measures that we all got so used to—and, I hope, permanently wedded to—for Covid, of respiratory hygiene, handwashing and cleaning surfaces. My noble friend stressed the importance of working with the devolved



Governments on tackling RSV and increasing awareness of the threat it poses. I hope that learning, awareness-raising, prevention and treatment are being shared across the UK.

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I understand from an article I read in *Nature* of 21 December last year that there is also hopeful news in the development of a vaccine for RSV after what researchers have called decades of failure. There are four vaccines in late-stage clinical trials involving stabilising the F protein that the RSV virus uses to fuse with cells and infect them. The structure of the F protein has been identified as the best target for making vaccine-induced antibodies that could prevent the virus entering human cells. I understand that these trials are initially testing older people aged over 60. Does the Minister have any further information on this? Can he tell us what research into and funding of RSV are currently taking place?

This has been a valuable debate, and it is clear that there must be action to stop the rampant spread of RSV post Covid—especially this coming winter—causing poor health, soaring costs for the NHS and particular threats to young children. I look forward to hearing the Government's future plans for addressing this infectious but not widely known about virus.

🕒 3.23pm

### The Parliamentary Under-Secretary of State, Department of Health and Social Care >

(Lord Kamall) (Con)

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My Lords, I thank the noble Baroness, Lady Ritchie, for raising this subject, not only today but a number of times via an OPQ and a number of Written Questions that I have received. The work she has done to raise awareness adds to the overall awareness, but it is really important that this forces the Government to respond and raise even more awareness.

I also thank the noble Baroness, Lady Ritchie, for sharing a very personal story, and the noble Baroness, Lady Brinton, for sharing her family's story. Sharing these stories sometimes makes you realise that this is not about just words on a page; it really is about how it affects people's lives on a day-to-day basis, which makes it real for us in seeking to understand it.

Before I answer all the detailed questions, perhaps I should begin by laying out the Government's current understanding of RSV. The noble Baroness, Lady Ritchie, has already laid out some of the facts. We know that RSV is a common respiratory virus that usually causes mild, cold-like symptoms. It is widespread in humans, partly due to the lack of long-term immunity after infection. We know that children of under five are the most impacted by RSV. They are at risk of paediatric critical care admission, often linked to bronchiolitis. As has been said, every winter the NHS faces pressure from the increased prevalence of seasonal respiratory viruses. This includes Covid-19 and flu, where the rollout of our immunisation programme is critical in protecting individuals and lessening the burden on the system, but it also includes RSV.

In 2021, in response to the scenarios provided by the UK Health Security Agency, there was a cross-health system response to prepare for a more severe RSV epidemic—starting as early as mid-August—due to the almost complete suppression of the virus after measures were put in place to protect the public from Covid-19. As a result of increased disease activity in September 2021, NHS England and Improvement has estimated that the total cost of paediatric hospitalisations due to RSV was 24% higher in 2021-22 compared to 2019-20. The total estimated cost of paediatric hospital care due to RSV, based on the 2022-23 national tariff, was almost £20 million—£19.9 million in 2021-22.

Typically, the RSV season runs from October to February, with a peak in December. However, one recent complication arising is that, due to measures put in place for the Covid lockdowns, in some ways we now see an unseasonal activity of RSV. The NHS released an estimated £22 million centrally to support the paediatric respiratory surge response. This is focused on a number of issues: first, increasing the resilience of the paediatric transport services and, secondly, bringing forward the annual Palivizumab immunisation programme for at-risk infants from October to July. The cohort of at-risk infants eligible for immunisations was expanded and the doses administered increased in number from five to seven, to ensure protection for the duration of the longer-than-usual RSV season. Thirdly, we also allocated additional funding for the voluntary, community and social enterprise sector. This supported families but was also about that important question of raising awareness in our local communities, as noble Lords referred to, and how to manage respiratory infections.

In addition, the system procured 4,000 specialist paediatric pulse oximeters to be distributed to GP practices to support primary care to help assess sick children. Finally, there has been a development of an online platform and digital skills passport. This has provided additional training to the paediatric and adult workforce to raise awareness, among the workforce and wider. It is important to note that the costs I have mentioned do not consider the cost of urgent care, NHS 111 or primary care presentations due

to RSV. But it is clear that Covid-19 and RSV did have an impact on the system, for example increased the NHS's day-to-day running costs, making the delivery of frontline services more expensive. [Back to top](#) [Previous debate](#) [Next debate](#)

Having laid that out, allow me to try to respond to some of the points made by noble Lords. One question raised was how the department will ensure that infants receive the right treatment without increasing antibiotic resistance. This is really important. One part of my job is that I do international health diplomacy for the DHSC. This is an issue—particularly AMR—that some people call the coming silent pandemic. How do we make sure we reduce our reliance on antibiotics, not only for humans but for animals and agriculture? Also, how do we make sure we do this globally? We may be able to do it in the richer, more developed countries, but there are other countries where it is the culture or they need to use antibiotics, so we need to make sure there are sufficient alternatives available.

We have committed to a vision where AMR is contained and controlled by 2040 and are halfway through delivery of our five-year national action plan. Optimal antibiotic prescribing is a key theme of this work, and we continue to take steps to better support clinicians to make appropriate prescribing choices. In relation to AMR, or to make sure we are aware of this, we are working globally with a number of countries. Also, RSV is a virus, and we should not—by my understanding—be using antibiotics on viruses.

A number of other questions included what considerations the department made on the treatment. The cross-systems exercise took place in June 2021 and I reassure noble Lords that it involved the devolved Administrations. It focused on resilience planning for the potential increased surge. After the exercise, regional NHS England teams finalised annual paediatric critical care winter surge planning to anticipate any increase in RSV cases, including for paediatric intensive care beds. NHS England and Improvement also signed off on regional plans which were submitted to the national team. This built on local exercises and included equipment requirements.

In June 2021, we saw the UK palivizumab prevention programme, with a central alerting system bulletin issued to inform NHS trusts to initiate the programme as soon as possible in line with updated policy of up to seven doses at monthly intervals, rather than the five previously. This was stood down at the end of January 2022, because palivizumab provides about a month of protection against RSV, with the aim of reducing the risk of hospitalisation.

In addition, the UK Health Security Agency and NHS England and NHS Improvement have led on public-facing communications, including press releases on RSV highlighting the likelihood of a rise in infections and encouraging parents to look out for symptoms of severe infection in at-risk children, which included advice on reducing transmission to others. That is in addition to the work we are doing with civil society and with clinicians at both primary and secondary level.

Noble Lords also asked what solutions we are looking to in future, and the noble Baroness, Lady Wheeler, mentioned a treatment that has potential. There is a key antiviral treatment under development by Enanta Pharmaceuticals, but there are also a number of developments in RSV immunisation innovation, and I shall go through a few of them.

First, there is the infant monoclonal antibody, called nirsevimab, by AstraZeneca and Sanofi, and that is progressing. GSK was looking at a maternal vaccine, but I understand that that is currently paused. Pfizer has a maternal vaccine, which is progressing, as is a Pfizer older-adult vaccine. Johnson & Johnson is also looking at an older adult vaccine, as is Moderna. Some vaccines are currently in phase 3 trials, such as those for older adults. The UK Health Security Agency and the JCVI will continue to monitor the development of those trials. The MHRA will ultimately be responsible for the approval of new vaccines, licensing and marketing authorisation for new medicine in the UK.

As for our plans, there is currently an out-of-season rise in RSV cases and we have seen RSV swab positivity increasing to almost 4%, with the highest positivity in the under-fives, at 14%. A lessons learned exercise took place in February 2022 to identify and share learning to inform future responses and strengthen the resilience of paediatric services longer term. There is continued surveillance and the data continues to be monitored. Especially given the experience of the unseasonal paediatric programme, it is really important that we are aware of this all year round. Clearly, some lessons have been learned from Covid, such as the whole-system approach to support surge planning and how we rely on established relationships between and within regions, but also via local community organisations. That is, first, to ensure that all clinicians at all levels are aware of RSV and are looking out for it, as well as working with local voluntary and community organisations to raise awareness in parents, families and communities.

We have also been co-operating internationally to model data from other countries that have experienced it, in particular Australia, New Zealand and South Africa. UKHSA and others have been in contact with them to try to understand what lessons could be learned for the UK. NHS England and NHS Improvement also brought forward critical care planning.

I talked about community investments and some of the preparations. It is really important that we are aware at primary and all care

levels. The children and young people's transformation programme procured 4,000 specialist equipment, which were used to supply primary care—I think I talked about that. In the workforce, Health Education England is working closely with specialised commissioning teams in the operational delivery network to support more awareness. I talked about the online platform. The numbers here may not mean much, but there are 437 resources uploaded, 3,400 users and 62,000 tailored resources. There is also practical guidance developed by the Royal College of Paediatrics and Child Health and NICE. They have reviewed and updated their guidelines with a focus on improving patient flow and recommendations for early safe discharge.

In addition, there is a children's safer nurse staffing framework for in-patient care, which includes awareness and more support. I have a number of lines about non-paediatric action, but perhaps it would be better if I wrote to noble Lords after the debate summarising them and picking up any questions that I may not have answered in detail today.

In closing, I thank the noble Baroness, Lady Ritchie, for raising awareness, not only today but more generally—I know that she will, rightly, continue to hold the Government to account—and all noble Lords for their questions. I hope that, if I have not covered them, I shall do so in writing. Be reassured that the health system in England mobilised resources prepared for the surge in RSV cases and

hospital admissions. This was essential to protect at-risk groups, including infants and the elderly, but also to work across the four devolved Administrations of the United Kingdom to make sure this action is UK-wide, not just in England. I am grateful to noble Lords for taking part in the debate today.

🕒 3.35pm

Sitting suspended.