RSV maternal vaccine cuts baby hospital admissions by up to 85%

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Largest real-world study in England confirms premature infants protected by vaccination.

A new UK Health Security Agency (UKHSA) study Maternal RSV vaccination and reduced risk of hospitalisation for babies in England 2024/25, clearly shows the maternal respiratory syncytial virus (RSV) vaccination programme is providing over 80% protection for newborn infants, including those born prematurely. The study found vaccination at least 2 weeks before the birth gave 81.3% protection. A narrow range of statistical uncertainty, 78.9% to 83.4%, means there is high confidence in the protective effect of the vaccine.

The study, which analysed data from the first year of vaccine roll out (24/25), is believed to be the largest study in the world evaluating the effect of maternal RSV vaccination in preventing infants being hospitalised for RSV chest infection. RSV causes bronchiolitis (infection and inflammation of the small airways of the lung) and is a major cause of hospital admission in infants.

The maternal vaccination programme is offered to women from 28 weeks of pregnancy to protect newborns.

The study followed nearly 300,000 babies born between September 2024 and March 2025, representing around 90% of all births in England during this period. Using routinely collected electronic health records, UKHSA researchers assessed the vaccine’s effectiveness in preventing hospital admissions. More than 4,500 hospitalisations occurred in this cohort, the vast majority in infants whose mothers had not been vaccinated.

Getting the vaccine on time was best (in week 28 or soon after that), as babies born at least 4 weeks after their mother was vaccinated had nearly 85% protection. But importantly, even vaccination later in pregnancy still gives some protection, with vaccination as close as 10 to 13 days before birth reducing hospital admissions by 50%.

The study, which will be presented on 18 April at the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) global conference, also found that premature babies, who are particularly vulnerable to RSV, can be well protected, provided there is at least 2 weeks between vaccination and birth.

Matt Wilson, Epidemiologist at UKHSA, presenter and lead author, said:

> Our evaluation of the first season of the programme in England gives important confirmation that maternal RSV vaccination is highly protective for newborn infants, over 80%, and that effectiveness reached nearly 85% when vaccination occurred at least 4 weeks before birth.
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> These findings are also particularly important for preterm infants, who are among the most vulnerable to severe RSV infection. With sufficient time between vaccination and birth, we saw good levels of protection in these babies. Giving the vaccination early in the third trimester, as recommended by the World Health Organization, could protect most preterm infants, so it’s important that midwives and other healthcare workers offer

> vaccination on time with the schedule – and that pregnant women promptly take it up.

Maternal RSV vaccine uptake in England continues to climb, reaching 55% during the study period and the latest data showing uptake rising to 64.1% for women who gave birth in November 2025

Dr Conall Watson, Consultant Epidemiologist at UKHSA, one of the senior authors and national programme lead for RSV, said:

> RSV can cause life-threatening chest infections for babies. Half of newborns will have caught RSV before they are a year old. As an expectant parent you have no idea if they are going to be severely ill or not.
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> Our analysis of the RSV vaccination programme in England is important confirmation of the results from the clinical trial, but this study is 40 times bigger and clearly shows the hugely beneficial effect on reducing hospital admission. Getting vaccinated in week 28 of pregnancy or soon after gives excellent protection to both term and preterm babies when they are tiny and most vulnerable to severe RSV. The RSV vaccine gives a brilliant boost to the pregnant woman's immune system so it can pass antibodies through the placenta and protect the baby from the day they are born.

https://www.gov.uk/government/news/rsv-maternal-vaccine-cuts-baby-hospital-admissions-by-up-to-85