

Sharp fall in GP visits for acute gastroenteritis after rotavirus vaccination introduction

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The study, led by the London School of Hygiene & Tropical Medicine with Public Health England, found that the fall in visits was biggest among young children (the age group that receives the rotavirus vaccination), but there was also a decrease in visits by older children and adults. This suggests herd immunity from the vaccination programme; individuals were protected even if unvaccinated due to the decrease in circulating rotavirus.

Rotavirus is highly infectious and is the commonest cause of acute gastroenteritis in young children, causing diarrhoea, vomiting and fever. Infection with rotavirus results in considerable use of health services in the UK.

The UK-wide rotavirus vaccination programme was introduced in 2013. The vaccine is given as oral drops in two doses, to babies aged between two and three months old.

Previous research has shown that the introduction of the programme has resulted in a decrease in hospitalisations and Emergency Department visits for acute gastroenteritis among adults and children.

The new study used primary care data to look at the impact on GP visits and went on to estimate the visits and [healthcare costs](#) averted in England across all healthcare settings.

In GP surgeries, rates of acute gastroenteritis in young children fell by 15% overall after the vaccine introduction, and by 41% in the months where rotavirus circulation was historically high. Rates also decreased in older children and to a lesser degree in adults.

The researchers went on to estimate that across GPs, hospital admissions and Emergency Departments, 87,376 visits by children under five were averted in the first year of the vaccination programme. This was associated with an estimated £12.5 million reduction in healthcare costs.

Lead author Dr Sara Thomas from the London School of Hygiene & Tropical Medicine, said: "This study helps to give a more complete picture of the impact of rotavirus vaccination, and shows the rapid reduction in the burden of acute gastroenteritis seen in GP surgeries.

"We found that the expected seasonal peak of acute gastroenteritis in the months when rates historically would have been high completely disappeared. The fact that GP visits for gastroenteritis in other age groups fell provides evidence that unvaccinated older individuals are also benefitting from the vaccine being introduced.

"Our new estimates of the tens of thousands of health service visits by young children that have been averted, with a reduction in annual healthcare costs of more than £12 million, also provide important information for assessing the overall benefits of introducing the vaccine."

Study co-author Dr Shamez Ladhani, Immunisation Consultant at Public Health England, said: "This is good news and it is reassuring that the [rotavirus vaccine](#) is preventing so many cases of vomiting and diarrhoea since it was introduced three years ago. This is thanks to the high vaccine uptake in infants, which has also helped to protect older unvaccinated children and adults of all ages across the UK. It is also further evidence

that our UK Immunisation programme is playing a vital role in protecting the public's health."

Nicola Blackwood, the Minister for Public Health and Innovation said: "This research shows the overwhelming [public health](#) benefit of giving [young children](#) the rotavirus vaccination. This vaccine is keeping children safe whilst freeing up more of doctors' and nurses' time and saving money for the NHS."

The authors say that one potential limitation of the study is that the decrease in acute gastroenteritis observed could be due to factors other than the introduction of the vaccine. Analyses are now underway to compare rates of [acute gastroenteritis](#) in vaccinated and unvaccinated infants, to obtain direct estimates of the effectiveness of the [vaccine](#).

More information: Sara L. Thomas et al, Impact of the national rotavirus vaccination programme on acute gastroenteritis in England and associated costs averted, *Vaccine* (2016). [DOI: 10.1016/j.vaccine.2016.11.057](#)

Provided by London School of Hygiene & Tropical Medicine

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