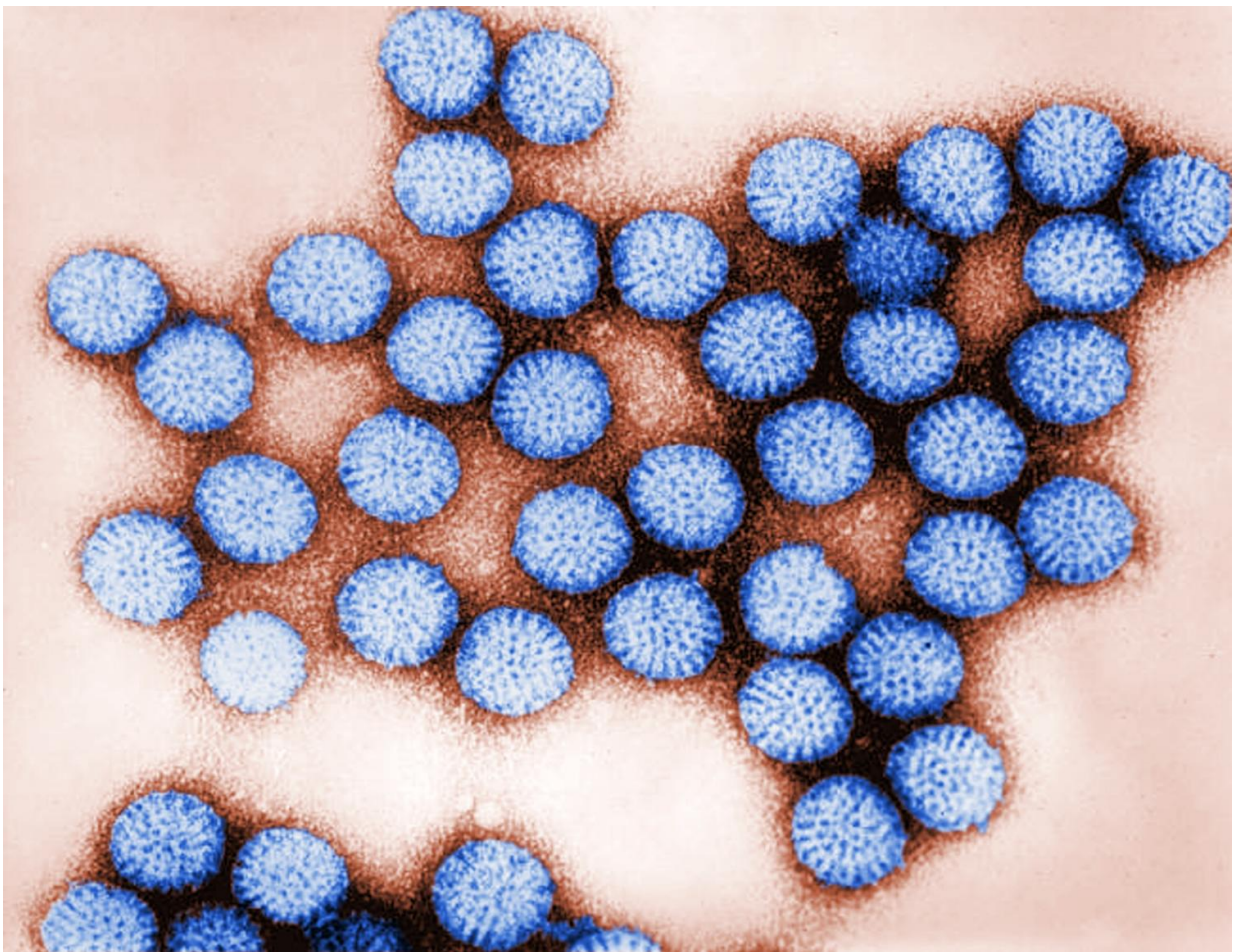


Ontario rotavirus hospitalizations drop 71 percent after launch of infant vaccine program

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Electron micrograph of intact rotavirus particles. Credit: Bryon Skinner, CDC/Dr. Erskine Palmer

Immunizing babies against rotavirus in Ontario led to a 71% drop in hospitalizations for the infection, new research from Public Health Ontario (PHO) and the Institute for Clinical Evaluative Sciences (ICES) has shown.

Rotavirus infection can cause [acute gastroenteritis](#) - vomiting, diarrhea, fever and abdominal pain (otherwise known as "stomach 'flu") and lead to severe dehydration. Previous research found that for Canadian kids infected with rotavirus, one third see a doctor, 15% visit the [emergency department](#), and 7% need hospitalization. Because it is highly infectious, the virus is also easily spread to other family members and caregivers when a child gets sick.

However, a new paper from PHO and ICES researchers shows that the number of children and adults showing up at Ontario hospitals with acute gastroenteritis dropped considerably after the introduction of the rotavirus vaccine program for infants in 2011.

"We were very excited to see the significant impact of the [rotavirus vaccine](#) program. Hospitalizations in Ontario due to rotavirus infection were reduced by 71%, and emergency department visits dropped by 68%," says Dr. Sarah Wilson, lead author of the study who is a medical epidemiologist at PHO and an adjunct scientist at ICES. "We expected to see a drop for babies and toddlers who were vaccinated under this program. What's particularly interesting is we saw the drop even in older kids who were too old to receive the publicly-funded rotavirus vaccine, which means that protecting babies against illness also benefitted older children."

With data spanning eight years (2005-2013) from ICES, Wilson and fellow researchers looked at 864,262 anonymized hospitalization and emergency department records for rotavirus infection and acute gastroenteritis. The study was divided into two time periods - before and

after the introduction of Ontario's rotavirus vaccine program.

"This research clearly shows how effective a public vaccination program can be at protecting babies and kids from getting sick and alleviating burden on the health care system," says Dr. Shelley Deeks, medical director of immunization and vaccine-preventable diseases at PHO and a co-author on the study. "This paper adds to the body of scientific evidence demonstrating the impressive impact of rotavirus vaccine programs."

In Ontario, the rotavirus vaccine is given to babies at two and four months of age. The paper, Population-level impact of Ontario's infant rotavirus immunization program: evidence of direct and indirect effects, comes out in the May 11 issue of *PLOS ONE*.

Key facts:

- Prior to the start of rotavirus vaccination programs in Canada, about two-thirds of hospitalizations for acute gastroenteritis were in kids under two years old.
- 864,262 Ontario hospital records covering an eight-year span were examined for rotavirus infection and acute gastroenteritis needing hospitalization or an emergency department visit.
- Hospitalizations for [babies](#) less than one year of age dropped 79% after rotavirus program was introduced; hospitalizations of toddlers 12-23 months saw a 73% decrease.
- Evidence of herd immunity in both older children and adults was found:
 - Hospitalizations for rotavirus infection among kids 5-19 years of age dropped by 75%.
- Hospitalizations for [rotavirus infection](#) among kids 5-19 years of age

dropped by 75%.

- Hospitalizations for acute gastroenteritis in adults declined by up to 38%.

Provided by Public Health Ontario

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