

Routine rotavirus vaccination in Brazil has reduced diarrhea deaths in children

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Rotavirus vaccination in all areas of Brazil is associated with reduced diarrhea-related deaths and hospital admissions in children aged under five years, reports a study in this week's *PLoS Medicine*.

Manish Patel from the [Centers for Disease Control and Prevention](#) in Atlanta, Georgia, USA, and colleagues show that these real-world impact data—what actually happens in reality rather than in strictly controlled clinical trial settings—are consistent with the clinical trials and conclude that their study strengthens the evidence base for use of rotavirus vaccination as an effective measure for controlling severe and fatal childhood diarrhea.

Brazil has a high incidence of diarrhea-related deaths and [hospital admissions](#) in young children and, in July 2006, the Brazilian Ministry of Health introduced rotavirus vaccination simultaneously in all 27 states, allowing the authors to conduct a "before" and "after" intervention analysis.

Using routinely collected national data, the authors found that in 2007 an estimated 80% of infants received two doses of rotavirus [vaccine](#), and by 2009 that this proportion rose to 84% of children younger than one year of age. In the three years following the introduction of rotavirus vaccination, diarrhea-related mortality rates and admissions among children aged under five years were, respectively, 22% and 17% lower than expected, with a cumulative total of 1,500 fewer [diarrhea](#) deaths and 130,000 fewer hospital admissions.

Furthermore, the largest reductions in deaths and admissions were among children who had the highest rates of vaccination (less than two years of age), and the lowest reductions were among [children](#) who were not age-eligible for vaccination during the study period (aged 2-5 years).

The authors say: "This time-series analysis provides evidence of substantial reductions following the introduction of rotavirus vaccination of both diarrhea-related deaths and diarrhea-related hospital admissions from a large middle-income country in the Americas with both developing and developed regions."

They continue: "In middle-income countries that are not eligible for financial support from donors, the potential reductions in diarrhea-related hospital admissions and other health-care costs will be important for cost-effectiveness considerations to justify the purchase of these relatively expensive vaccines."

More information: do Carmo GMI, Yen C, Cortes J, Siqueira AA, de Oliveira WK, et al. (2011) Decline in Diarrhea Mortality and Admissions after Routine Childhood Rotavirus Immunization in Brazil: A Time-Series Analysis. PLoS Med 8(4): e1001024.
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