



Study: Routine childhood vaccines prevented more than 24 million illnesses in 2019

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Childhood vaccines prevented more than 24 million illnesses in 2019 and can generate significant economic benefits, according to two new studies.

“Routine childhood immunization in the US continues to yield considerable sustained reductions in incidence across all targeted diseases,” authors wrote in “Impact of Routine Childhood Immunization in Reducing Vaccine-Preventable Diseases in the US” ([Talbird SE, et al. *Pediatrics*. July 13, 2022](#)), which was funded by a subsidiary of pharmaceutical company Merck & Co. Inc. “Efforts to maintain and improve vaccination coverage are necessary to continue experiencing low incidence levels of vaccine-preventable diseases.”

Researchers looked at routine vaccinations for children 10 years and younger. They compared disease rates before and while vaccines were available and calculated the impact based on the 2019 population.

The estimated 24 million diseases averted that year spanned all ages. The reductions in disease included:

- 100% or nearly 100% for diphtheria, *Haemophilus influenzae* type b, measles, mumps, polio and rubella;
- 98% for tetanus and varicella;
- 91% for rotavirus hospitalizations and pertussis disease;
- 87% for hepatitis A;
- 86% for hepatitis B;
- 84% for pneumococcal pneumonia hospitalization rates;
- 75% for pneumococcal acute otitis media (AOM);
- 60% for invasive pneumococcal disease; and
- 17% for influenza in children under 11 years.

Vaccination helped avoid about 6.1 million cases of *Streptococcus pneumoniae* AOM, nearly 4.3 million cases of varicella and more than 3.6 million cases of measles. Authors noted their analysis did not account for other public health measures that may have contributed.

Even with vaccines, there were about 13,412 cases of flu per 100,000 people and 2,756 cases of *S. pneumoniae* AOM per 100,000 people, representing the diseases with the highest rates in the vaccine era

among those studied.

In a separate study, “Value of the Immunization Program for Children in the 2017 US Birth Cohort” ([Carrico J, et al. *Pediatrics*. July 13, 2022](#)), the same group looked at the impact of childhood vaccination over the lifespan of people born in 2017. They estimated vaccines will prevent 17.8 million cases of disease and more than 31,000 deaths for that group. Vaccines also will save \$55.1 billion in societal costs and \$13.7 billion in health care payer costs.

“In addition to preventing unnecessary morbidity and mortality, routine childhood immunization is cost-saving,” authors wrote. “Continued maintenance of high vaccination coverage is necessary to ensure sustained clinical and economic benefits of the vaccination program.”

In a [related commentary](#), experts from the Health Resources and Services Administration’s Maternal and Child Health Bureau expressed concern about the impact the COVID-19 pandemic and misinformation have had on immunization rates and encouraged clinicians to address hesitancy and close racial gaps.

“... the impact of misinformation on vaccine hesitancy, pervasive inequities among marginalized communities, and the disruption of the COVID-19 pandemic on routine preventive care for children, underscore the need for pediatricians to be actively involved in assuring a strong system for vaccine delivery and uptake,” they wrote. “... A concerted effort across all parts of the health care and public health systems can assure that vaccines remain one of the greatest public health achievements of our time.”

Resources

- [CDC immunization schedules](#)
- [AAP clinical report *Countering Vaccine Hesitancy*](#)
- [AAP immunization resources](#)
- [Surgeon general advisory “Confronting Health Misinformation”](#)