

# MMR vaccine linked to lower rate of infection-related hospital admissions

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In a nationwide group of Danish children, receipt of the live measles, mumps, and rubella (MMR) vaccine on schedule after vaccination for other common infections was associated with a lower rate of hospital admissions for any infections, but particularly for lower respiratory tract infections, according to a study in the February 26 issue of *JAMA*.

Childhood vaccines are recommended worldwide, based on their protective effect against the targeted diseases. However, studies from low-income countries show that vaccines may have nonspecific effects that reduce illness and death from non-targeted diseases, according to background information in the study. Such nonspecific effects of vaccines might also be important for the health of children in high-income settings.

Signe Sorup, Ph.D., of the Statens Serum Institut, Copenhagen, Denmark, and colleagues examined whether the live MMR vaccine was associated with lower rates of [hospital admissions](#) for infections among children in a higher-income setting (Denmark). The study included children 495,987 born 1997-2006 and followed from ages 11 months to 2 years. The recommended vaccination schedule was inactivated vaccine against diphtheria, tetanus, pertussis, polio, and *Haemophilus influenzae* type b (DTaP-IPV-Hib) administered at ages 3, 5, and 12 months; and MMR at age 15 months.

There were 56,889 hospital admissions for any type of infection among the children in the study. The researchers found that receiving the live

MMR vaccine after the inactivated DTaP-IPV-Hib vaccine was associated with a lower rate of hospital admissions for any infection. The association was particularly strong for lower [respiratory tract infections](#) and for longer hospital admissions. Children who received DTaP-IPV-Hib after MMR had a higher rate of infectious disease admission.

"The coverage with MMR is suboptimal in many high-income countries; in the present study, about 50 percent of children were not vaccinated on time. Physicians should encourage parents to have children vaccinated on time with MMR and avoid giving vaccinations out of sequence, because the present study suggests that timely MMR vaccination averted a considerable number of hospital admissions for any infection between ages 16 and 24 months," the authors write.

**More information:** *JAMA* [DOI: 10.1001/jama.2014.470](https://doi.org/10.1001/jama.2014.470)

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