

MMR Vaccine fails to provide herd immunity.

95% with lifetime immunity = target for herd immunity

With 100% vaccination rate:

15.5% with no measurable antibodies for only 20 years after 2 shots (current recommendation)

18% with either low or zero antibodies 5 YEARS after 2 shots
(current recommendation)

10.4% with zero measurable antibodies 20 years after 3 shots
(MORE than current recommendation)

How many more shots would it take, and at what cost?

Waning Antibody Levels and Avidity: Implications for MM Vaccine-Induced Protection
<https://academic.oup.com/jid/article/206/10/1542/858893>

Target for herd immunity = 95% with lifetime immunity

MMR failure rate = up to 18.9% complete failure within 7.4 years

- * 2-10% primary failure
- * 8.9% secondary failure

2-10% fail to develop immunity from MMR — PRIMARY FAILURE

8.9% who DID have immunity lacked protective levels of measles 7.4 years after 2 doses. — SECONDARY FAILURE

“However, even with two documented doses of measles vaccine, our laboratory demonstrated that 8.9% of 763 healthy children immunized a mean of 7.4 years earlier, lacked protective levels of circulating measles-specific neutralizing antibodies [11], suggesting that even two doses of the current vaccine may be insufficient at the population level.”

The Re-Emergence of Measles in Developed Countries: Time to Develop the Next-Generation Measles Vaccines?

[Gregory A. Poland](#), MD, MACP, Editor-in-Chief, VACCINE and [Robert M. Jacobson](#), MD, FAAP, Professor of Pediatrics

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3905323/>

Group 1: 15.5% with ZERO measurable measles antibodies 20 years after 2nd dose of MMR

Group 2: 10.4% with ZERO measurable measles antibodies after THREE measles vaccines (1 dose of measles vaccine followed by 2 doses of MMR), 20 years after last dose

“As soon as 5 years after the second dose of MMR vaccination, 4% of the individuals were seronegative and 14% low positive for measles.”

Waning Antibody Levels and Avidity: Implications for MMR Vaccine-Induced Protection

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“Multiple studies demonstrate that 2–10% of those immunized with two doses of measles vaccine fail to develop protective antibody levels, and that immunity can wane over time and result in infection (so-called secondary vaccine failure) when the individual is exposed to measles. For example, during the 1989–1991 U.S. measles outbreaks 20–40% of the individuals affected had been previously immunized with one to two doses of vaccine. In an October 2011 outbreak in Canada, over 50% of the 98 individuals had received two doses of measles vaccine.”

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