

Measles:

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

**“Receiving less attention, however, is the issue of vaccine failure.**

While the current vaccine is acknowledged as a good vaccine, we and others have demonstrated that the immune response to measles vaccine varies substantially in actual field use. **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. The Table shows that this phenomenon continues to play a role in measles outbreaks. Thus, measles outbreaks also occur even among highly vaccinated populations because of primary and secondary vaccine failure, which results in gradually larger pools of susceptible persons and outbreaks once measles is introduced [8]. **This leads to a paradoxical situation whereby measles in highly immunized societies occurs primarily among those previously immunized [8].”**