

PCV13 - Data Brief

Vermont Immunization Registry

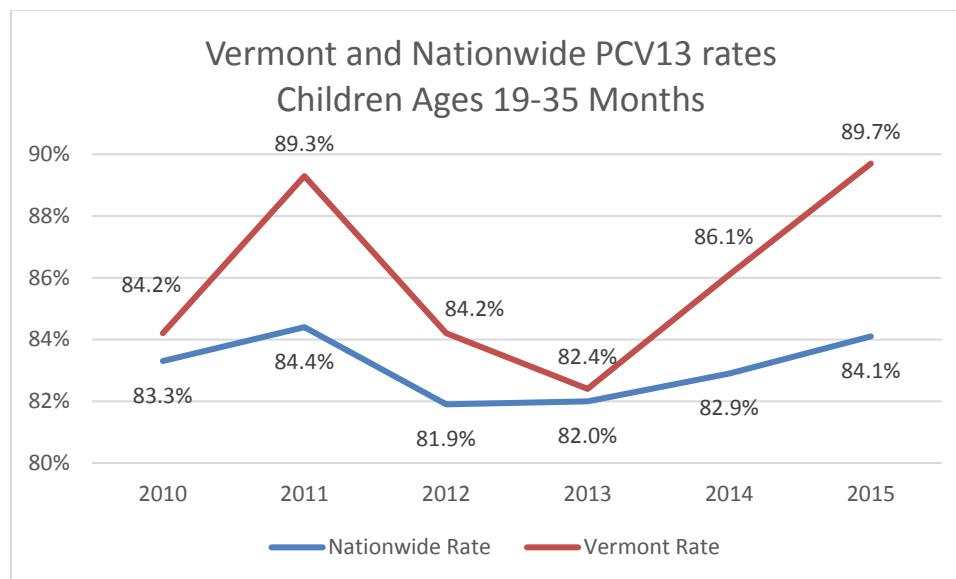
Background

Invasive pneumococcal disease (IPD) is an infection caused by the pneumococcus bacteria.¹ Pneumococcus can cause many types of infection, including pneumonia, meningitis, and ear or sinus infections. In 2000 the first pneumococcal conjugate childhood vaccine recommendations were given for PCV7. This vaccine protected against seven strains of the pneumococcus bacteria. In 2010 a new vaccine, PCV13, was recommended for routine childhood vaccines, protecting against thirteen strains of the bacteria.²

The pneumococcal vaccine has demonstrated the benefit that the entire population can receive when a portion is vaccinated. Not only do children benefit when vaccinated, but those around them as well, including the elderly and those with compromising health conditions. One study estimates that 3,000 deaths were prevented in the first three years of the PCV13 recommendation.³

Vaccine Coverage Rates

The most effective way to prevent pneumococcal infection is through vaccination. Children are recommended to receive four doses of PCV13 vaccine at 2, 4, 6, and 12 through 15 months of age.⁴ The Centers for Disease Control and Prevention conducts an annual survey of vaccination rates across the country. Since the initial recommendation of PCV13 in 2010, Vermont rates have seen some fluctuations, but have followed a positive trend, with rates consistently higher than the national average, and is close to reaching the national Healthy Peoples target of 90%.⁵



*Data Source: National Immunization Survey (NIS)

Adult Recommendation

Beginning in 2014, PCV13 vaccination was recommended for all adults age 65 or older after a controlled trial showed that the vaccine was 76% effective in preventing PCV13-type IPD.⁶ This is in addition to the PPSV23 vaccine, which has been recommended for all adults age 65 or older since 1997. The PCV13 vaccine should be given first, with the PPSV23 vaccine given at least one year later. The table at the top of the next page displays the percentage of adults age 65 or older that have ever received the PCV13 vaccine, the PPSV23 vaccine, and both.

Percent of Adults Age 65 and Older Receiving Pneumococcal Vaccines

PCV13 Received	PPSV23 Received	Both Received
45.9%	53.3%	29.3%

*Data source: Vermont Immunization Registry

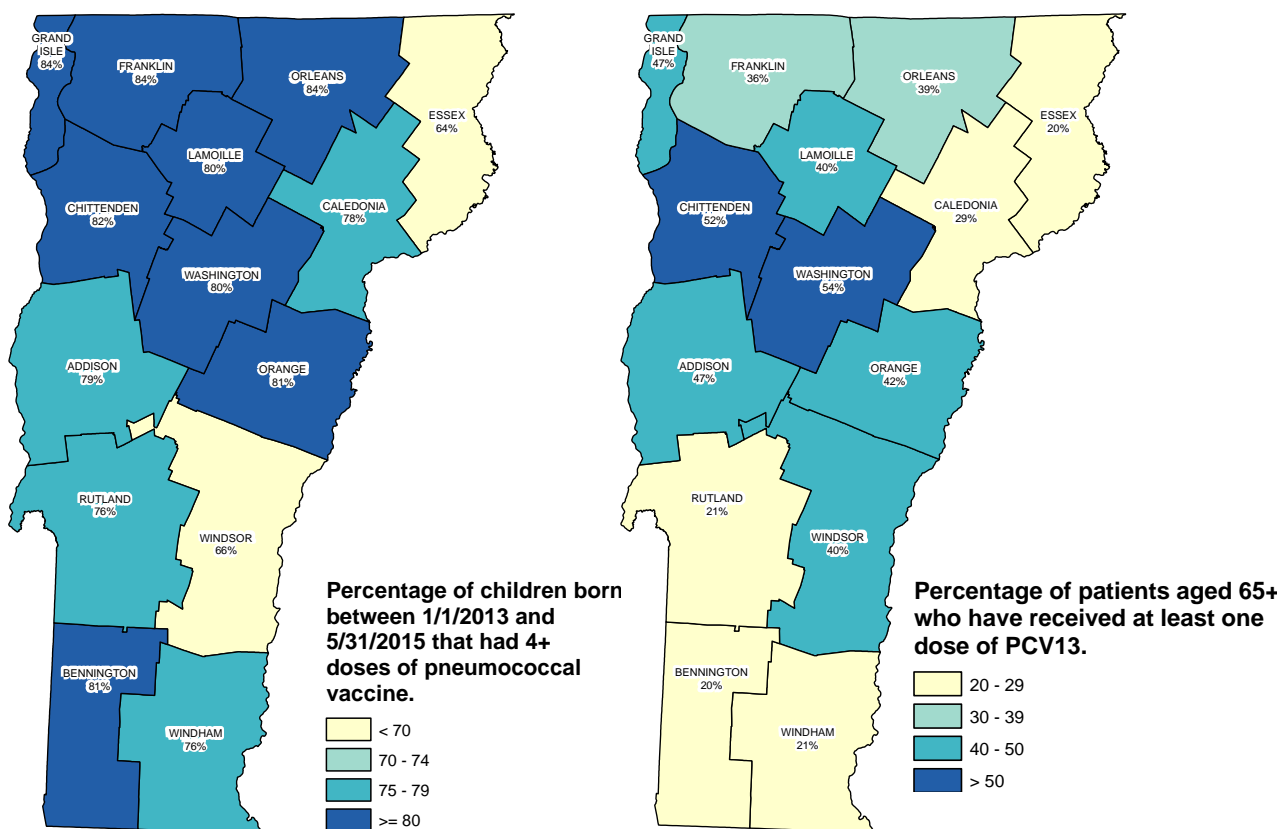
The PCV13 vaccine can be administered to adults in various locations where and when it is opportune. In 2016 most PCV13 vaccinations were received at a provider's office (76%), though an additional 14% were received at a pharmacy and 9% at a hospital.

Vermont: A Closer Look

Utilizing data from the Vermont Immunization Registry (IMR), the focus can be narrowed to counties in Vermont. The two maps below show the county rates, with children on the left and adults age 65 and older on the right.

For the children, there does not appear to be a large range of rates from county to county, except for Essex and Windsor county, both of which have a larger than normal portion of their population seeking care outside of Vermont. The overall state rate is 79.4%.

For the adults, the range from county to county is more dramatic, with some counties having rates as low as 20%, while Washington County has the highest rate at 54%.



*Data source: Vermont Immunization Registry and U.S. Census Bureau

¹ About Pneumococcal Disease, <https://www.cdc.gov/pneumococcal/about/index.html>

² U.S. Vaccine Names, <https://www.cdc.gov/vaccines/terms/usvaccines.html>

³ Impact of 13-Valent Pneumococcal Conjugate Vaccine Used in Children on Invasive Pneumococcal Disease in Children and Adults in the United States: Analysis of Multisite, Population-based Surveillance, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4876855>

⁴ Prevention, <https://www.cdc.gov/pneumococcal/about/prevention.html>

⁵ Immunization and Infectious Diseases, <https://www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases/objectives#4658>

⁶ Use of Pneumococcal Disease Epidemiology to Set Policy and Prevent Disease during 20 Years of the Emerging Infections Program, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4551068>