

Effects of Exemption Policies on Immunization Rates and Disease Outbreaks

Nonmedical exemptions put communities at risk.

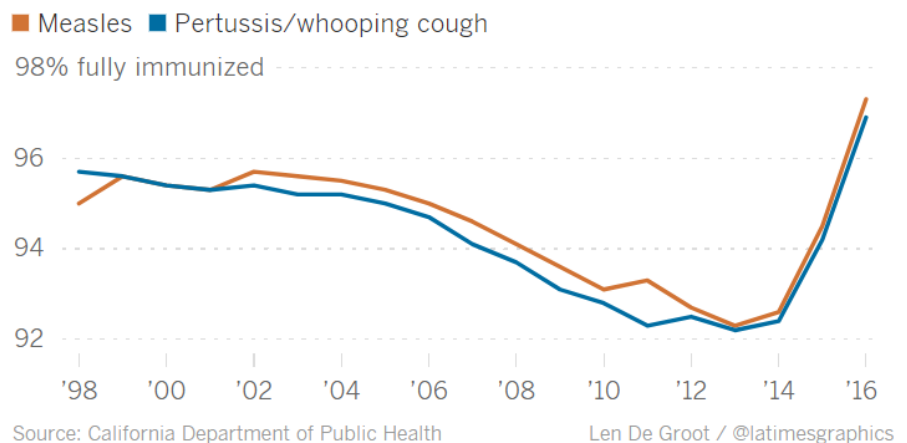
- Approximately 50% more people get pertussis in states that allow personal belief vaccine exemptions than those in states allowing only religious exemptions.ⁱ
- An increase in nonmedical vaccine exemptions occurred in Arkansas after 2003 legislation added a philosophical exemption and used a new process for vaccine exemptions. Overall exemptions continued to rise each year, with an average increase of 23.1% annually.ⁱⁱ

Tougher vaccine exemption policies can increase vaccination rates, but only for a limited time. The most effective method for raising immunization rates is to eliminate exemptions.

- In July 2011, a state law went into effect in Washington which required parents seeking a nonmedical exemption for their children to file a form signed by a health-care provider. As a result, the state's vaccine exemption rate for kindergarteners fell from 6% for 2010-11 to 4.5% for 2011-12.ⁱⁱⁱ The rate, however, has remained steady through the 2016-17 school year (4.8%), leaving many children at risk of vaccine-preventable diseases.^{iv}
- In 2015, Oregon's kindergarten nonmedical exemption rate fell from 7% to 5.8%, just one year after a new law went into effect tightening the process for obtaining an exemption. However, the rate has steadily increased since. In 2018, 7.5% of kindergarteners now have a nonmedical vaccine exemption.^v

- At the end of 2014, an outbreak of measles began in the Disneyland Park in Anaheim, California and quickly spread to seven other states, Canada, and Mexico. A total of 147 cases were ultimately reported in the U.S.^{vi} Californian lawmakers sought to increase vaccination rates by eliminating philosophical exemptions in the state. In just one year, vaccination rates noticeably increased in the state (see graph to right).^{vii}

California's kindergarten vaccination rates



New data released Wednesday showed that the percentage of California's kindergarteners as of last fall with all required vaccinations rose from 92.8% to 95.6%. Los Angeles

State vaccination requirements for school entry, with appropriate medical exemptions, are the best way to increase childhood and adolescent immunization rates.

- In the early 1970s, states that had school vaccination laws for measles vaccine had measles incidence rates 40% to 51% lower than states without such laws.^{viii}
- In the 1977–1978 school year, the six states that strictly enforced school vaccination laws had measles incidence rates less than half those of the rest of the country; and in the 1978–1979 school year, the incidence rates were less than one tenth those of the rest of the country.^{ix}
- An analysis of states with the highest and lowest incidences of measles in 1979–1980 found that states with the lowest incidence rates were significantly more likely to have laws covering the entire school population (rather than just first entrants) and more likely to be strictly enforcing the laws.^x
- In 2010, ten California infants died from pertussis and 9,154 cases were reported. Following the outbreak, on September 29, 2010, Assembly Bill 354 came into effect for the State of California requiring all students to have a Tdap booster shot before entering 7th grade. The following year (2011) no pertussis deaths were reported and only 2,937 pertussis cases were reported.^{xi}
- Today, for the hepatitis B vaccination series, 75% of adolescents complete the hepatitis B vaccination series in states with mandates compared to 39% of those in states without mandates.^{xii}
- For the meningococcal vaccine, approximately 71% of adolescents ages 13 to 17 receive the recommended meningococcal vaccine in states that require vaccination for middle school entry compared to 53% of those in states that do not require it.^{xiii}

ⁱ J. F., L. L. (2006). Laws May Be Adding To Whooping Cough Risk. *Pediatrics*, 118(6), 2408.

ⁱⁱ Haytham Safi, J. Gary Wheeler, Gordon R. Reeve, Eduardo Ochoa, José R. Romero, Robert Hopkins, Kevin W. Ryan, Richard F. Jacobs. (2012) Vaccine Policy and Arkansas Childhood Immunization Exemptions. *American Journal of Preventive Medicine* 42:6, 602-605

ⁱⁱⁱ Murray, E. (June 2012). Island County immunization rate still behind state average. *The Whidbey Examiner*.

^{iv} U.S. Centers for Disease Control and Prevention. "Estimated number and percentage of children enrolled in kindergarten with an exemption from one or more vaccines by State and the United States, School Vaccination Assessment Report, 2016-17 school year." *SchoolVaxView*. Accessed 31 October 2017. <https://www.cdc.gov/vaccines/imz-managers/coverage/schoolvaxview/data-reports/exemptions-reports/2016-17.html>.

^v Oregon Health Authority. "Oregon kindergarten vaccine exemption rate increases sharply." 29 May 2018. Accessed 7 June 2018. <https://www.oregon.gov/oha/ERD/Pages/OregonKindergartenVaccineExemptionRateIncreasesSharply.aspx>.

^{vi} U.S. Centers for Disease Control and Prevention. "Year in Review" Measles Linked to Disneyland." *Public Health Matters Blog*. 2 December 2015. Accessed 31 October 2017. <https://blogs.cdc.gov/publichealthmatters/2015/12/year-in-review-measles-linked-to-disneyland/>

^{vii} Lin, Rong-Gong, and Karlamangla, Soumya. "Vaccination rate jumps in California after tougher inoculation law." *The Los Angeles Times*. 13 April 2017.

^{viii} Malone, Kevin M., and Alan R. Hinman. "Chapter 13: Vaccination Mandates: The Public Health Imperative and Individual Rights." *Law in Public Health Practice*. Ed. Richard A. Goodman. N.p.: Oxford UP, 2007. 262-84. Print

^{ix} *Ibid.*

^x *Ibid.*

^{xi} "Pertussis Report" California Department of Public Health. State of California, 6 Jan. 2012. Web. 5 June 2012. <<http://www.cdph.ca.gov/>>.

^{xii} Jacobs RJ, Meyerhoff AS. Effect of middle-school entry requirements on hepatitis B vaccination coverage. *J Adolesc Health* 2004;34(5):420-423.

^{xiii} *Ibid.*