

Improving Vaccination Coverage Fact Sheet

Improving Vaccination Coverage for Vaccine-Preventable Diseases

Public confidence in immunization is critical to sustaining and increasing vaccination coverage rates and preventing outbreaks of vaccine-preventable diseases (VPDs). There is some evidence suggesting vaccination requirements that have broad reach, limited exemption criteria, and strong enforcement may help promote higher rates of vaccination coverage along with complementary actions such as monitoring VPD cases, vaccination coverage, and exemption rates; and also reporting on recent VPD outbreaks.

Importation of measles into the U.S. emphasizes the importance of sustaining and increasing vaccination coverage rates to prevent outbreaks of VPDs. Measles is a highly-contagious respiratory disease caused by a virus. It spreads through the air through coughing and sneezing. Measles starts with a fever, runny nose, cough, red eyes, and sore throat, and is followed by a rash that spreads all over the body. About three out of 10 people who get measles will develop one or more complications including pneumonia, ear infections, or diarrhea. Complications are more common in children younger than age 5 and adults.

Measles cases and outbreaks still occur in countries in Europe, Africa, Asia, and the Pacific. Worldwide, about 20 million people get measles each year; about 146,000 die. Each year, unvaccinated people get infected while in other countries and bring the disease into the United States and spread it to others.

Since 2000, when measles was declared eliminated from the U.S., the annual number of people reported to have measles ranged from a low of 37 people in 2004 to a high of 668 people in 2014. Most of these originated outside the country or were linked to a case that originated outside the country.

Measles can be prevented with the MMR (measles, mumps, and rubella) vaccine. The MMR vaccine has an excellent safety record and is highly effective. One dose of MMR vaccine is about 93% effective at preventing measles; two doses are about 97% effective. In the United States, widespread use of measles vaccine has led to a greater than 99% reduction in measles cases compared with the pre-vaccine era.

Strategies for Improving Vaccination Rates

Promoting best practices at the state level is one strategy to help improve coverage rates. State and local vaccination requirements for daycare and school entry are important tools for maintaining high vaccination coverage rates, and, in turn, lower rates of VPDs. Other best practices for improving vaccination coverage rates include enhancing access to immunization services, increasing community demand for immunization, and provider or system-based interventions. (1)

State laws establish vaccination requirements for school children. These laws often apply not only to children attending public schools but also to those attending private schools and day care facilities (broad reach). All states provide medical exemptions and some state laws also offer exemptions for religious and/or philosophical reasons (type of exemption). State laws also establish mechanisms for enforcement of school vaccination requirements and exemptions (enforcement).

There is a growing body of evidence regarding the impact of state vaccination requirements for school age children on vaccination coverage and the association of non-medical exemption rates with increased disease incidence (Wang et al, AJPH). Some recent findings include:

- Use of philosophical exemptions and under immunization tend to cluster geographically, making some communities at greater risk for outbreaks (2,3,4,5).
- This geographic clustering of exemptions is associated with increased local risk of vaccine-preventable diseases, such as pertussis and measles (6).

Practices suggested in the literature to reduce non-medical exemptions include:

- States can consider strengthening the rigor of the application process, frequency of submission, and enforcement as strategies to improve vaccination rates (7,8,9).

In addition to state vaccination requirements, stronger health care practices such as more in-depth discussions with hesitant parents and establishing vaccination as the default are strategies to improve vaccination coverage rates (7,10). CDC's Public Health Law Program (PHLP) is compiling state statutes and regulations regarding school vaccinations and specifically ways in which states have addressed broad reach, limited types of exemptions, and enforcement mechanisms for these policies. States have addressed broad reach in the following ways: all states have laws regarding proof of vaccination for school entry; nearly all states apply their immunization requirements to both public and private schools; and all states establish vaccination requirements for children as a condition for day care attendance. States have addressed limited exemptions in the following ways: two states allow for only medical exemptions and twenty-eight states allow for only medical and religious exemptions, five of which expressly define religious exemptions as excluding exemptions based on philosophical beliefs.

Generally, how exemptions are enforced varies among states. Examples of how states have addressed enforcement include: parental notarization or affidavit in the exemption process, and education about the benefits of vaccination and risk of being unvaccinated.

For more information on the results of the 50-state assessment and analysis, please visit <http://www.cdc.gov/phlp/publications/topic/vaccinations.html>. This documentation of state school immunization requirements and vaccine exemption laws summarizes state vaccination laws compiled in February and March 2015. To update relevant immunization laws from your state, please email Aila Hoss at ahoss@cdc.gov.

Conclusion

Promoting best practices at the state level is one strategy to help improve coverage rates. Additional key strategies include ongoing provider outreach, avoiding missed opportunities, and public education about vaccines and the diseases they prevent.

The best way to protect yourself and your loved ones from measles is by getting vaccinated. The MMR vaccine protects against all 3 diseases. Two doses of MMR vaccine provide 97% protection against measles. People who cannot show that they were vaccinated as children and who have never had measles should be vaccinated.

See references, next page.

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