

PREFACE

Even though a great deal of attention has been devoted in recent years to increasing vaccination rates, outbreaks are still occurring, taking their toll on the health of our patients and communities. Many of these outbreaks are due to unvaccinated individuals spreading disease. Furthermore, vaccine exemptions for nonmedical reasons have been blamed for outbreaks, prompting policy and legislative discussions.

Between January 1 and October 7, 2017, 15 states reported 120 cases of measles.¹ The majority of these cases were in unvaccinated individuals. One of these states was Minnesota, which reported 65 cases between April 10 and May 31, 2017.² Of these, 95% were unvaccinated individuals and 77% were children ages 12 months or older and eligible to receive the measles, mumps, rubella (MMR) vaccine. The outbreak in Minnesota was largely due to decreased vaccination rates among the Somali-American community, in which the perception exists that the MMR vaccine is linked to autism. A review of the literature between 2000 and 2015 regarding measles outbreaks found that 71% of cases were individuals who had nonmedical exemptions and had not been vaccinated.³

A geospatial analysis of five states with incidence rates of pertussis higher than the national rate was assessed for a link between pertussis outbreaks in 2012 and nonmedical vaccine exemptions of children beginning kindergarten.⁴ Analyzing the geographic clusters of high rates of both pertussis cases and nonmedical exemptions, the researchers concluded that the exemptions were likely a factor in the pertussis outbreaks.

In response to a measles outbreak, California passed a law in 2015 that no longer permitted religious and philosophical exemptions to mandatory childhood vaccinations.⁵ Medical exemptions are the only exemption permitted, which is also the law in Mississippi and West Virginia. Unfortunately, all other states still allow for religious or philosophical exemptions to mandatory vaccinations of children attending school or

day care. If outbreaks continue, additional states may possibly follow suit with legislative changes to tighten the exemption policies.

As policies and laws change, pharmacists are likely to see increased opportunities to educate and vaccinate individuals in their communities. Coupled with the ever-changing landscape of the vaccines available, immunization schedules, and recommendations for dosing and administration, immunizing pharmacists have a responsibility to stay informed. The fourth edition of this handbook has been updated to reflect the advances in immunization practices over the past few years. Every chapter in this edition of the handbook has been revised, and major changes and additions include the following:

- Greater focus on vaccine safety and prevention of errors
- Updated Web links and sites
- Additional information related to volunteer activities and liability protections
- Revised storage, handling, and administration guidance
- Modified billing information, codes, and resources
- Additional sources of primary literature to support pharmacists' efforts to increase vaccination rates
- New questions and answers from the Immunization Action Coalition's "Ask the Experts" forum
- Newly approved vaccines and updated vaccine product information
- 2018 vaccination schedules

This fourth edition of the *Immunization Handbook for Pharmacists* would not have been possible without the encouragement, perspectives, and suggestions from reviewers and avid users of the book. Please keep providing your comments—both positive and constructive. They are greatly appreciated and will be taken into account for the next edition.

References

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3. Phadke VK, Bednarczyk RA, Salmon DA, Omer SB. Association between vaccine refusal and vaccine-preventable diseases in the United States: a review of measles and pertussis. *JAMA*. 2016;315(11):1149–58.
4. Aloe C, Kulldorff M, Bloom BR. Geospatial analysis of nonmedical vaccine exemptions and pertussis outbreaks in the United States. *Proc Natl Acad Sci USA*. 2017;114(27):7101–5.
5. Barraza L, Schmit C, Hoss A. The latest in vaccine policies: selected issues in school vaccinations, healthcare worker vaccinations, and pharmacist vaccination authority laws. *J Law Med Ethics*. 2017;45(1 suppl):16–9.