In Brief

Vaccine Hesitancy and Refusal

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AUTHOR DISCLOSURE

Drs Natbony and Genies have disclosed no financial relationships relevant to this article.


I n 1998, English gastroenterologist Andrew Wakefield published a controversial case study claiming an association between the measles, mumps, and rubella (MMR) vaccine and autism. Although initially published in The Lancet, this study was later discovered to be fraudulent and was retracted in 2011. These assertions have since been tested extensively, with a 2019 longitudinal study involving 600,000 children again lending no support to any such association. Nevertheless, Wakefield’s infamous paper continues to affect vaccination rates and the perception of vaccine safety worldwide.

Since its introduction in 1963, the measles vaccine has led to a 99% decrease in worldwide prevalence of measles. The United States, however, currently ranks 114th in the world for MMR vaccination rates among 1-year-olds, with an overall MMR vaccination rate of 92%, which is insufficient to maintain herd immunity. As a result, by April 2019 there were confirmed outbreaks in multiple states and more than 200 cases of measles across the United States. According to Centers for Disease Control and Prevention (CDC) data, the incidence of other vaccine-preventable infections, such as mumps and Haemophilus influenza B, is also increasing. Given the urgency of this issue, the American Academy of Pediatrics (AAP) has made the elimination of nonmedical exemptions (NMEs) to vaccines its top priority.

Families who reject the standard vaccine schedule usually fall into 2 groups. The first group, vaccine hesitant, may delay or space out vaccines or accept specific vaccines only. In a 2011 survey, 13% of US parents with children younger than 6 years fit this characterization. Parents who accept no vaccines for their children fall instead into the vaccine refusal category. In 2017, 1.3% of US toddlers were fully unvaccinated, which has more than doubled in the past 20 years.

In recent years, mandatory vaccination has become more popular across Europe, and Australia has offered financial incentives to families who fully vaccinate their children. This is in contrast to the United States, where parents generally have the right to decline vaccines. An exception to this would be when a vaccine is required as emergency treatment (ie, a child who needs a tetanus vaccine after sustaining a deep wound, in which case refusal may lead to involvement of Child Protective Services and legal proceedings). Once US children enter school, families not meeting immunization requirements must obtain a formal exemption from their state. Although all states allow medical exemptions (eg, for a known severe allergy to a vaccine component), policies on NMEs vary widely and can be either religious or, less commonly, philosophical. Three states (California, Mississippi, and West Virginia) do not allow NMEs at all, whereas northwestern states have the highest rates of NMEs (4%–7% of all children of kindergarten age).

In designing any public health approach to improve vaccination rates, it is important to note that fully unvaccinated and undervaccinated children differ substantially in demographic characteristics. The parents of fully unvaccinated children tend to be white, higher income, and more educated; these families often have full access to vaccines but choose to refuse them. In contrast, the parents of undervaccinated children are more likely to be publicly insured or uninsured, African American, lower income, and less educated. They tend to miss vaccines as a result of systems issues, including poor access to immunization services, direct and indirect costs of vaccination, and family characteristics, including low health literacy and complex social situations.

In addition to fears about autism described previously herein, some families are anxious about thimerosal, a mercury-based preservative that the Food and Drug Administration (FDA) removed from most vaccines in 2001. Of note, thimerosal remains in multidose vials of the influenza vaccine, with single-dose vials being thimerosal free. Although exposure is minimal, parents can be reassured that thimerosal is chemically distinct from the mercury we associate with water pollution, and there are no convincing data on adverse effects. Other parents may express concern that receiving multiple vaccines simultaneously will overwhelm their child’s immune system, but there is no evidence to support that claim. Concerns about discomfort for the child who is receiving
injectable vaccines can be mitigated through distraction, rewards, topical pain preparations such as lidocaine and prilocaine or ingestion of sucrose, and involvement of multidisciplinary team members, such as Child Life. In terms of effectiveness, although no vaccine is perfect, most vaccines have effectiveness that ranges from 90% to 95% when the series is completed. The effectiveness of the influenza vaccine is comparable lower, ranging from 20% to 60% depending on the year due to the match of the vaccine components to the circulating strains. Parents should be aware, however, that vaccinated children who contract influenza experience decreased morbidity and mortality compared with their unvaccinated counterparts; of the nearly 200 American children who died of influenza in the 2018 season, 85% were unvaccinated.

Before performing any counseling with families, it is essential to first understand what is driving their uncertainty regarding vaccines. As we listen, it is important to reflect back the parent’s concerns (“I hear you are anxious about the possible adverse effects of vaccines. Tell me more.”) as well as validate the emotions associated with these concerns (“Making the right decision about vaccines can be scary, but we’re here to help.”) Families should be praised for being invested in their children’s health-care while simultaneously being redirected to reliable resources tailored to their level of health literacy and informed of inaccurate information that may be present on the Internet.

Once you understand the family’s views, the next step is to provide counseling. In addition to sending parents the message that vaccines are important for their child’s health, using prescriptive rather than suggestive language has been shown to increase vaccine acceptance (ie “your child is due for his/her flu vaccine today” rather than “would you like a flu vaccine today?”). Furthermore, using prescriptive language twice during the visit has been shown to improve vaccination rates by an additional 50%. If initial counseling is ineffective, some families may be willing to accept 1 to 2 vaccines per visit or agree to specific vaccines only, and this compromise is preferable to no vaccinations. Motivational interviewing is another powerful technique in the field of behavioral change, which over time can help bridge inconsistencies between a caregiver’s stated goals/values and their actions.

In the case where parents will not consent for the child to receive any vaccines, the AAP recommends completing a “Refusal to Vaccinate Form” during every visit. It is also important to inform the family that you will discuss vaccinations again at the following appointment and offer to provide them information to consider in the interim. In cases of long-standing disagreement regarding vaccination status, the pediatrician must balance the ethical pillars of beneficence, social justice, and autonomy. The AAP recommends against dismissing patients from one’s practice in this scenario unless significant distrust develops that prevents effective care, as the longitudinal relationship is important for continued discussions. If a physician must dismiss a patient, it is essential to give the family adequate notice and, if possible, help them find a new pediatrician.

A 2014 New England Journal of Medicine study reported that only 30% of patients expressed trust in our country’s medical leadership; interestingly, however, 70% felt that their physicians had high integrity and were, thus, trustworthy. All parents share with the pediatrician the common goal of promoting the health of their child. Let us use the trust inherent in the patient-physician relationship to partner with families on this challenging and urgent issue.

Comment: The prevention of infectious diseases by immunizations ranks in the top 10 greatest public health achievements. Some estimates suggest that vaccines prevent almost 6 million deaths annually across the world. Yet the remarkable success of vaccines may have contributed to some of the present attitudes of vaccine hesitancy and refusal as the life-threatening diseases are no longer routinely seen by the public or by medical providers.

The World Health Organization has declared vaccine hesitancy and refusal to be a major threat to world health. Recent outbreaks of measles in multiple states demonstrate the resurgence of an infectious disease that was almost eradicated in the United States. Unvaccinated children are not only a danger to themselves but also a public health risk because herd immunity is not maintained so the entire community suffers. Children who cannot receive vaccines due to immunosuppressive states and illnesses are now also at risk, and they are more likely to suffer worsening sequelae from the disease or even death.

Social media has contributed to this current crisis by sharing antivaccine information that is not evidence based, is often inaccurate, and may heighten parental fears. The American Medical Association and other national medical organizations have appealed to social media sites to scrutinize their sites and remove antivaccine support.

We are currently in a critical public health crisis. There is much debate between balancing children’s rights to health and protection with parental rights as decision makers in whether their child receives vaccines. As pediatric health-care providers, we must advocate strongly for children in multiple venues. We must work in our practices with parents to build trust in our relationships so that parents respect the information we provide; we must offer accurate information about immunizations and give strong provider recommendations. Finally, we need to advocate to our state legislators to make sure that the rights of children are upheld to receive protection from vaccines and to support our AAP leaders in eliminating NMEs to vaccines.

—Janet R. Servint, MD
Associate Editor, In Brief

EDUCATIONAL RESOURCES FOR FAMILIES

Vaccinate Your Family
http://www.vaccinateyourfamily.org
Recommended for most families

CDC for Parents: Vaccines for Your Children
https://www.cdc.gov/vaccines/parents/index.html
Recommended for families with high health literacy

Vaxopedia
https://vaxopedia.org
Recommended for families who tend to use “fringe” science resources

AAP Refusal to Vaccinate Form
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