



Strategies to Improve HPV Vaccination Rates

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Despite recent immunization campaigns, HPV vaccination rates among teenagers still remain lower than other adolescent vaccinations. In August 2016, the Centers for Disease Control (CDC) published national data showing that Tdap and Menactra vaccination rates are 86 percent and 81 percent respectively, while female adolescent HPV vaccination rates are 63 percent and male adolescent HPV vaccination rates are 50 percent. In Iowa, current completion rates for adolescent Tdap, Menactra, female HPV, and male HPV are 86 percent, 75 percent, 50 percent, and 24 percent.¹

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Strategies to Improve HPV Vaccination Rates

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There are strategies that have proven successful in boosting HPV immunization rates. These include making sure that there is a strong provider recommendation, allowing for nurse-only visits to facilitate easy access to booster doses, using a reminder-recall system, and providing vaccinations at follow-up and sick visits.^{2,3}

The importance of a **strong provider recommendation** is often underestimated. One of the easiest ways to quickly boost HPV vaccination rates is to change the way families are approached in the discussion of vaccines. By simply stating to the patient and his/her parent that the 11-year-old is due for three vaccines at the end of the visit—one for tetanus, one for meningitis, and **one to prevent cancer**—the provider is normalizing the HPV vaccination. If the family is reticent about the HPV vaccination, a provider sharing a strong message about the vaccine's benefits and safety profile will be most successful in translating the parent's initial hesitancy into consent for immunization. Additionally, the **education of office staff members** on the benefits of the HPV vaccine is an important complement to this effort. Often the family will ask about vaccines before the provider engages directly with the family; if support staff is primed with positive messages, the family gets a consistent and confident message that will further instill confidence in the family's decision to initiate the HPV vaccination series.

Many offices already have **standing orders systems** in place for nurses to utilize. In the fall, it is a common practice for offices to provide nurse-only visits for influenza vaccinations. A standing order system that encompasses HPV vaccination can greatly improve immunization rates by allowing more flexibility for scheduling especially with booster doses. Depending on your community's needs, nurse-only visits could be offered during evening and weekend hours, and even on a walk-in basis after school. These options can decrease the barriers imposed by external forces such as after-school activities, as well as teen and parent work schedules.

Reminders are also incredibly valuable. **Reminder-recall systems** are often utilized to help patients remember to schedule routine exams and can be adapted to provide reminders and recall messages for HPV booster dose vaccination visits. Consider ordering a nurse-only follow-up visit for HPV booster dose vaccination to be scheduled at the time of check out; this helps to convey the importance of following a timely vaccination schedule. Depending on your office system, the scheduled nurse visit might include reminder calls to the family. Some communities are even piloting relationships with their local pharmacies as an option for teenagers to get booster vaccine doses from the pharmacist with a provider's prescription.

Many teenagers do not access medical care in a consistent fashion through yearly well-adolescent visits. Subsequently, most providers should consider implementing systems to prompt **checking vaccination status** at all teenage visits, including follow-up visits for chronic care conditions and/or sick visits. While vaccination might not be appropriate at every visit, having a system in place—either informal measures or more formally through prompts in an electronic medical record—to review a teenager's immunization record at each visit will allow for the capture of many teens in your community who otherwise do not access routine well-child care consistently. Additionally, it allows for an opportunity to emphasize the importance of routine well care and perhaps the scheduling of an overdue routine well examination timed with their next HPV vaccination.

In October 2016, new HPV recommendations were announced with formal recommendations published in December 2016. Based on a systemic review of the literature, the Advisory Council on Immunization Practices (ACIP) HPV Vaccines Work Group found that initiation of the HPV vaccination series prior to 15 years of age promotes a more robust immune response compared to teenagers 15 years and older. This research led to a revision of the HPV vaccination recommendations so that teenagers receiving their first HPV injection

under 15 years of age require only two doses spaced 6- to-12 months apart.⁴ These new findings will hopefully further highlight the importance to parents of providing this vaccine at a younger age. Additionally, when framed correctly, young teens are more willing to start a vaccine series if they know by starting the series earlier they will avoid a future shot.

In a busy practice, it can be hard to take the time to step back and analyze vaccination rates. However, in order to really know if the strategies that you are implementing are successful, it is important to take the time to assess your adolescent vaccination rates pre-intervention and post-intervention. This feedback can provide critical guidance, informing your practice of its success or illuminating the need for continued work. In fact, many providers use electronic health records that can facilitate this review process for providers with little background in quality improvement practices. Furthermore, the American Board of Medical Specialties requires provider engagement in either Quality Improvement (QI) or Practice Improvement (PI) activities as part of the Maintenance of Certification. Selecting HPV vaccination as your next quality improvement metric would be a meaningful way of improving patient outcomes, while fulfilling specialty obligations of professional improvement.⁵

Resources:

1. Reagan-Steiner S, Yankey D, Jeyarajah J, et al. National, Regional, State, and Selected Local Area Vaccination Coverage Among Adolescents Aged 13-17 Years—United States, 2015. *MMWR Morb Mortal Wkly Rep* 2016;65:850-858. DOI: <http://bit.ly/2IT225I>
2. Gable J, Eder J, Noonan K, Feemster K. Increasing HPV Vaccination Rates Among Adolescents: Challenges and Opportunities. PolicyLab Center to Bridge Research, Practice & Policy. Winter 2016.
3. Centers for Disease Control and Prevention. *Epidemiology and Prevention of Vaccine-Preventable Diseases*, 13th Edition. Immunization Strategies for Healthcare Practices and Providers. April 2015, p33-46. <http://bit.ly/2mB76M7>
4. Meites E, Kempe A, Markowitz LE. Use of a 2-Dose Schedule for Human Papillomavirus Vaccination—Updated Recommendations of the Advisory Committee on Immunization Practices. *MMWR Morb Mortal Wkly Rep* 2016;65: 1405-8. DOI: <http://bit.ly/2mB6fem>
5. Fiks AG, Luan X, Mayne SL. Improving HPV Vaccination Rates Using Maintenance-of-Certification Requirements. *Pediatrics*. 2016. DOI: <http://bit.ly/2luSuwQ>



There are strategies that have proven successful in boosting HPV immunization rates. These include making sure that there is a strong provider recommendation, allowing for nurse-only visits to facilitate easy access to booster doses, using a reminder-recall system, and providing vaccinations at follow-up and sick visits.

Talking with Vaccine-Hesitant Families

By Nathan E. Boonstra, MD
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Nearly every medical provider who immunizes encounters vaccine-hesitant families. In fact, a recent study in *Pediatrics* indicated that around 87 percent of pediatricians encountered vaccine refusals in 2013. When a provider is trying to give the best possible care to a patient, having it refused by the patient or a parent can be incredibly frustrating. Providers worry about how vaccine refusal impacts the health of their patient as well as the community, and with good reason. Recent news articles have reported that school exemptions in Iowa are increasing yearly, up 13 percent from 2015 to 2016, and up more than 300 percent over the last 15 years.

In approaching vaccine hesitancy, it's important to remember that not every patient or parent is the same. Some have deeply rooted beliefs about health care in general, which may be quite different from that of their provider. Others may have heard stories from friends or acquaintances who have frightened them into not vaccinating. Still others consider themselves well educated about vaccines, having

read plenty on the topic (though not necessarily from the most reliable sources). Regardless, it's right to assume that the patient or parent is coming at this decision with the best intentions, and they desire to keep themselves or their children healthy.

Few strategies regarding a provider's approach to the vaccine hesitant have been studied and published in peer-reviewed journals, and fewer still have been shown to make an impact on patient decision making about vaccines. One strategy that has been shown to make a difference is to use a "presumptive" approach rather than a "participatory" approach (Opel, 2012) when bringing up vaccines. In this approach, the provider makes a strong recommendation for the recommended vaccines, as opposed to presenting the vaccines as options to choose from. In addition, some research has shown that when parents understand the negative impact of vaccine-preventable diseases, they are more likely to immunize. Relating stories of patients you have seen who have had bad outcomes from these

diseases, or relating severe complications of diseases that you have seen, can help families understand the risks of not vaccinating.

One method that incorporates these elements, developed by Alison Singer and the Autism Science Foundation, is the C.A.S.E. approach. This acronym stands for **Corroborate, About me, Science, and Explain/Advise**.

In this approach, the provider first **Corroborates** the patient's concern, showing an understanding of where the patient is coming from. "You're right, we do immunize against a lot more diseases today than when we were kids."

Next, the provider tells a bit **About** him/herself, with regard to what they have done to become educated on the topic, "I don't want my patients to get immunizations if they don't need them, so I've read about this pretty thoroughly," or "I recently went to a pediatrics conference that discussed this very issue."

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Reliable Sources of Immunization Information: Where Parents Can Go to Find Answers!

Websites

American Academy of Pediatrics (AAP)

www.aap.org/immunization

Centers for Disease Control and Prevention (CDC)

FOR PARENTS: www.cdc.gov/vaccines/parents

FOR HEALTHCARE PROVIDERS: www.cdc.gov/vaccines

Every Child by Two (ECBT)

www.vaccinateyourfamily.org

www.ecbt.org

History of Vaccines

www.historyofvaccines.org

Immunization Action Coalition (IAC)

FOR THE PUBLIC: www.vaccineinformation.org

FOR HEALTHCARE PROVIDERS: www.immunize.org

U.S. Dept of Health and Human Services (HHS)

www.vaccines.gov

Vaccine Education Center (VEC), Children's Hospital of Philadelphia

www.vaccine.chop.edu

Voices for Vaccines (VFV)

FOR PARENTS, OTHER ADULTS, AND HEALTHCARE PROVIDERS:

www.voicesforvaccines.org

Apps for Mobile Devices

Healthy Children – Parents can look up age-by-age health information for their children, check immunization schedules, and access other resources in a format designed for tablets and smartphones. A free app from the American Academy of Pediatrics.

Vaccines on the Go: What you should know – This app provides parents with reliable information about the science, safety, and importance of vaccines and the diseases they prevent. A free app from the Vaccine Education Center at the Children's Hospital of Philadelphia. Available for Android and Apple devices.

TravWell – Use this app to build a trip to get destination-specific vaccine recommendations, a checklist of what is needed to prepare for travel and much more. A free app from Centers for Disease Control and Prevention.

Books for Parents

Baby 411 by Denise Fields and Ari Brown, MD, Windsor Peak Press, 7th edition, 2015. Available from your favorite local or online bookstore.

Mama Doc Medicine: Finding Calm and Confidence in Parenting, Child Health, and World-Life Balance by Wendy Sue Swanson, MD (aka "Seattle Mama Doc"), 2014. Available from American Academy of Pediatrics at <http://shop.aap.org/for-parents>.

Parents Guide to Childhood Immunization from Centers for Disease Control and Prevention. Available at www.cdc.gov/vaccines/pubs/parents-guide/default.htm to download or order.

Vaccine-Preventable Diseases: The Forgotten Story by Texas Children's Hospital vaccine experts R. Cunningham, et al. Available at www.tchorderprocessing.com to order.

Vaccines and Your Child, Separating Fact from Fiction by Paul Offit, MD, and Charlotte Moser, Columbia University Press, 2011. Available at your favorite local or online bookstore.

Videos

IAC's Video Library – Go to the Immunization Action Coalition's website for parents and the public, www.vaccineinformation.org/videos, for hundreds of video clips about vaccines and vaccine-preventable diseases.

Shot by Shot Video Collection – Go to www.shotbysot.org to read people's stories of vaccine-preventable diseases shared on the California Immunization Coalition website.

Phone Numbers

CDC-INFO Contact Center – Operated by the Centers for Disease Control and Prevention, this number is for consumers and healthcare professionals who have questions about immunization and vaccine-preventable diseases. Call (800) CDC-INFO or (800) 232-4636. TTY: (888) 232-6348. CDC-INFO's operating hours are Monday through Friday from 8:00 A.M. to 8:00 P.M. (ET).



Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

Technical content reviewed by the Centers for Disease Control and Prevention

www.immunize.org/catg.d/p4012.pdf • Item #P4012 (1/17)



What If You Don't Vaccinate Your Child?

Your child is at risk for developing a vaccine-preventable disease

Vaccines were developed to protect people from dangerous and often fatal diseases. These diseases remain a threat. Vaccines are safe and effective protection.

Influenza or “flu” is a serious respiratory disease that can be deadly. Healthy babies and toddlers are especially vulnerable to complications from influenza. Every year children in the United States die from influenza.

Pertussis or “whooping cough” is an extremely dangerous disease for babies. It is not easily treated and can result in permanent brain damage or death. Since the 1980s, the number of cases of whooping cough has increased, especially among babies younger than 6 months of age and adolescents. Since 2010, several states have reported an increase in cases and outbreaks of whooping cough, including statewide epidemics in California and Washington. Whooping cough has killed many babies since 2010; most deaths were in those younger than 3 months of age.

Measles is a highly contagious disease that can lead to serious complications, including death. It remains common in many countries and has been brought into the United States by returning vacationers and foreign visitors. Vaccination caused measles to decline rapidly during the 1990s. Recently, vaccine hesitancy among parents in the United States and abroad has led to a growing number of children and teens who are not vaccinated and are unprotected from measles. This has led to outbreaks of measles in the United States, Canada, and other countries.

Chickenpox is very contagious. Before the development of a vaccine, chickenpox killed approximately 100 people every year in the United States. Most were previously healthy. Children infected with chickenpox must be kept out of day care or school for a week or more so they don't spread the disease to others.

Your child can infect others in the community

Children who are not vaccinated can transmit vaccine-preventable diseases at schools and in the community.

- Unvaccinated children can infect babies who are too young to be fully immunized.
- Unvaccinated children can infect people of any age who can't be immunized for medical reasons. This includes children and adults with leukemia and other cancers, immune system problems, and people of all ages receiving treatments or medications that suppress their immune systems.

Your child may have to be excluded from school or child care

During disease outbreaks, unvaccinated children may be excluded from school or child care to protect them and others. This can cause hardship for the child and parent.

Next steps...

We strongly encourage you to vaccinate your child. Please discuss any concerns you have with a trusted healthcare provider or call the immunization coordinator at your local or state health department. Your vaccination decision affects not only the health of your child, but also your family, your child's friends, their families, and your community.

► For more information about vaccines, visit these websites:

American Academy of Pediatrics
www.healthychildren.org

Centers for Disease Control and Prevention
www.cdc.gov/vaccines/parents

Every Child by Two
www.vaccinateyourfamily.org
and www.ecbt.org

Immunization Action Coalition
www.immunize.org and
www.vaccineinformation.org

Vaccine Education Center at the Children's Hospital of Philadelphia
www.vaccine.chop.edu



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www.immunize.org/catg.d/p4017.pdf • Item #P4017 (10/16)

Talking with Vaccine-Hesitant Families

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The provider then presents the **Science** that addresses the concern. “One study looked at the entire first year schedule of vaccinations, and found no developmental differences up to 10 years later, whether a patient received the schedule on time, or had fewer or delayed vaccines.” Finally, the provider makes a clear recommendation and **Explains** the reason for doing so, using a personal experience or other knowledge of the danger of the disease. “I’ve seen enough children have bad outcomes from some of these diseases that I know I wouldn’t be practicing good medicine if I didn’t do what I could to protect your child. That’s why I strongly recommend immunizing today.”

When families ask questions about vaccines, it’s important to remember that it doesn’t necessarily mean refusal. Taking the time to answer questions in a straight-forward manner is vital in helping families feel comfortable with vaccines they should receive, regardless of whether they ultimately choose to immunize. The Immunization Action Coalition has resources for

addressing common vaccine myths, such as the talking points at: <http://bit.ly/2l8Qq1i>.

Because there are many reasons for vaccine refusal, it’s not uncommon to have patients or parents refuse to immunize despite your efforts. The American Academy of Pediatrics does not generally recommend dismissal of patients or families based on vaccine refusal alone, but have created a waiver for patients and parents to sign. This form ensures that the vaccine refuser has been fully informed of the risks of not vaccinating, and can be found at: <http://bit.ly/2lvTWi8>. It’s worthwhile to make sure families understand that you’ll be bringing up your recommendation to immunize at each visit. This isn’t because you want to badger them, but because you are passionate about preventing disease and saving lives. One thing that is not easy for researchers to study is the impact of a strong provider-patient relationship. Trust between the provider and patient, coupled with the provider’s obvious dedication to preventing disease by immunizing, may make a difference in a patient’s decision over time.

All that said, there will always be families who refuse regardless of how many times a recommendation is made. In the end, the decision to immunize is up to the patient or parent. While we can’t make the decision for parents and patients, we can contribute our knowledge and experience to help them choose to protect themselves, their families, and their communities.

1. Hough-Telford et al. Vaccine Delays, Refusals, and Patient Dismissals: A Survey of Pediatricians. *Pediatrics*. 2016;138(3).
2. Leys, T. More lowans are seeking vaccination exemptions. *Des Moines Register*. May 5, 2016.
3. Opel et al. The Architecture of Provider-Parent Vaccine Discussions at Health Supervision Visits. *Pediatrics*. 2013;132(6):1037-1046.
4. Jacobson et al. The C.A.S.E. approach: guidance for talking to vaccine-hesitant parents. *Minn Med*. 2013;96(4):49-50.
5. Common immunization myths and misconceptions: talking points and resources for busy healthcare professionals. 2016 Jul. Retrieved from: <http://www.immunize.org/catg.d/s8035.pdf>
6. Documenting parental refusal to have their children vaccinated. 2013. Retrieved from: <http://bit.ly/2m4B0KQ>

For more information about Dr. Nathan Boonstra, see his blog at: pedsgeekmd.com



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