

Top Strategies for Increasing Immunization Coverage Rates

Implement one or more of the evidence-based strategies below to improve immunization coverage rates in your practice. These recommendations are also designed to complement continuous quality improvement planning.

1. Find an Immunization Champion in Your Practice

An immunization champion can serve as a steward and advocate for immunizations in your practice. This role can be filled by any clinical provider. Being the immunization champion should be written into the provider's job description with time devoted to perform their tasks. Offices should cross-train staff and appoint a different person to fill-in and complete these duties in case the immunization champion is unavailable. It is also suggested, if the immunization champion is not a physician, that a physician provides oversight to the immunization champion.

2. Patient Reminder-Recall

Immunization reminder-recall systems are cost-effective methods to identify and notify families whose children are due soon for immunizations (reminder) or are already behind (recall). Reminder and recall systems are powerful ways to ensure optimal vaccination rates. Staff members first pull a list containing names and contact information of patients who are due or overdue for immunizations and then contact those patients to schedule a time to receive immunizations. Many state immunization information systems (IIS) and electronic health records (EHRs) can run such reports easily if immunization records and family contact information is updated at every visit. Building these practices into patient flow is key.

Methods to remind or recall families include:

- **Phone calls by office staff**
Calls placed by office staff tend to be more effective than auto-dialer calls, but often cost more.
- **Auto-dialers**
Auto-dialers automatically dial phone numbers and either play a recorded message or connect the call to a live person. Such systems also can be used for appointment reminders.
- **Mail reminder cards or letters (snail mail)**
Your IIS or EHR may print these for you. Another approach is to have the family fill out the reminder card for the next visit (e.g., dose 2 of DTaP, IPV and Hib or dose 2 or 3 of HPV vaccine) when in your office.
- **Text messages**
Families opt-in for text messages so your office can text reminders to both parents and adolescents. While parents/guardians need to consent for the vaccine, it is useful to include adolescents in the discussion of their own care.
- **Patient Portals**
Many EHR systems come with a patient portal option. Practices can use this feature to send e-mails to patients or parents prompting them to check their patient portal, which will remind them of vaccinations that are due.

For more information, visit:

Centers for Disease Control and Prevention (CDC) www.cdc.gov/vaccines/recs/reminder-sys.htm or the American Academy of Pediatrics (AAP) https://www.aap.org/en-us/Documents/immunization_reminderrecall.pdf

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The following is a list of some auto-dialer vendors. Please note that we cannot endorse or recommend specific products or brands. This is only meant to aid you in your selection.

Auto-dialer	Website
Call-em-all	https://www.call-em-all.com/
Call Fire	http://www.callfire.com
Televox	http://www.televox.com/appointment-reminders/
Voicent	http://www.voicent.com/autodialers.php

3. Hold Vaccine Clinics at Hours that are Convenient for Families

Holding vaccination clinics with special hours (evening or Saturday) at your practice allows for more busy adolescents and their parents to access vaccination services. This has been proven to work especially well for influenza vaccine. While other recommended vaccines, such as Tdap, HPV, and meningococcal should be given during the 11 or 12 year old well-child care visit - when parents will be given the opportunity to discuss the vaccines - shorter vaccination visits for subsequent doses of HPV and influenza may be more convenient.

4. Give Providers Feedback

Providers often change their behaviors (e.g., clinical practices) based on feedback that they are different from those of their peers. Consider running an immunization rate report through your EHR, immunization registry or perform a chart audit to determine the percentage of your patients that are up-to-date on immunizations. Benchmark this data against yourself regularly. You can also benchmark this data against the national and state (or city) data from the National Immunization Survey. The MIIIS Coverage Reports can be used to routinely measure immunization coverage for your practice.

5. Include All Recommended Vaccinations at Every Visit

It is important to vaccinate whenever possible, because you don't know when a patient will be back in your office. Use sick-child and chronic care visits as a time to immunize. Be sure to check what vaccinations, if any, are due every time a patient is in the office. Always screen for contraindications. Most vaccines can be given even if the child has a mild illness. There are very few true contraindications and precautions. CDC's most recent table of true contraindications and precautions can be found at: <https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/contraindications.html>

6. Strong Provider Recommendation

Studies have shown that parents trust their pediatrician's guidance and it is important to give a strong recommendation for vaccination^{1,2}. Other studies show parents believe vaccines are important for child health and rate the importance of disease prevention higher than concerns about the number of injections involved. Providers may be underestimating the importance of some vaccines to parents, particularly influenza, HPV and other adolescent vaccines.³

Be sure to give a strong recommendation for all vaccines on the current schedule and not merely mention that they are available. Studies show a 'presumptive' or 'announcement' rather than 'participatory' approach is associated with significantly fewer vaccine refusals (26% vs. 83% resistance to vaccine recommendations, respectively).^{4,5}

Put the 'announcement' approach into practice by starting vaccine discussions with "Your child needs the following vaccines We'll be giving them at the end of the visit today".

In addition, some providers may shy away from discussing HPV vaccine. It is especially important to strongly recommend HPV vaccine, as parents may have more questions about it. Document refusals and reasons for refusal to guide future conversations.

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AAP Risk Communication Videos:

<http://www2.aap.org/immunization/pediatricians/riskcommunicationvideos.html>

AAP Communication with Families web page:

<http://www2.aap.org/immunization/pediatricians/communicating.html>

1 Freed GL, Clark SJ, Butchart AT, Singer DC, and Davis MM. Sources and Perceived Credibility of Vaccine Safety. Information for Parents. Pediatrics 2011;127, 1, Suppl: 107-112. http://pediatrics.aappublications.org/content/127/Supplement_1/S107.full.pdf+html

2 Gilkey MB, McRee AL. Provider Communication about HPV Vaccination: A Systematic Review. Vaccine Immunother. 2016;12(6):570-584. <http://www.ncbi.nlm.nih.gov/pubmed/24315883>

3 Healy, CM, Montesinos DP, Middleman, AB. Parent and Provider Perspectives on Immunization: Are Providers Overestimating Parental Concerns? Vaccine 2014;32:570-584. <http://www.ncbi.nlm.nih.gov/pubmed/24315883>

4 Opel DJ, Heritage J, Taylor J, et al. The Architecture of Provider Parent Discussions at Health Supervision Visits.

Pediatrics 2013;132:1-10. <http://pediatrics.aappublications.org/content/132/6/1037.full.pdf+html?sid=ba03bbea-cd5e-4d35-a365-f25e8dc6bf4f>

5 Brewer NT, Hall ME, MaloTL, Gilkey MB, Quinn B, Lathren C. Announcement Versus Conversation to Improve HPV Vaccination Coverage: A Randomized Trial. Pediatrics 2017;139(1) <http://pediatrics.aappublications.org/content/early/2016/12/01/peds.2016-1764.full>

7. Provider Prompts and Standing Orders

Provider prompts can be electronic prompts in EHRs, notes in charts or any other systematic reminder to administer appropriate immunizations. Most EHR provider prompts are automatic pop-up alerts that notify the viewer that the patient is due/overdue for an immunization(s). Other EHR provider prompts may show up as a “to-do” task, even if the patient is not scheduled that day for an appointment. Many EHRs have provider prompts pre-installed that can be customized in the office.

Standing orders for immunizations include office policies, procedures, and orders to provide recommended immunizations to patients. For example, a standing order might be in place to instruct health care personnel (as allowed by the state) to give a specific vaccine to all patients for whom the vaccine is recommended based on the harmonized immunization schedule. Standing orders should include procedures for screening for contraindications and vaccinating eligible patients. Sample standing orders, screening forms and other guidance related to vaccine administration are available at: Immunization Action Coalition (IAC) <http://www.immunize.org/standing-orders> and the Massachusetts Department of Public Health (MDPH) immunization program at:

<http://www.mass.gov/eohhs/gov/departments/dph/programs/id/immunization/model-standing-orders.html>

8. Educate Staff

Provide staff training about evidence-based communication strategies known to improve vaccine confidence. Ensure they are comfortable addressing questions on immunizations and prompting for all recommended vaccinations at every visit. Designate someone to screen all immunization records before patient is seen. Training front desk/scheduling staff will also help to ensure that parents are well informed about their child’s immunization needs. See the “More Resources for Your Practice” below for more information.

9. Educate Patients and Their Parents

Take every opportunity to improve vaccine confidence. Educate patients and their parents about each recommended vaccine and the disease it prevents. Let parents know that vaccines are safe and effective, and that not vaccinating could put their children at risk for very serious diseases. Take every opportunity to educate patients and their parents. Let them know at each visit which vaccines they can expect at their next appointment and provide handouts on these vaccines and the diseases they prevent. This allows parents time to consider their questions, find answers, and discuss their most serious concerns with their pediatrician. For more resources on communicating with parents, visit:

CDC Provider Resources for Immunization Conversations with Parents

<http://www.cdc.gov/vaccines/hcp/patient-ed/conversations/index.html>

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IAC Clear Answers and Smart Advice about Your Baby's Shots by Ari Brown M.D.
<http://www.immunize.org/catg.d/p2068.pdf>

CDC Parent's Guide to Immunizations
<http://www.cdc.gov/vaccines/pubs/parents-guide/default.htm>

Children's Hospital of Philadelphia (CHOP)

Many resources providers for vaccine communication about 'hot topics', vaccine safety FAQs, parent-specific material plus a mobile application for parents and providers

www.chop.edu/service/vaccine-education-center/home.html

- Frequently Asked Vaccine Safety Question (FAQs)
<http://www.chop.edu/service/vaccine-education-center/vaccine-safety/>
- Vaccines on the Go What you should know
<http://www.chop.edu/centers-programs/parents-pack/vaccines-go-what-you-should-know>

10. Manage Patient Records

Accurate immunization records are essential components of forecasts, reminder-recall reports, and coverage reports. To ensure complete and accurate records practices need to ensure that: 1) all immunizations (administered and historical) are recorded and reported to the MIIS; 2) patients who have left your practice are identified as inactive; 3) incorrect data is corrected; and 4) contact information (address, caregiver, etc) is routinely updated. Several tools in the MIIS can help identify inaccuracies in immunization records.

More Resources for Your Practice

General Immunization Information

CDC Main Vaccine Website
<https://www.cdc.gov/vaccines/index.html>

CDC Immunization Schedules
<http://www.cdc.gov/vaccines/schedules/>

IAC Main Website
<http://www.immunize.org>

CHOP Main Website
www.chop.edu/service/vaccine-education-center/home.html

MDPH Immunization Program
www.mass.gov/dph/imm

AAP Immunization Webpage
<https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunization/Pages/default.aspx>

Massachusetts Chapter of the AAP Immunization Initiative
<http://mcaap.org/immunization/>

American Academy of Family Physicians Immunization Webpage
<http://www.aafp.org/patient-care/public-health/immunizations.html>

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Vaccine Safety and Confidence

CDC Vaccine Safety

<http://www.cdc.gov/vaccines/vac-gen/safety/default.htm>

CDC Infant Immunization Frequently Asked Questions

http://www.cdc.gov/vaccines/events/niiw/ed-resources/downloads/f_provider-ga-color.pdf

CHOP Frequently Asked Vaccine Safety Question (FAQs)

<http://www.chop.edu/service/vaccine-education-center/vaccine-safety/>

Institute of Medicine (IOM) Report -- *Childhood Immunization Schedule and Safety: Stakeholder Concerns, Scientific Evidence, and Future Studies* (The 'Brief Report' found at the link below provides an excellent summary.)

<http://nationalacademies.org/HMD/Reports/2013/The-Childhood-Immunization-Schedule-and-Safety.aspx>

IAC Vaccine Safety

<http://www.immunize.org/safety/>

Johns Hopkins Vaccine Safety Institute

<http://www.vaccinesafety.edu/>

Vaccine Adverse Event Reporting System (VAERS)

<https://vaers.hhs.gov/index>

FDA Vaccine Product Approval Process

http://www.fda.gov/BiologicsBloodVaccines/DevelopmentApprovalProcess/BiologicsLicenseApplication_sBLAProcess/ucm133096.htm

The Journey of Your Child's Vaccine

<http://www.cdc.gov/vaccines/parents/infographics/journey-of-child-vaccine.html>

Human papillomavirus (HPV) Vaccine

CDC HPV Vaccination Toolkit for Clinicians

<https://www.cdc.gov/hpv/partners/outreach-hcp/index.html>

AAP HPV Vaccination Toolkit

<https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Pages/HPV-Champion-Toolkit.aspx>

Quality Improvement

AAP Immunization Training Guide (includes Quality Improvement)

<https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunization/Pages/training-guide.aspx>

AAP Immunization Quality Improvement page

<http://www2.aap.org/immunization/pediatricians/qualityimprovement.html>

CDC Evidence-Based Strategies for Increasing Appropriate Vaccination. Guide to Community Preventive Services.

<http://www.thecommunityguide.org/vaccines/index.html>