

Potential Barriers and Suggested Ideas for Change

Key Activity: Develop Effective Office Practices to Increase Your Immunization Rates

Rationale: Missed opportunities due to office policies or pediatrician beliefs can lead to underimmunization (a systematic review of strategies for reducing missed opportunities for vaccination. Vaccine 36 [2018] 2921–2927).

A missed opportunity for vaccination (MOV) occurs when a person who is eligible for vaccination, and has no contraindication to vaccination, visits a healthcare facility and does not receive all the needed vaccine doses. MOVs may occur during visits for preventive or curative services. Eliminating MOVs in both settings will increase the overall immunization coverage.

Aim: Establish, document, and implement practice policies and procedures that maximize opportunities to immunize while reducing potential barriers due to office policies. Work towards 100% compliance with the recommended immunization schedule for all patients.

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
Gap: Practice policies and procedures do not maximize immunization opportunities.		
Missed opportunities for patients to make and keep appointments.	<ul style="list-style-type: none"> • Offer well-child visits and vaccination-only visits in the early morning, during the lunch hour, in the evenings, and on weekends to accommodate parents' work schedules. • Consider reserving vaccination-only appointments for the same day a parent calls. • Take vaccination-only walk-ins. • Consider revising office policies that require a physical examination during the last 12 to 18 months to immunize; this policy may present a barrier for many adolescents. • Schedule time to provide immunizations during sick visits. • Review your office policy regarding the administration of vaccines when a parent or guardian is not present. • Know your state's guidelines regarding consent. 	<p>For 1 week, track the times of day that patients are usually seen for well-child and vaccine visits and the times that visits are most often requested.</p> <p>Consider adding a few time slots during those hours and cutting back at other times.</p>

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Missed opportunities to immunize when a patient is in the office.	<ul style="list-style-type: none"> Develop standing orders that allow eligible staff to administer vaccines to patients who meet specified criteria. Create an office policy that allows vaccination of children during sick visits. Educate office staff about proper contraindications and precautions, and encourage vaccination during visits when children have a mild acute illness or low-grade fever. 	Consider using a screening tool to make use of standing orders and screen for proper contraindications or precautions.
Immunizations are not being tracked.	<ul style="list-style-type: none"> Develop and track patients' immunizations in the medical record using a standalone immunization sheet. Check your state's immunization tracking system for more information. Work with other community providers to encourage communication of immunizations given outside the medical home. (This communication is particularly important when recommendations are made to immunize all children in specific age groups.) Check the immunization records of siblings present during an office visit; immunize them, if indicated, the same day or schedule a vaccine-specific appointment. 	<p>Use an immunization information system to flag the records of patients who need immunizations, to more easily track a patient's immunizations, and to recall patients who are behind in immunizations. (See KCA Implement Reminder/Recall System.)</p> <p>Verify vaccinations administered by an alternative provider.</p>

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Office staff are unaware of recommended immunizations for health care workers and/or are unwilling to obtain them owing to misinformation.	Develop an office policy that mirrors OSHA and CDC guidelines for immunization of health care workers.	<ul style="list-style-type: none"> Consider extending a predetermined lunch hour so staff can be immunized. Consider a policy that allows medical office staff to immunize nonmedical staff. Do not charge for vaccines administered to employees in the office. Conduct a 30-minute in-service session addressing myths surrounding immunization and why health care workers need to be immunized. Check for training in your state similar to Ohio's Maximizing Office Based Immunization (MOBI) program Use a vaccine refusal/declination form for staff who decline recommended immunizations.
Office staff are unaware of proper handling and storage of vaccines.	<p>Educate office staff regarding proper storage and handling of vaccines.</p> <ul style="list-style-type: none"> Use the CDC's Storage and Handling Toolkit to determine proper storage and handling requirements. Create a plan for your office using the Immunization Action Coalition (IAC) Checklist. Monitor refrigerator and freezer daily using a refrigerator log. Develop a plan to address necessary action if the refrigerator temperature is out of acceptable range or the refrigerator is malfunctioning. Monitor vaccine stock for expired doses. 	

Potential Barriers and Suggested Ideas for Change

Key Activity: Address Vaccine Hesitancy

Rationale: Statistically, the percentage of children exempt from at least one vaccine suggested for school entry has been on the rise. From 2000 to 2004–2005, the rate in one Washington State’s King County increased from 2.9% to 4.2% (*The VacScene Immunization Newsletter*. V11n4. July/August 2005).

“Parental concerns about vaccine safety can lead to lower immunization rates and increase public vulnerability.” (*The VacScene Immunization Newsletter*. V11n4. 2005:1).

Aim: Establish, document, and implement practice policies and procedures that address parental vaccine hesitancy to improve office immunization rates and work towards 100% compliance with the recommended immunization schedule for all patients.

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Provider is not adequately discussing vaccine safety and immunization requirements when patient, parent, or guardian is vaccine-hesitant.	<ul style="list-style-type: none"> Identify gaps in provider knowledge of vaccine safety, immunization requirements, and schedules. <ul style="list-style-type: none"> Become knowledgeable about local immunization requirements for day care, preschool, and school entry. Use the Vaccine Information Statement (VIS) as a tool to provide information to parents about the benefits and risks of immunization. It is available in many languages for various cultures. 	<ul style="list-style-type: none"> For more information on educating the provider and staff, refer to the Resources and Information section of this CDC Immunization Works newsletter and check these individual topics: <ul style="list-style-type: none"> Current Issues in Immunization Webinars <i>You Call the Shots</i> Modules New <i>#HowIRecommend</i> Videos CDC and Medscape CDC-INFO On-Demand

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Provider is not adequately discussing vaccine safety and immunization requirements when patient, parent, or guardian is vaccine-hesitant.	<ul style="list-style-type: none"> Strongly recommend that the patient be immunized and continue the immunization schedule. <ul style="list-style-type: none"> Educate provider and staff in-service on common causes of vaccine hesitancy and strategies for addressing concerns. Encourage patients, parents, and guardians who refuse immunization to continue to receive other services from your practice. Treat every visit as an opportunity to reexamine the decision not to vaccinate. Emphasize the overall importance of immunizations. <ul style="list-style-type: none"> Keep immunization discussion open during future visits if parents continue to be hesitant about vaccinating. If considering dismissal from practice, refer to Bioethics Policy from AAP. 	<ul style="list-style-type: none"> For more information on educating the provider and staff, refer to the Resources and Information section of this CDC Immunization Works newsletter and check these individual topics: <ul style="list-style-type: none"> Current Issues in Immunization Webinars <i>You Call the Shots</i> Modules New <i>#HowIRecommend</i> Videos CDC and Medscape CDC-INFO On-Demand

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Parent or guardian questions the value of vaccinations.	<ul style="list-style-type: none"> Identify specific issues of concern. <ul style="list-style-type: none"> MMR and autism. Thimerosal and autism. Too many vaccines overloading the immune system. Other vaccine myths. For more information on these myths, refer to Common Misconceptions and How to Respond and Common Parental Concerns About Vaccines & Vaccine Safety. Address specific parental immunization concerns. <ul style="list-style-type: none"> Provide reassurance that concerns are not surprising in light of the amount of misinformation on TV and the Internet. Focus education on specific issues identified by the patient, parent, and guardian. Provide patients, parents, and guardians with a written list of reliable resources, especially the following: <ul style="list-style-type: none"> AAP Childhood Immunization Support Program Immunization Action Coalition The Vaccine Education Center Ask patients, parents, and guardians who refuse recommended immunizations to sign the AAP Refusal to Vaccinate Form. Initial and date if refusal continues during subsequent discussion. 	<ul style="list-style-type: none"> Review common reasons for refusal in your practice and know how to address those concerns with patients and families. Develop local teaching materials targeted at common concerns and misconceptions in your area.

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Key Activity: Implement Reminder/Recall System

Rationale: With the increasing complexity of the vaccination schedule, reminders and recalls become more important in facilitating timely vaccination. In general, the greater the number of contacts made, the greater the effectiveness of reminder/recall systems. Reminder/recall systems are effective in improving vaccination coverage when used alone or in combination with other interventions.

Aim: Establish, document, and implement practice policies and procedures to remind patients when a vaccine is or will be due, recall patients who are past due for any reason, and use the city or state's immunization registry to work towards 100% compliance with recommended immunization schedules for all patients.

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Gap: No reminder/recall system is used in the practice.		
Patient is not recalled for a follow-up immunization after a vaccine shortage.	<ul style="list-style-type: none"> Check the functionality of your city's or state's IIS. Most systems have reminder/recall functionality that will support mail, e-mail, phone, or text reminders. Ensure office scheduling can handle added appointments in a timely manner. 	<ul style="list-style-type: none"> Consider adding specific times for vaccine-only appointments or well-child checks for 2 weeks after postcards are mailed out. Query your city's or state's IIS prior to every patient encounter.



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Patient is not recalled for a vaccination missed due to a temporary contraindication.	<ul style="list-style-type: none"> Schedule the patient for an immunization appointment before they leave the office. Keep an immunization recall log with: <ul style="list-style-type: none"> Name of child Vaccine(s) missed Date of missed vaccination(s) Date parent to be called or postcard sent if appointment is not made When a parent calls for a catch-up appointment, check the name off the log. If the name is not checked off within a predetermined time, send another reminder. Review the sample recall log included in this course. 	<ul style="list-style-type: none"> Make sure your office scheduling can handle the added appointments in a timely manner. Consider setting aside times for vaccine-only appointments or well-child checks in the 2 weeks after reminders are made.

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The office is computerized and it's difficult to know when immunizations are due/overdue.	<ul style="list-style-type: none"> Query your city's or state's IIS or run reports in the IIS or via your EHR to identify patients who are due/overdue for immunizations. Use functionality within your electronic medical record (EMR) or immunization registry to generate an appointment or send immunization reminders. These systems may also be used to generate automated phone calls, texts, letters, or e-mails. 	<ul style="list-style-type: none"> Send a test message to ensure the system is working correctly. Make sure the office phone number is listed on the message so patients can call without having to look up the phone number.
Patient reminders are not generated in a noncomputerized office.	<ul style="list-style-type: none"> Ask parents to complete a self-addressed reminder card when they leave the office that will automatically be sent in advance of the next vaccine due date. Designate an office vaccine champion to make phone calls to patients who need an appointment for a vaccination. The office champion may be an office employee that patients have frequent contact with and whose name they would recognize. For example, "Nurse Jane" may leave these messages. 	<ul style="list-style-type: none"> Send a preprinted postcard when the office vaccine champion leaves a message. This ensures 2 reminders to a patient to make an appointment.
Practice does not use seasonal vaccine reminders.	<ul style="list-style-type: none"> Use your city's or state's IIS or your EHR to send mass flu vaccine reminders each September. Keep a list of patients who are at high risk of complications from flu (or search your EHR for a list of patients with certain diagnoses) and make sure someone from your office contacts them each fall. 	<ul style="list-style-type: none"> Consider holding a vaccine clinic or creating walk-in appointments for seasonal vaccines.

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Key Activity: Manage Catch-up Schedule

Rationale:

Children often move between pediatric practices and many children are vaccinated by more than one provider. This can result in incomplete immunization records that result in missed opportunities, as well as unnecessary over-vaccination.

Aim: Establish, document, and implement practice policies and procedures that identify children with missing records, implement a consistent office catch-up schedule, and use combination vaccines. The most effective action you can take to ensure your patients have complete immunization records and are up to date on all recommend immunizations is to be sure to review and record all immunizations in your city or state's Immunization Information System (IIS).

If you are not currently using your IIS, you should contact your city or state's program to register. Immunization records should be reviewed and updated at every visit. If your practice does not use an electronic health record (EHR), be sure to keep a standalone immunization record at the front of the paper chart. These measures are done to attain 100% compliance with the recommended immunization schedule for all patients.

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Gap: Patient's immunization history is incomplete.		
Provider or practices do not accurately document immunizations.	<p>Determine whether your practice's immunization records are complete and available at each visit:</p> <ul style="list-style-type: none"> • Query the IIS before every patient visit to determine which immunizations may be given during the visit. • If not using an electronic health record, keep a standalone immunization record at the front of each chart. • Update the immunization record at the time of service. 	<ul style="list-style-type: none"> • Identify an office immunization champion and put them in charge of querying the IIS and placing a reminder of immunizations due or overdue in each new patient's chart. • For example, in the morning review all charts of patients that will be seen that day or check individual charts when taking the patient to the examination room.



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International adoptees, transfer patients, and patients in foster care do not have complete immunization records.	<p>Develop a plan for managing international adoptees, transfer patients, and patients in foster care.</p> <ul style="list-style-type: none"> • Query your city or state's IIS. • Obtain immunization records from previous providers, when possible. • Determine if the records are reputable. See the CDC's guidelines on international adoption. • Develop a one-page information sheet for new patients outlining what they or their parents or caregivers should bring to their first visit. • Consider serologic testing, depending on the country of origin, if records are in doubt. • Consider reimmunization using combination vaccines. 	<ul style="list-style-type: none"> • Make sure your office policy designates someone to be responsible for each step. • Consider getting to know a few of the adoption agencies or other services being used by patients. It may help save time knowing if children from a certain location tend to have more reputable records or common gaps in immunization than others.

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Key Activity: Maximize Early Adolescent Platform

Rationale: Beginning in 2005, 3 new vaccines were introduced and recommended for adolescents, a population with not only a very poor compliance rate but also a low incidence of well-child-care visits. At present, providers have a prevention opportunity within the teenage population, making it important to identify approaches that will effectively and efficiently increase the proportion of adolescents who receive newly recommended vaccines and integrate these approaches into primary preventive care.

Aim: Establish, document, and implement practice policies and procedures that reduce the number of common barriers for early adolescent patients to work towards 100% compliance with the recommended immunization schedule.

Potential Barriers	Suggested Ideas for Change	Still Not Seeing Results?
Gap: Provider is unaware of the early adolescent platform and barriers that may lead to noncompliance with the recommended platform. As a result, opportunities to vaccinate adolescents are missed.		
Adolescents have a lower rate of well-child office visits than infants.	<ul style="list-style-type: none"> Check immunization record for vaccination status at all visits, including sick visits and visits for physical examinations for sports. <ul style="list-style-type: none"> Educate parents about the recommended immunization schedule. Check vaccination status for older vaccines (hepatitis B, MMR, and varicella) and other catch-up vaccines. Send reminder postcards, texts, or e-mail messages to parents of preteens and teens who are behind in their immunization schedules. Use of a registry or electronic medical record may streamline this process. Schedule a follow-up visit if a vaccine was not delivered at a previous appointment; plan to immunize at the next visit. This may include nurse-only visits to provide added flexibility for family scheduling. Use EMR prompts or other means to remind staff about needed vaccinations. 	<ul style="list-style-type: none"> Consider designating time for an adolescent-specific, officewide chart review. Designate an adolescent vaccine office champion — someone who sees most adolescents when they are in the office and who is dedicated to checking all adolescents' charts for vaccination status and placing prompts at visits.

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Barriers are different for adolescents than for other age groups.	<ul style="list-style-type: none"> • Ensure that materials, handouts, and social media posts address the importance of adolescent vaccines, safety, and information about preventable diseases are available. • Develop a protocol to address common barriers for early adolescent vaccination, for example: <ul style="list-style-type: none"> ▪ Confidentiality. Be familiar with state laws on confidentiality and inform patients and parents about laws and office protocols. ▪ Vaccine hesitancy on the part of the patient or parent. Use Vaccine Information Statements (VISs) to guide conversations and educate patients and parents about vaccinations. ▪ Consent when an adolescent is unaccompanied at a visit. Consider securing verbal consent by phone, if acceptable in your state. Learn about state and local consent laws. ▪ Cost issues, particularly for underinsured adolescents and those that may not be covered by VFC vaccine or Section 317 vaccine in your office. <ul style="list-style-type: none"> ○ Investigate eligibility of underinsured patients for VFC vaccine at a federally qualified health center (FQHC). ○ Explore partnering with school-based health clinics to ensure that adolescents receive all vaccines needed in a cost-effective manner. ○ Develop a policy about how and when referrals to other vaccine providers should occur. 	<ul style="list-style-type: none"> • See the <i>Know Your Costs to Immunize</i> module for more information.

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Key Activity: Know Your Costs to Immunize

Rationale: According to the Congressional Budget Office (CBO), approximately 90% of the US population has insurance, with 67% private insurance and 33% public insurance programs (“Federal Subsidies for Healthy Insurance for People Under 65” [May 2019]). Furthermore, the CDC estimates that over 50% of childhood vaccines are covered for by the Vaccine for Children (VFC) program (*MMWR*. 2014;63:352-355). In a 2011 survey of pediatricians, there was a high level of dissatisfaction for payment for vaccine administration (Medicaid, 63%; Children's Health Insurance Program, 56%; managed care organizations, 48%; preferred provider organizations, 38%; fee for service, 37%; $P < 0.001$). Ten percent of physicians seriously considered discontinuing administration of childhood vaccines to privately insured patients because of cost issues (O’Leary. *Pediatr*. 2014;133:367-374).

Aim: Establish, document, and implement practice policies and procedures that reduce the pediatrician’s costs to immunize and improve office efficiencies, which keeps them in the vaccine business and providing all recommended vaccines. This is done to work towards 100% compliance with the recommended immunization schedule for all patients.

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Gap: Practice policies and procedures do not reflect true immunization costs.		
Pediatricians are unaware of how to minimize costs associated with immunizing.	<ul style="list-style-type: none"> Know your immunization costs. Negotiate higher payment. Use the vaccine survival guide to calculate the true cost of immunizing your practice. For more information, see the AAP Web article Knowing Cost. 	<ul style="list-style-type: none"> Carefully check your numbers. Sometimes a small error can result in a much larger error when calculating costs.

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The cost to immunize is prohibitive in some practices unless outside vaccine programs are used.	<ul style="list-style-type: none"> Participate in the Vaccines for Children (VFC) program. The VFC program provides free vaccines to pediatricians for uninsured children and the provider bills the administration fee; in some states, underinsured children are also eligible for free vaccines through the provider's office and do not need to be referred to public health departments. Participation could increase costs to the practice, so providers must weigh the benefits to their population against the added time and cost. The Centers for Disease Control and Prevention (CDC) has more detailed information. Identify the local health department, another pediatrician who participates in the VFC program, or other local resources for referral of children who do not receive vaccines in your office. Ensure that alternative providers communicate to the medical home the vaccines that have been administered. 	<ul style="list-style-type: none"> Ensure that your office has a process to identify children who are eligible for VFC vaccine. Direct staff to administer VFC vaccine instead of private stock in those cases. Ensure that the office staff members track the number of doses of VFC vaccine that have been administered for the required yearly reporting.

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	<ul style="list-style-type: none"> Participate in a group purchasing organization (GPO). <ul style="list-style-type: none"> Average prices of vaccines are reported to the CDC quarterly. Refer to the CDC Vaccine Price List for current vaccine contract prices and private sector vaccine prices. GPOs are able to combine orders from practices, hospitals, nursing homes, and other medical facilities to receive volume discounts from specific vendors. AAP members report significant savings on vaccines when purchased through GPOs. For a list of GPOs used and recommended by Academy members, refer to the AAP's article on group purchasing. Various AAP chapters may be organizing GPOs. AAP is developing a database that will provide inclusion criteria. Identify the local public health department, another physician who participates in the VFC program, or another local source to refer children who do not receive immunizations in your office due to excessive cost to the patient or the practice. Ensure that alternative providers communicate to the medical home when vaccines have been administered. 	<ul style="list-style-type: none"> Check into other GPOs that may offer better discounts. Make sure that all the manufacturers you use are included in the GPO. If a majority of your products are from a manufacturer are not included in the GPO, you may not realize the full potential savings.

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	<ul style="list-style-type: none"> Negotiate better contracts. Tips include the following: <ul style="list-style-type: none"> Review the carrier contract for provisions on vaccine and immunization administration payments. Insist that there be provisions to address payment for new vaccines, vaccine price increases, and new immunization recommendations in a timely manner by the payer. If your practice is efficient and effective with high immunization rates, the health plan benefits as well, with a higher Healthcare Effectiveness Data and Information Set (HEDIS) score. This is a good point for negotiation. Participate in your chapter's Pediatric Council to educate payers about true costs. Fill out an AAP Hassle Factor form on payers who perform poorly. This form is available to AAP members. Code correctly to ensure payment. Refer to these resources for coding information: <ul style="list-style-type: none"> Table of Proper Codes Overview of Administration Codes Reporting 99211 Correctly Coding Calculator 	<ul style="list-style-type: none"> Address how to reduce costs if payment is not increasing. Work with your AAP chapter or the national AAP office to identify a coding expert who can do an in-service session for all office staff involved.