



Evidence-based Strategies for Improving Childhood Immunization Rates: A Guide for CCOs

Immunizations are among the greatest public health achievements of the 20th century. A recent economic analysis estimated that vaccinating the 2009 U.S. birth cohort with the recommended childhood immunization schedule prevented approximately 42,000 deaths and 20 million cases of disease, and resulted in a net savings of \$14 billion in direct costs and \$69 billion in total societal costs.ⁱ Despite the effectiveness of vaccines to prevent disease and death, and unnecessary costs to the health care system, immunization rates for children in Oregon remain flat and well below national Healthy People 2020 goals.

Much attention is given to families and communities that choose not to vaccinate their children. However, these families and communities represent the minority in Oregon. Most parents do intend to vaccinate their children according to the American Academy of Pediatrics (AAP) schedule and as recommended by their health care provider. This resource guide focuses on evidence-based strategies that CCOs and health care providers can implement to improve childhood immunization rates.

Prior to the availability of measles vaccine in the United States, as many as 3-4 million cases and 500 deaths were attributed to the disease each yearⁱⁱ. In 2014, just five cases were reported in Oregonⁱⁱⁱ. The same dramatic reduction in death and disease is seen for almost every disease for which there is now a vaccine. Achieving and maintaining high immunization rates is essential to assure community immunity, keep vulnerable people protected, and stop transmission when cases appear.

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i Zhou, F, Shefer, A, Wenger, J et al. Economic evaluation of the routine childhood immunization program in the United States, 2009. *Pediatrics* 2014;133:577-85.

ii Centers for Disease Control and Prevention (CDC). *Epidemiology and Prevention of Vaccine-Preventable Diseases*, 13th Edition (2015). Measles. Available at: <http://www.cdc.gov/vaccines/pubs/pinkbook/meas.html>.

iii Oregon Health Authority, Public Health Division (2014). Oregon Measles Cases, Summary Statistics 2005-2014. Available at: <http://public.health.oregon.gov/DiseasesConditions/DiseasesAZ/measles/Documents/oregon-measles-cases-2005-2014.pdf>



Strategy 1: Use Data to Identify Reasons for Low Immunization Rates

Overview: Improving childhood immunization rates begins with assessing rates and sharing information about rates with health care providers. Routine assessment of immunization rates can be used to monitor trends and to identify root causes for why children are not fully vaccinated with recommended vaccines by two years of age. The Community Preventive Services Task Force recommends [assessment and feedback](#) based on strong evidence of effectiveness in improving vaccination rates.

What CCOs can do

- ✓ **Routinely monitor immunization rates for two year olds.** CCOs can monitor rates using data provided by the Oregon Health Authority, Health Analytics. Alternatively, CCOs can work with contracted clinics to run their clinic rates in ALERT Immunization Information System (ALERT IIS).¹
- ✓ **Share information about the CCO's rates** with health care providers and clinic staff. If possible, parse the CCO rate and make them available at the clinic level. Providers often overestimate the percent of children in their practice who are up-to-date with recommended vaccines. Increasing awareness of coverage rates is an important first step to improve rates.
- ✓ **Assess root causes for low immunization rates.** Coordinate with providers to review records of children who were not up-to-date by two years of age. Identify why they fell behind and implement quality improvement strategies to address root causes for low immunization rates.

What health care providers can do

- ✓ **Routinely assess rates** through the EHR or ALERT IIS. Assess rates at 24 months and at earlier points in time. Use data to identify appropriate improvement strategies and track progress toward goals every 1, 3 or 6 months.
- ✓ **Share information about the clinic's rates with clinic staff.** Involve staff in identifying and implementing appropriate interventions to improve rates.
- ✓ **Participate in the Oregon Immunization Program's AFIX Program.**² AFIX (Assessment, Feedback, Incentive, eXchange) is a federal quality improvement program designed to improve immunization rates and services through assessing rates, sharing information and working with clinics to develop and implement action plans for improving rates.



Strategy 2: Identify and Eliminate Barriers to Access

Overview: Insurance status is typically not a factor in access to childhood immunizations. The Affordable Care Act requires that vaccines are provided at no cost to families as routine preventive care.

The federal Vaccines for Children (VFC) program provides vaccines at no cost for children enrolled in Medicaid, or who are uninsured, underinsured, or American Indian/Alaskan Native. Oregon Administrative Rule prohibits providers who vaccinate Medicaid-enrolled children but are not enrolled in VFC from seeking reimbursement for the cost of vaccine or for administration fees (OAR 410-130-0255). CCOs and health care providers should reduce out-of-pocket costs where they exist and address other barriers to access.

What CCOs can do

- ✓ **Identify which providers are not enrolled in VFC.** Encourage all providers who serve children and adolescents between 0 through 18 years to be enrolled.³ For those that choose not to, work with these providers to ensure patients have access to immunizations at other locations. Monitor rates for these clinics closely to ensure that patients referred elsewhere for immunizations are receiving recommended vaccines.
- ✓ **Identify areas of the CCO region where there are few or no VFC providers.** Work with partners and the community to develop solutions to ensure access.
- ✓ **Reimburse out-of-area health care providers** and local health departments that administer vaccines to members.
- ✓ **Ensure access to culturally appropriate immunization services.** Many parents have questions about vaccines. Work with clinics to make sure they provide Vaccine Information Statements (VIS) and other materials in languages other than English, and that translation services are available.

What health care providers can do

- ✓ **Use standing orders** so that RNs, PAs and MAs can assess immunization status and give vaccines according to protocol, without the need for examination or direct orders from a physician. The Oregon Immunization Program publishes model standing orders for providers in Oregon.⁴
- ✓ **Offer immunization-only appointments** with a nurse or MA when immunizations are due, but a well-baby visit is not. Immunization-only appointments are generally quicker than a complete well-child visit, and for patients with commercial insurance, may reduce out of pocket costs associated with office visit fees or other fees.
- ✓ **Offer expanded clinic hours and walk-in appointments for immunizations** for immunizations. Walk-in appointments make immunizations convenient for families and eliminate long waits for an opening. Expanding hours to include evening and weekend options helps working parents.



Strategy 3: Reduce Missed Opportunities and Recall Patients who are Behind on Vaccines

Overview: Missed opportunities occur when a patient is seen at a health care provider's office, but they don't receive any vaccines, or they receive some but not all vaccines that are due. Patients with missed opportunities often fall behind schedule. Employing strategies to reduce missed opportunities and recall patients who are behind will result in improved rates by two years of age.

What CCOs can do

- ✓ Encourage providers to **offer all well-child visits** according to the [American Academy of Pediatrics schedule](#). Place emphasis on the 15- and 18-month well child visits. Work with clinics to identify and remove barriers to providing all well child visits.
- ✓ Work with provider offices to **recall members** who are past due for well-baby visits or immunizations before two years of age. Recalls are commonly done at 13, 16, and/or 20 months. Consider a variety of methods of recalling patients such as text message, email, postcard, or letter.

What health care providers can do

- ✓ **Check immunization records** at every encounter. If no immunizations are due, provide an update on what immunizations will be given at upcoming visits. ALERT IIS and many EHRs forecast which vaccines are due or past due. Consider automating this in the EHR.
- ✓ **Immunize at sick visits** if no contraindications or precautions exist.
- ✓ **Immunize children who present for well-child care with mild symptoms of illness.**
- ✓ **Provide all vaccines** for which a patient is eligible on the day of the visit.
- ✓ **Schedule the next well-child visit** before the patient leaves the office. For most clinics, this is easier than trying to identify patients who are due for immunizations when no appointment has been scheduled.
- ✓ **Recall patients** who are behind on immunizations. Effective recall systems are narrow in focus, conducted routinely, and follow a consistent process. Clinic staff can run recall lists in ALERT IIS and in many EHRs.
- ✓ **Contact patients who miss appointments** within 3 to 5 days to reschedule. This reiterates the importance of well child visits and immunizations to families.
- ✓ **Track patients who follow an alternative schedule.** Alternative schedules typically require more visits to be up-to-date by two years of age. Ask families to document their intended schedule, ensure they adhere to it, and make the planned schedule visible to clinic staff.



Strategy 4: Increase Knowledge and Awareness About Immunizations in Clinics and for Families

Overview: Most parents intend to fully vaccinate their children, and health care providers and clinic staff want to vaccinate patients according to the AAP recommended schedule. Increasing knowledge and awareness of the routinely recommended immunization schedule, and providing resources to answer questions are effective strategies to improve immunization rates.

What CCOs can do

- ✓ **Identify training needs and make training opportunities available** to health care providers and clinic staff. Clinics may have different training needs, from the basics of why we immunize, to how to communicate effectively with parents who have concerns about vaccines, or the value of immunizing at sick visits. CDC and AAP have a range of materials available for health care providers and clinic staff.⁵
- ✓ Use a systematic approach to **provide routine immunization updates and resources** to health care providers.
- ✓ **Provide routine reminders to parents** about the recommended vaccination schedule for 0-24 months. Couple reminders with messages conveying the importance of vaccination.

What health care providers can do

- ✓ **Identify an immunization champion** to regularly bring resources and information to coworkers, track and report on progress toward goals and offer coaching to coworkers.
- ✓ **Use a systematic approach to build a culture of immunization in the clinic.** Clinic staff and families at clinics with a strong culture of immunization understand that immunization is the expectation. Methods to employ may include making sure each employee understands how their role supports immunizations, and promoting vaccination of employees.
- ✓ **Make resources readily available** to parents and clinic staff. The CDC and AAP publish resources for effective communication about vaccines with parents, understanding vaccine safety, and about specific vaccines and diseases. Make sure clinic staff know how to access resources.



Strategy 5: Increase Demand for Immunizations

Overview: CCOs can employ numerous strategies to increase demand for immunizations. The Community Preventive Services Task Force recommends implementing a combination of [community-based interventions](#) to increase immunization rates. Providing incentives is another proven strategy to improve immunization rates.

What CCOs can do

- ✓ **Convene and engage local public health agencies, health care providers, representatives from health systems, schools and children’s facilities and community organizations to:**
 - Share data on immunization rates;
 - Identify and understand pockets of low immunization rates;
 - Develop and advance a common set of priorities and strategies.
- ✓ **Partner with other organizations that provide services to young children and families** such as: Early Learning and Parent Education Hubs, WIC, traditional health workers, and Maternal and Child Health home visiting nurses.
- ✓ **Support strategies to reduce nonmedical exemptions.**⁶ Strategies may include working with local public health agencies, schools, children’s facilities and parent groups to understand and address prevalent concerns in the community, or supporting legislation to tighten existing school and children’s facility requirements.
- ✓ **Provide incentives to parents and families.** The Community Preventive Services Task Force [recommends parent incentives](#) based on evidence of effectiveness in increasing immunization rates. Incentives may be given for keeping an appointment, completing a vaccine series or for other pro-vaccine behaviors. Consider providing diapers, toys or other baby items in addition to or in place of monetary incentives.
- ✓ **Provide incentives to health care providers.**
- ✓ **Support efforts to implement evidence-based legislation and policy** related to increasing appropriate vaccination.



Resources and Additional Information:

- ¹ ALERT Immunization Information System (ALERT IIS)** – Clinic staff have access to a number of reports in ALERT IIS that can help clinics to improve immunization rates. The benchmark report allows users to assess coverage rates for selected age groups or vaccines. The reminder/recall report allows users to generate lists of patients who are due or past due to receive specified vaccines. ALERT IIS reports training is available at:
<http://public.health.oregon.gov/PreventionWellness/VaccinesImmunization/alert/Pages/Reports-Training.aspx>.
- ² Oregon Immunization Program AFIX page** – Learn how AFIX can increase vaccination rates at: <https://public.health.oregon.gov/PreventionWellness/VaccinesImmunization/ImmunizationProviderResources/Pages/afix.aspx>
- ³ Vaccines for Children enrollment page** – Clinics can begin the VFC enrollment process by completing the checklist available at: <http://bit.ly/OregonVFCenrollment>
- ⁴ Oregon Immunization Program Model Standing Orders** – The Oregon Immunization Program publishes model standing orders that can be signed by a licensed independent provider to allow nurses and medical assistants to administer vaccines without a provider order. These model standing orders are available at:
<http://public.health.oregon.gov/PreventionWellness/VaccinesImmunization/ImmunizationProviderResources/Pages/stdgordr.aspx>.
- ⁵ Resources for health care providers and families** – CDC and AAP make available a range of materials for health care providers, clinic staff and families. Resources are available at: <http://www.cdc.gov/vaccines/hcp.htm> and <http://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunization/Pages/default.aspx>.
- ⁶ Oregon Immunization Program immunization requirements for school and child care** – Immunizations are required for children who attend public and private schools, preschools, child care facilities and Head Start programs in Oregon. Information about Oregon’s immunization school law, including information about nonmedical exemptions, is available at: <http://public.health.oregon.gov/PreventionWellness/VaccinesImmunization/GettingImmunized/Pages/school.aspx>.

General Resources

Centers for Disease Control and Prevention (CDC) - <http://www.cdc.gov/vaccines>

Oregon Immunization Program - <http://public.health.oregon.gov/PreventionWellness/VaccinesImmunization/Pages/index.aspx>

Guide to Community Preventive Services - <http://www.thecommunityguide.org/vaccines/index.html>

Immunization Action Coalition, Suggestions to Improve your Immunization Services - <http://www.immunize.org/catg.d/p2045.pdf>