



Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care

ACOG
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The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

TABLE OF CONTENTS

OVERVIEW	3
BACKGROUND AND DEVELOPMENT OF THE ACOG INCREASING ADULT IMMUNIZATION RATES PROJECT	5
Practice Recruitment & Selection	5
Partnership with State Health Departments	8
Strategies Pilot-Tested by Immunization Champions	9
Engaging the Immunization Champions	11
Data Collection Activities	13
Identifying Effective Strategies	15
STRATEGIES FOR EFFECTIVELY INTEGRATING IMMUNIZATIONS INTO ROUTINE OBSTETRIC-GYNECOLOGIC CARE	17
Strategy 1	18
Strategy 2	21
Strategy 3	24
Strategy 4	30
IDENTIFIED CHALLENGES AND OPPORTUNITIES	33
Immunization Champion Recruitment & Engagement	33
Engaging Colleagues & Staff	34
Strong Recommendations	35
Standing Orders	35
Immunization Information Systems	36
Referrals for Immunizations Not Offered On-Site	38
Reimbursement	39
Patient Immunization Screening Form	39
Overall Project Success	40
CONCLUSION	41
Additional Resources	41
REFERENCES	42

OVERVIEW

Immunizing pregnant and non-pregnant women against vaccine-preventable diseases is an essential component of women's primary and preventive health care¹. Obstetrician-gynecologists (ob-gyns) can play a major role in reducing morbidity and mortality from vaccine-preventable diseases by including immunizations as a routine part of their practice¹.

The “Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care” (Strategies) detailed in this report are the result of findings from a Centers for Disease Control and Prevention adult immunization cooperative agreement that identified and implemented targeted, evidence-based, and recommended practices for improving adult immunization rates among a diverse population of ob-gyn providers. These Strategies were shown to improve immunization processes, and ultimately increase immunization rates, among ob-gyns that piloted them in practice.

Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care

The identified “Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care” that will be outlined in depth later in this document include:

1. **Administer routinely discussed and recommended vaccines, which at a minimum include influenza, Tdap, and HPV.**
2. **Create a culture of immunization by educating and involving all staff in immunization processes. Delegate the responsibilities of maintaining and championing an immunization as appropriate for your practice structure.**
3. **Develop a standard process for assessing, recommending, administering, and documenting vaccination status of patients.**
4. **Utilize existing systems and resources to conduct periodic assessments of immunization rates among patients to determine if and where progress is needed.**

The American College of Obstetricians and Gynecologists (ACOG) encourages obstetrician-gynecologists to implement these suggested strategies in their practices, as appropriate, to improve their immunization processes and increase their immunization rates among patients.



BACKGROUND ON THE ACOG INCREASING ADULT IMMUNIZATION RATES PROJECT

In 2015, ACOG was awarded a four-year cooperative agreement funded through the Centers for Disease Control and Prevention (CDC) aimed at assisting obstetrician-gynecologists (ob-gyns) in increasing rates of five adult immunizations (Tdap, influenza, pneumococcal, hepatitis B, and herpes zoster) in pregnant and non-pregnant populations. The project, entitled “Increasing Adult Immunization Rates through Obstetrician-Gynecologist Partnerships”, consisted of a three-year demonstration phase and a one-year dissemination phase. During the three-year demonstration phase, ACOG worked closely with 19 ob-gyns, referred to as “Immunization Champions,” and their practices to improve their immunization processes and learn from their experiences, with a final objective of sharing the project findings with both ACOG members and external partners.

Practice Recruitment & Selection

Recruitment of the ob-gyn Immunization Champions for participation in the three-year demonstration phase took place in the Boston, Massachusetts area and the Los Angeles County, California area. These regions were chosen based on their geographic diversity; ACOG’s existing relationships with ACOG District and National leaders, ACOG partners, and state health departments in these areas; and the innovative adult immunization activities carried out in these states.



ACOG recruited 19 ob-gyn Immunization Champions to participate in the project—nine from Massachusetts and ten from Los Angeles County. Recruitment efforts, conducted by ACOG staff and an experienced immunization consultant, took many forms to ensure maximum reach to ob-gyns in these areas, including:

- Email blasts to all practicing members in the represented Districts
- Highlights in District newsletters
- Announcements at District meetings
- Word-of-mouth and email promotion by key District and ACOG leaders
- A call-for-applications on ACOG's Immunization for Women website
- Outreach efforts conducted by the immunization program staff within the respective state health departments

When recruiting practices for participation in the project, eligibility requirements were established to ensure all proposed activities were feasible and to clearly outline expected participation requirements for potential Immunization Champions. These eligibility requirements included:

- Immunization Champion must be a practicing ACOG member
- Practice must use an electronic health record (EHR), though the EHR itself and type of use could vary
- Practice serves both obstetric and gynecologic patients, though the Immunization Champion could be more specialized
- Practice agrees to enroll in their state's immunization information system (IIS)
- Immunization Champion agrees to participate over the course of the three-year demonstration phase and meet specific project deliverables, at a minimum to include data collection activities and quarterly check-in calls with ACOG staff
- Practice must sign a Memorandum of Agreement with ACOG that outlines the responsibilities of both ACOG and the Immunization Champion within the project

In addition to these eligibility requirements, careful consideration was put into the makeup of the ob-gyn representatives ultimately selected to participate as Immunization Champions. ACOG aimed to achieve a diverse cohort of ob-gyn Champions and practices, representing various practice setting-types, to allow findings from the project to be translatable across the greater ACOG membership. In addition to concentrating selection to states on both sides of the country and including practices in areas where identified disparities exist, the 19 Immunization Champions were reasonably representative in their:

- Staff make-up (based on number of physicians, mid-level providers, nurses, and medical assistants)
- Patient population (e.g. primarily obstetrics or gynecology, or combination of both; high-risk; racial, ethnic, and socioeconomic disparities; etc.)
- Practice type (e.g. solo practice, small practice, group practice, hospital-based, community health center, etc.)
- Regional location of the practice (e.g. primarily urban, suburban, or rural)

Practices were offered multiple incentives for their participation in the project. For example, all 19 selected Champions are publicly recognized and identified as ACOG Immunization Champions. As an Immunization Champion, these individuals are considered to be leaders in maternal and adult immunization, and have a prominent feature on [ACOG's Immunization for Women website](#). The Immunization Champions within the project were also offered free resources, technical support, and troubleshooting from the ACOG Immunization team, as well as an annual monetary stipend for meeting key project requirements. Additionally, all recruited ob-gyns were invited to participate in annual Learning Labs with the other Immunization Champions for education, networking, collaboration, and problem solving at ACOG Headquarters in Washington, DC. As most of the Champions were not involved in other ACOG leadership activities, the opportunity to attend these Learning Labs and visit ACOG Headquarters was very meaningful.

Partnership with State Health Departments

Through previous adult immunization projects, ACOG has learned that it is valuable for ob-gyn practices to have contacts at their state health departments for local resources and technical support that complement the resources and support provided by ACOG. These previous ACOG immunization projects also highlighted the importance of establishing strong connections between ACOG and the state health departments for on-going communication and relaying of information to ob-gyns.

As a result, throughout the demonstration phase of the Increasing Adult Immunization Rates project, ACOG collaborated closely with the state health department immunization programs in Massachusetts and California. ACOG regularly sent resources and information from the states to the Immunization Champions, and informed the health departments about any new or updated ACOG immunization resources and guidance. Updates from each state were shared in quarterly project newsletters sent to the Champions and their staff, and the health departments provided state-specific presentations during the annual Learning Labs. ACOG and the immunization teams at each health department participated in quarterly partner calls to offer more detailed program updates and troubleshoot Champion concerns.

The state health departments were particularly instrumental in assisting the Champions as they enrolled in and established data transmission with the state immunization information systems (IIS). Each state has unique registries, with different enrollment systems and requirements. Both state health departments worked with the Champions as a group and on an individual basis, as needed, to navigate the process and provide technical assistance, training, provider and staff education, and patient resources. More details on the experience with the states' IIS are provided later in this report.

Strategies Pilot-Tested by Immunization Champions

Over the course of the three-year demonstration phase of the Increasing Adult Immunization Rates project, the Immunization Champions and their practice staff were encouraged to implement key strategies for increasing their adult immunization rates. These strategies were based on the [National Vaccine Advisory Committee \(NVAC\) Standards for Adult Immunization Practice](#) and strategies identified through past successful ACOG immunization activities, projects, and grants.

Many of the identified strategies were also well-supported by studies in the literature. For example, a number of studies have demonstrated that a recommendation from an obstetrician-gynecologist or other health care provider for an immunization is one of the strongest influencers on patient acceptance^{2,3,4}. Studies also show that immunization rates are higher when a provider can offer and administer indicated vaccines in the same visit, as opposed to recommending and referring for off-site administration². Similarly, assessing immunization status during every patient encounter decreases the risk of missed opportunities to vaccinate⁵. Prompts, such as notes in the patient chart or alerts in the electronic health record (EHR), can serve as effective reminders to physicians and staff to immunize during the patient visit^{1,4,6}. And implementation of immunization standing orders and other standardized processes can be effective methods for integrating immunizations into a practice's work flow and increasing immunization rates^{7,8,9}.

The varied strategies identified and piloted by the Champions' were intended to make immunizations a routine part of patient care and to motivate and mobilize ob-gyns to routinely screen, immunize, and document vaccinations for their adult patients. Through their implementation and adaptation, ACOG aimed to learn what strategies were the most successful across the project cohort. Given the diversity of the Champion practices, any identified successful strategies could then be translated broadly to ob-gyns across ACOG's membership.

Strategies encouraged by ACOG staff and implemented and adapted by the Immunization Champions included:

- Implementation of immunization standing orders, which allow qualified health professionals other than the ob-gyn to assess the need for and to administer vaccines.
- Use of strong immunization recommendations by all practice staff.
- Consistent documentation of immunization recommendation, offer, administration, referral, and/or refusal in the patient chart across all staff—consistent both in the location of the documentation and in documentation being carried out for every patient at every visit.
- Enrollment in and transmission of immunization data to the state immunization information system (IIS), also known as the state immunization registry.
- Development of a referral process for immunizations not carried on-site, as well as establishment of relationships with local pharmacies or clinics for such referrals.
- Use of immunization prompts, paper or electronic, for all levels of staff involved in the immunization process.
- Engagement of staff and other providers in the identification and implementation of process changes, as well as in the understanding of why improvements are needed.
- Utilization and promotion of immunization resources for patient and staff education and awareness, both in the practice and on the practice website.



The implementation of these strategies, including any successes or barriers encountered with their integration into practice, were carefully documented and tracked by ACOG staff for ongoing data analysis and for future follow-up and troubleshooting with the Champions. The strategies were implemented over the course of the three-year demonstration phase through a variety of methods at different stages. For example, early in the project, ACOG staff trained the Immunization Champions on how to make strong recommendations and began offering technical assistance as they enrolled in the state IIS. Training included presentations from immunization experts, resource sharing, and role playing at the first Learning Lab. The first year also prioritized providing education to the Champions on adult immunization recommendations, as well as offering educational resources that could be shared with colleagues, staff, and/or patients. And while the second year focused on implementing standing orders and referral systems, the final year emphasized how the Champions could make improvements to their existing immunization work flow and their documentation processes. The Champions were not limited to addressing one particular issue at any point in time; however, focusing specifically on certain areas of concern, rather than trying to incorporate all areas for improvement at once, allowed ACOG to provide more targeted technical assistance and avoid overwhelming the Champions.

Engaging the Immunization Champions

ACOG utilized multiple methods to engage and retain the Immunization Champions and encourage and track adoption of immunization integration strategies. Each Champion participated in quarterly check-in calls with ACOG staff to discuss the progress of implementing key strategies and any barriers encountered, as well as to troubleshoot challenges and develop plans for future action. In an effort to make the conversations as useful as possible, the Champions were also given the opportunity to identify key topics for discussion ahead of each call. Through the check-in calls, ACOG staff collected and tracked qualitative data from the Champions on which activities were successful and which posed ongoing difficulties or were ultimately abandoned altogether. Additionally, ACOG utilized these regular check-in calls to share lessons learned, resources, and contact information from other Champions, the state health departments, and other national health care and public health organizations.

In addition to the quarterly calls, ACOG staff regularly checked-in with the Immunization Champions via email to follow-up on improvement activities discussed during the calls and to provide on-going support and technical assistance. Moreover, quarterly project newsletters, which regularly highlighted the successes of an individual Champion, were developed and shared with the Champions and their staff, the state health department immunization teams, officers at CDC, and other relevant ACOG staff and external partners.

Beyond these strategies for engaging the Champions remotely, ACOG reached out in-person at multiple opportunities throughout the project's demonstration phase. The most significant strategy for engaging the Champions in-person was through annual Learning Labs held at ACOG Headquarters in Washington, DC. Each June throughout the three-year demonstration phase, the Champions came together for a full-day meeting to collaborate, network, learn, troubleshoot, and plan next steps. The meetings featured speakers from the state health departments and ACOG immunization leaders. However, the main purpose of the Learning Labs was to facilitate collaborative discussion around the pilot-tested strategies for integrating immunizations into routine practice, how Champions could learn from one another, and how ACOG could learn from their experiences. In evaluations of the Learning Labs, the Champions consistently reported that they appreciated having the opportunity to come together with their peers, share their experiences, network and build relationships with other ob-gyns addressing similar issues, and collaborate on improvements and next steps.

Each year, ACOG immunization staff and the project consultant also conducted annual in-person, on-site visits to the Champions' practices. Site visits with the Champions who were not able to attend the in-person Learning Lab that year were prioritized. These on-site meetings allowed for more in-depth conversations about implemented strategies and encountered barriers, and for ACOG program staff to see the practice set-up and learn how it may contribute to successes and challenges. The visits also gave ACOG staff the opportunity to meet with other providers and staff in the practice in an effort to engage them in project activities. The meetings bolstered the familiarity and working relationships between the ACOG immunization staff and the ob-gyn Immunization Champion, which facilitated future discussions. In addition to these on-site visits, ACOG hosted state-specific, in-person meetings in each state for the Champions, to encourage both collaboration and experience sharing, which the Champions reported to be valuable.

Additionally, ACOG aimed to keep the Immunization Champions engaged through the sharing and development of resources and educational opportunities. For example, ACOG hosted yearly immunization education webinars for all ACOG members, as well as one-time web presentations for the Champions focused on the state-specific requirements around standing orders. A partner call was held among ACOG staff, the Immunization Champions, and members of national pharmacy organizations to discuss opportunities and challenges around immunization referral processes between ob-gyn practices and pharmacies. Additionally, through this project, and utilizing the feedback and experiences of the Champions, ACOG developed unique resources targeted at immunization referrals ([*Developing an Immunization Referral System*](#)) and optimizing the seasonal flu program in an ob-gyn practice ([*Seasonal Influenza Vaccination Programs: Tips for Practice Management*](#)).



Data Collection Activities

The evaluation process within the project included a combination of qualitative and quantitative data collection. At the start of the demonstration phase, all Immunization Champions were required to conduct a chart review using a randomly-selected sample of 20 charts to establish a baseline for their immunization rates among the five adult immunizations focused on in this project (Tdap, influenza, pneumococcal, hepatitis B, and herpes zoster). In the third and final year of the demonstration phase, a final randomized chart review, using the same process as at baseline, was conducted by every Champion to assess for rates of change among the above listed immunizations from baseline to Year 3.

Over the course of the project's demonstration phase, the activities implemented by the Immunization Champions resulted in *increases* in immunization rates across all five adult immunizations targeted.

Increasing Adult Immunization Rates Project Cohort: Comparisons of Immunization Rates by Immunization and Project Year			
	Immunization Rates at Baseline	Immunization Rates at Year 3	Immunization Rates Percent Change Over Course of Project
Tdap	24%	63%	163%
Influenza	21%	35%	66%
Hepatitis B	55%	72%	31%
Herpes Zoster	10%	33%	233%
Pneumococcal	30%	33%	11%

Additionally, ACOG tracked from baseline to Year 3 the rates of missed opportunities for the targeted immunizations. To calculate missed opportunities, the chart reviews were analyzed for vaccine eligibility (e.g. eligible based on age, pregnancy status, health indicators, lack of contraindications, etc.) but with no record of receipt or refusal of the vaccine.

Over the course of the project's demonstration phase, the activities implemented by the Immunization Champions resulted in *decreases* in missed opportunities across all five adult immunizations targeted.

Increasing Adult Immunization Rates Project Cohort: Comparisons of Missed Opportunity Rates by Immunization and Project Year			
	Missed Opportunities at Baseline	Missed Opportunities at Year 3	Missed Opportunities Percent Change Over Course of Project
Tdap	76%	37%	-51%
Influenza	79%	65%	-17%
Hepatitis B	45%	28%	-38%
Herpes Zoster	90%	67%	-26%
Pneumococcal	70%	67%	-4%

In addition to quantitative data collection through the chart reviews, annual surveys of practice activities and processes were completed for the practice. These surveys were compared over time to analyze which of the tested strategies were most utilized across the cohort and most successful in their implementation. For example:

- At the end of Year 3, among practices that were not able to implement a formal written standing order, 63% reported that their practice had at least implemented a standard process for delegating immunization responsibilities such as assessment, administration, and/or documentation that worked within their unique practice setting. This represented a 200% increase from Year 2, when this measure was first assessed.
- From Year 1 to Year 3, there was a 64% increase in the use of prompts by project practices. Impressively, 68% of the Champions reported at the end of the project that they were utilizing their nursing and medical staff to prompt patients to vaccinate and/or to prompt the physicians to discuss immunization with patients. This represented a 550% increase from Year 1.
- At the end of the project, more than 80% of the Champions felt that educating their colleagues and staff on immunization topics was a useful strategy to engage others in their practice in immunization implementation activities, and nearly half experienced success in engaging others by assigning immunization activities to staff.

Qualitative data was collected from the Champions through the quarterly check-in calls with ACOG Immunization program staff, the annual Learning Labs, and the yearly in-person practice visits described above. Additional qualitative data was collected from ob-gyns outside of the project through focus groups conducted during ACOG's Annual Clinical and Scientific Meeting each year of the project.

Identifying Effective Strategies

Through quarterly check-in calls, regular email contact, the annual Learning Labs, yearly in-person visits to the Champion practices, and yearly practice surveys, ACOG collected and tracked data related to the immunization improvement activities and strategies engaged in by the Immunization Champions and their practices. Through this data collection, ACOG identified an extensive series of strategies being tested across the cohort, with varied levels of implementation and success. To narrow down which of these strategies were the most

successful and applicable to the wider ACOG membership, the ACOG Immunization team developed a set of criteria for analyzing which strategies and approaches led to immunizations being a more routine part of ob-gyn care among the participating practices. These criteria were reviewed by ACOG's Immunization, Infectious Disease, and Public Health Preparedness Expert Work Group.

Criteria for Determining Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care

The strategy:

1. Has the potential to lead to increased immunization rates.
2. Was useful for at least two-thirds of the project practices.
3. Has the potential to drive positive change at the *practice* level.
4. Is low cost.
5. Is easy to implement in all types of practice settings.
6. Adapts workflow to better accommodate immunizations.
7. Alerts providers to the need for improvement around immunizations.
8. Can be sustained over time.

To be considered among the "Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care", the intervention or strategy must meet both the first and second criteria listed, as well as at least four of the remaining criteria.

Once these criteria were applied to the activities tracked over the course of the project, the identified strategies were narrowed down to a list of seven immunization integration strategies. The list of seven was then reviewed in detail by the Immunization Champions during the third and final Learning Lab in the demonstration phase. Significant effort was made to consolidate the seven strategies into a more manageable number and to use language that would best resonate with a larger audience of ob-gyns. Ultimately, from the Champion feedback, the original seven strategies were consolidated into four final strategies. These "Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care" were then reviewed and approved by ACOG's Immunization, Infectious Disease, and Public Health Preparedness Expert Work Group.

STRATEGIES FOR EFFECTIVELY INTEGRATING IMMUNIZATIONS INTO ROUTINE OBSTETRIC-GYNECOLOGIC CARE

The following “Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care” were identified through the Increasing Adult Immunization Rates cooperative agreement and associated demonstration project described throughout this report. The experiences of the 19 ob-gyn practices that piloted the immunization implementation activities; the diversity of these practices; the detailed collection and analysis of both qualitative and quantitative data throughout the project; input from ob-gyn immunization experts; and the ultimate increases in immunization rates and decreases in missed opportunities demonstrated among the Immunization Champion practices informed the development of these Strategies.

Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care

1. Administer routinely discussed and recommended vaccines, which at a minimum include influenza, Tdap, and HPV.
2. Create a culture of immunization by educating and involving all staff in immunization processes. Delegate the responsibilities of maintaining and championing an immunization program to a team of staff, as appropriate for your practice structure.
3. Develop a standard process for assessing, recommending, administering, and documenting vaccination status of patients.
4. Utilize existing systems and resources to conduct periodic assessments of immunization rates among patients to determine if and where progress is needed.

These Strategies were demonstrated to mobilize obstetrician-gynecologists and their staff to routinely assess for, immunize, and document vaccines for their patients. ACOG encourages other ob-gyns to adopt these Strategies as appropriate for their practice setting.

Below, each of the four Strategies is followed by detailed examples of how the Strategy may be implemented and factors to consider as practices work to improve their immunization programs and increase their immunization rates. These examples will allow ob-gyn practices of varying sizes, staffing levels, and patient populations to identify options for implementation that will work for their unique set up. Each example may not be viable for all ob-gyn practices; however, most ACOG members should be able to identify at least one example from each strategy that they could feasibly pilot in their practice.



Strategy 1: Administer routinely discussed and recommended vaccines, which at a minimum include influenza, Tdap, and HPV.

Throughout the Increasing Adult Immunization Rates project, the Immunization Champions repeatedly acknowledged the importance and benefit of offering immunizations on-site. Either during the project's demonstration phase or previously while working in a different practice, several Champions had first-hand experience practicing in settings that did not offer immunizations on-site. As a result, these Champions had a unique perspective on how having immunizations available in the practice leads to increased immunization uptake, as well as simpler and less time-consuming patient counseling. And over the course of the project, all Immunization Champions acknowledged the impact of offering immunizations on-site.

Examples, suggestions, and other considerations for the implementation of this Strategy, based on the experiences and feedback of the Immunization Champions and discussions with ACOG's Immunization, Infectious Disease, and Public Health Expert Work Group, include:

- Talk with each patient directly and strongly recommend indicated immunizations. Train staff on how to deliver strong immunization recommendations, with statements that include, at a minimum, the recommendation (e.g. “As your physician, I recommend you get the flu vaccine”), a timeframe (e.g. “I want you to get the vaccine today before you leave”), and a benefit to the patient (e.g. “The vaccine is important for your health”).
- For patients that refuse an immunization, document the declination, then reintroduce the discussion and offer the immunization again at a subsequent visit.
- You may wish to research vaccine manufacturers for special pricing offers to ensure your practice obtains the best price per vaccine. Consult your legal counsel regarding discounts, as certain restrictions may apply.
- Order your influenza vaccine doses well ahead of the upcoming flu season. This is known as pre-booking, and usually begins early in the calendar year. By pre-booking, you may be able to secure a lower-price option than if you order closer to the onset of flu season.
- Develop an immunization referral system for vaccines not carried on-site. If feasible, establish a relationship with an existing pharmacy, health care provider, or clinic for referrals.
 - For example, if you have a pharmacy in your building or within short walking distance, you may be able to request that the pharmacy provide the patient the vaccine dose for your staff to administer in your office. This can be beneficial for pharmacies that are reluctant to vaccinate pregnant women; when the patient's insurance only covers the vaccine when provided in-office; and in helping you confirm receipt of the vaccine.
 - The ACOG resource [*Developing an Immunization Referral System*](#) offers additional examples of how practices can go about creating a referral system for immunizations not carried on-site.

- Assess your patient population to determine the overall need for administering less commonly recommended vaccines.
 - For example, practices that serve high percentages of older women or women with chronic health conditions may see a patient and practice benefit in offering pneumococcal and herpes zoster vaccines on-site.
- For practices that currently only offer immunizations to obstetric patients, consider expanding to gynecologic patients.
 - For example, your practice may start by offering influenza vaccines to gynecologic patients in one influenza season and/or in one outpatient clinic to determine the long-term feasibility, implications for practice management, associated costs, ability of the practice to receive adequate reimbursement, and ordering needs based on your patient population and demand. Once a successful influenza immunization program for gynecologic patients has been established, consider expanding the process to include additional immunizations (such as pneumococcal vaccine for smokers and diabetics) or implement influenza vaccination programs at additional practice locations.
 - If your practice determines it is not feasible to offer immunizations to gynecologic patients on-site, it will be essential to ensure a robust system for referral to a nearby pharmacy, health care provider, or clinic is in place.
- When deciding to offer a new vaccine or beginning a new immunization process, consider implementing on a small scale or initially through a test run.
 - For example, when adding immunizations to a practice or unit that previously did not offer immunizations on-site, start with one vaccine and test the process for a specified timeframe. Throughout the test, identify what processes are effective and where any challenges lie. Any lessons learned gathered through this process can then be applied to larger implementation efforts or the addition of other immunizations.
 - For practices newly introducing on-site vaccination, consider starting with the influenza vaccine. While refusals are often higher for influenza than other routinely recommended immunizations, influenza recommendations and patient assessment are often straight-forward, and the influenza season offers a natural timeframe for piloting implementation strategies.

Strategy 2: Create a culture of immunization by educating and involving all staff in immunization processes. Delegate the responsibilities of maintaining and championing an immunization program to a team of staff, as appropriate for your practice structure.

The Immunization Champion ob-gyns in ACOG's Improving Adult Immunization Rates project found that immunization processes improved when all providers and staff understood the importance of immunizations and promoted them to patients. The Champions who experienced the most challenges were often those with practice staff who had not bought-in to the value of immunization in ob-gyn patient care or who did not play an active role in any changes being implemented.

This project relied heavily on *individual* ob-gyn Champions, and most recommendations advise health care practices to identify a specific staff member to serve in the role of the Immunization Champion for their office. However, over the course of the project, many of the Immunization Champions came to recognize that building and maintaining an effective immunization program was better suited to a team approach.

Examples, suggestions, and other considerations for the implementation of this Strategy, based on the experiences and feedback of the Immunization Champions and discussions with ACOG's Immunization, Infectious Disease, and Public Health Expert Work Group, include:

Creating a Culture of Immunization

- Educate clinicians and staff on the importance of immunizations for patients and themselves at regular intervals.
 - You may choose to hold an in-service with a representative from your local health department; provide an internal training that incorporates both education and opportunities for role-play; make time for informal discussion during a routine meeting; circulate educational materials via email; or make other educational opportunities, such as webinars and conferences, available.

- It is important for all clinical staff to understand the health benefits of vaccinating—and the risks of not vaccinating—so they are able to effectively communicate those messages to patients.
- Educate clinicians and staff on the role non-physician staff can play in promoting immunizations to patients. Staff may not recognize the impact they can have on a patient’s immunization decision. Encourage all staff to be advocates for immunization and to encourage patients to receive their immunization.
- Develop scripts for staff to follow when promoting immunizations to patients.
 - These scripts can vary based on the type of staff (e.g., medical assistant, nurse) and the vaccine being recommended.
 - Scripts can help ensure that staff use strong recommendations when discussing vaccines. (e.g., “Would you like to get your vaccine today?” vs. “You are due for your vaccine today, and the doctor would like you to get it while you are here. It is important for your health.”)
 - Scripting may also help staff respond to patients who initially decline a vaccine or express concerns by providing a list of appropriate responses that emphasize the benefits of vaccinating.
- Utilize front desk staff to promote immunizations to patients as appropriate, such as the influenza vaccine during flu season.
 - For example, ask front desk staff to let each patient know, at check-in or while making follow-up appointments, if she is due for a flu shot. Front desk staff can also provide each patient with flu vaccine education to read while she waits.
 - For practices in which medical assistants or nurses regularly move between units or providers, have front desk staff simply ask each patient if she is interested in getting a flu shot the day of her appointment. This can be helpful both for immunization promotion and for assessing vaccine inventory needs.
 - Asking front desk staff to participate in the process underscores the message that all staff have a part to play in promoting immunization, while also conveying to patients that it is a priority for your practice.

- Display patient education materials on immunizations throughout the practice, such as posters, television highlights or infographics, flyers, brochures, and Vaccine Information Statements. Posters in particular can clearly communicate that the practice is immunization-friendly and can encourage patients to ask clinical staff about available immunizations. Place educational materials in key locations, such as in waiting areas, where patient intake is processed, and/or in exam rooms, so clinical staff can easily reference legitimate sources when discussing immunization with patients. Bathrooms can also be an effective location for placement of patient education. If feasible, include an immunization section on the practice website.

Delegating Immunization Program Duties

- Based on your practice structure, delegate immunization program management duties to an Immunization Champion team or individual.
 - In many practices, it is more feasible to divide these duties among a team of staff. An Immunization Champion team should include at least one medical assistant and/or nurse, one physician, and the practice or clinic manager to ensure all perspectives are represented. Clearly outline which staff members are responsible for each of the below program management responsibilities.
 - Immunization program management responsibilities likely include, at a minimum:
 - Ordering of new vaccine
 - Receiving vaccine deliveries
 - Monitoring and rotating vaccine stock
 - Ensuring proper vaccine storage
 - Ordering and/or printing of Vaccine Information Statements and patient education materials
 - Development of immunization scripts for clinical staff
 - Implementation of work flow improvements
 - Promoting immunizations to staff and providers
- Consider recognizing your Immunization Champion individual or team members with a name badge, shirt pin, or desk placard that acknowledges their special role and the importance of their work. Simple recognitions such as these can help secure buy-in and promote pride in their unique role.

- Identify immunization duties in line with the licensure and abilities (which will vary by state) of medical assistants and nurses.
 - Assign immunization responsibilities, including patient education, assessment, recommendation, administration or referral, and documentation, accordingly.
 - Promote buy-in of any newly added responsibilities by assuring staff that the responsibilities will bolster their skill-set, resumes, and marketability in the future.
 - Assigning immunization responsibilities to non-physician staff, when possible, can alleviate some of the time constraints on physicians and improve patient flow.
- Once identified and assigned, build immunization duties into relevant staff's performance measures, both to hold staff accountable for these responsibilities and to underscore their priority to the practice. You can also use this process to reward or recognize staff who are achieving these measures.

Strategy 3: Develop a standard process for assessing, recommending, administering, and documenting vaccination status of patients.

While several of the Champion practices in the Increasing Adult Immunization Rates project had written standing orders in place by the end of the demonstration phase, most Champions were limited by their practice structure, staffing, or approval system, and many struggled with this strategy in the context of its traditional definition. Ultimately, many of the project's practices found success by establishing their own standard yet informal procedures for delegating immunization work away from the practice physicians. The key for these practices was identifying what aspects of the existing immunization processes could become more efficient for staff and patients, could be managed by staff other than the physician, and could be implemented in a routinized way. By developing a standard immunization process specific to their practice, the Immunization Champions found that they spent less clinic time discussing immunizations with patients while simultaneously increasing their practice's immunization rates.

Examples, suggestions, and other considerations for the implementation of this Strategy, based on the experiences and feedback of the Immunization Champions and discussions with ACOG's Immunization, Infectious Disease, and Public Health Expert Work Group, include:

Standing Orders & Standing Immunization Processes

- If allowed by state law and conducive to your practice structure, consider instituting [standing orders](#) for indicated immunizations.
- In practices in which the law, practice make-up, or staff hesitancy prohibits adoption of standing orders, instead implement a standard process for assessing and documenting the vaccination status of patients and for recommending and administering vaccines in a manner that best fits your practice structure or work flow.
 - Such a standard process will be determined by your staffing structure and current process. It will ensure the same steps are followed with each patient, and accordingly will reduce the risk of missed opportunities to vaccinate while shifting immunization responsibilities away from the physician.
 - When developing a standard process, be sure to include expected steps for immunization patient education, recommendation, administration or referral, and documentation for any involved staff.
 - Medical assistants or front desk staff can provide the initial recommendation to patients.
 - Where allowed by state law, nurses and other eligible staff can assess for needed immunizations, and nurses and medical assistants can administer recommended immunizations.
 - Nurses and medical assistants can also be responsible for documentation of administration, referral, or patient declination.
 - As an example of a standard process, have an obstetrician-gynecologist, nurse midwife, nurse practitioner, or nurse in the practice review patient charts the day or morning prior to the patient visit and assess for indicated immunizations. With assessment completed ahead of the patient's arrival, vaccine administration can take place early in the office visit, before interaction with the provider and often during a natural patient wait time.

- As another example, develop a written, step-by-step process for medical assistants and nurses to follow with pregnant patients that outlines routine procedures, messages, and/or education for key weeks of gestation, to include routine maternal immunizations such as Tdap and influenza.
- Include in your standard process steps that will ensure consistent and complete documentation of vaccine administration, referral, and/or refusal.
 - Prior to implementing such a written procedure, practice staff should work together to identify what this procedure should include and where in the EHR is the correct location for immunization documentation. All personnel who may document immunization should then be trained on the process.
- Based on the needs of your practice, determine who should be responsible for immunization administration and documentation.
 - In some cases, these duties will fall to the nurse or medical assistant caring for the specific patient being immunized. In others, your practice may choose to have a dedicated staff member solely responsible for vaccination and documentation on a given day, week, etc. for all patients. The best method will depend on your current or ideal work flow, staffing levels, and patient volume.
 - Except where disallowed by law, it will likely be beneficial for most practices to delegate immunization administration and documentation responsibilities away from the provider, as well as to administer indicated vaccines prior to the patient being seen by the provider.
- Ensure you have a standard process for staff to follow when a patient refuses a recommended immunization.
 - For example, the medical assistant recommends a flu vaccine to every patient with no record of immunization in that influenza season. If a patient refuses, the medical assistant notes this in the patient chart to alert the nurse (when applicable) to the refusal. The nurse then counsels the patient. If the patient again refuses, only at this point is the provider alerted to the need to counsel the patient on the benefits of, and risks of not, vaccinating.

Reviewing Existing Processes

- Gather input from staff on what the immunization process currently looks like, what changes they believe can improve how immunizations are offered, and any barriers that currently exist or could arise from changes to the process.
 - Medical assistants and nurses are often on the front lines of immunization, and have an understanding, based on experience, of how new processes may impact the overall work flow. Ask what changes they would make to improve how immunizations are offered, administered, documented, stocked, etc.
 - When suggesting new processes, solicit feedback from staff to identify downstream effects and troubleshoot barriers. Involving staff with a stake in the process will better ensure you gain buy-in at the start and can reduce push back after implementation of changes.
- Evaluate when during the office visit patients are offered and administered an indicated immunization to determine if changes are needed.
 - Many practices currently administer immunizations at the very end of the visit, after consultation with the provider, either by the nurse or medical assistant attending to the patient, or by a dedicated immunization staff member. However, depending on your practice set-up, this may not be the most efficient or effective process.
 - By shifting immunization administration to early in the visit, such as following patient intake or during the patient's wait time for the provider, the patient's overall wait time will likely be decreased, reducing the risk of the patient leaving the office before receiving the vaccine.



Integrating Immunization Prompts and Consistent Documentation into Existing Work Flow

- For some vaccines, it may be feasible to integrate them into existing procedures and office visits.
 - For Tdap immunization in pregnancy, link vaccination to other routine or anticipated procedures.
 - For example, link Tdap vaccination to screening for gestational diabetes or, for women who are Rh negative, to Rho(D) immune globulin administration.
 - Connecting Tdap administration to these procedures will serve as a prompt for vaccination as well as encourage vaccination during the recommended timeframe of as early as possible in the 27-36-weeks-of-gestation window.
 - Consider building in additional prompts for Tdap connected to these procedures, such as wrapping Tdap educational information around the patient's glucose bottle, or including Tdap resources with glucose screening or Rho(D) immune globulin administration educational information provided to patients.
 - For influenza vaccination during pregnancy, use routine prenatal care visits to assess for and administer the vaccine. Similarly, offer influenza vaccine to all eligible patients during flu season.
- Build language into intake forms to remind medical assistants and nurses to ask patients about their immunization status or to inform patients they are due for a vaccine that day.
- Make use of electronic prompts within the EHR to remind providers and staff about due immunizations.
- If your EHR has the capability, and you have staff with the ability to take on the task, develop a customized problem list that all providers use as a check-off sheet at the beginning of each patient visit, with prompts about routine immunizations included. Problem lists are particularly useful in the care of pregnant patients, when there are many standard procedures carried out over the course of all pregnancies.



- Include paper prompts with check-in and/or check-out paperwork to remind both the patient and the clinical staff to ask about immunizations. Similarly, in practices that use paper charts, colorful stickers can be useful reminders to signal immunization assessment is needed or has been completed.
- If your EHR has the capability, utilize smart phrases, dot phrases, etc. to make documentation flow more quickly.
 - These phrases allow you to type a simplistic phrase into the EHR to quickly access a specific section of a patient's chart, such as the problem list or immunization history section.
 - Your EHR may have existing system phrases or even allow you to create your own.
- When feasible, enroll in your state's immunization information system (IIS), or immunization registry, to electronically report your immunization administration data.
 - Most EHRs have the capability to send immunization data electronically from your patient records directly to the IIS. This allows you and other providers, through the registry, to track patients' immunization status for immunizations administered elsewhere, including at pharmacies.
 - Some immunization registries allow for a two-way flow of information, or bidirectionality, that enables data from the registry to populate in your EHR. Bidirectional data exchange can offer you a more complete patient record.

Strategy 4: Utilize existing systems and resources to conduct periodic assessments of immunization rates among patients to determine if and where progress is needed.

The foundation of the data collection efforts of the Increasing Adult Immunization Rates project were the randomized chart reviews carried out in each Champion practice at baseline and at the conclusion of the demonstration phase. At the start of the project, very few of the Champion practices had previously conducted a chart review to assess their immunization rates. Yet most Immunization Champions believed that their practice did relatively well in this area. The data from the baseline chart reviews were presented during the first annual Learning Lab, and as a group, the Champions were surprised and disheartened by the low immunization rates reflected in their data. Over the course of the three-year demonstration



phase, the Champions repeatedly referenced the impact that their baseline chart review findings had in motivating and bolstering the enthusiasm for change among themselves, their colleagues, and their staff. At the conclusion of the demonstration phase, Champions were presented with their practice's final chart review data and were able to see in the numbers how their efforts impacted the immunization rates of their practice. Conducting these periodic assessments was a highly valuable exercise that not only painted a more accurate picture of immunization rates than the Champions' initially perceived, but they also highlighted the need for improvements and motivated action.

Examples, suggestions, and other considerations for the implementation of this strategy, based on the experiences and feedback of the Immunization Champions and discussions with ACOG's Immunization, Infectious Disease, and Public Health Expert Work Group, include:

- Consider who will be responsible for carrying out the immunization rates assessment. This activity may benefit from being delegated to more than one team member for different aspects of the review process.
- Conducting some form of chart review or other assessment of immunization rates can highlight the need for staff training on proper immunization documentation.
 - Without a clearly identified process for documentation, often each provider and staff member will document immunization administration, referrals, or refusals in different locations within the EHR.
 - This can have multiple negative consequences, including time wasted on locating the information during the patient visit and compromising the ability of the provider to counsel the patient appropriately. It can also negatively impact billing and resulting reimbursement.
- Periodic assessments of immunization rates can take multiple forms. You can decide what format is best suited to your practice structure, staffing, and capabilities. Some examples include:
 - A randomized chart review, in which you pull randomly selected patient charts over a determined timeframe and compare vaccine administration to eligibility. Charts can be randomized electronically through your EHR or manually by a staff member once a randomization process is identified. If feasible, you may choose to reach out to your internal IT department to assist with the randomization process.
 - When randomization is not feasible, a chart review comparing vaccine administration to eligibility over a selected timeframe (e.g. past two weeks, month, or quarter) can still give you a picture of your practice's immunization rates and highlight opportunities for improvement.
 - A review of processed immunization billing codes for a certain timeframe compared to the number of patients seen during that time.
 - A review of vaccine purchasing amounts and doses administered compared to the number of patients eligible for a certain vaccine over a selected timeframe.

- For obstetrician-gynecologists in larger organizations or affiliated with a medical system, discuss your options for immunization rates assessment with your IT department and/or your quality improvement and quality assurance departments.
- When conducting an assessment of immunization rates, consider looking initially at just one immunization or population group, such as pregnant patients or influenza administration. Similarly, you may want to pull patient charts from a limited timeframe, such as the past six months, or the length of the past flu season. This can make the process more manageable and serve as a jumping off point for identifying areas for improvement.
- Develop a plan for how you will utilize the findings of your immunization rates assessment. For example, presenting data to other providers and the staff in your practice can illuminate the need for process improvements and motivate staff to set goals and implement changes.

IDENTIFIED CHALLENGES AND OPPORTUNITIES

In addition to the successful strategies detailed in the “Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care,” ACOG gained a valuable understanding of where ongoing challenges exist and where there may be opportunities to learn from the experiences of the Immunization Champions.

Immunization Champion Recruitment & Engagement

While 19 Immunization Champions actively participated in the project, ACOG began the project with a goal of recruiting 25 practices who see both pregnant and non-pregnant women from the two identified states, Massachusetts and California. ACOG utilized a variety of recruitment methods, as detailed in the “Practice Recruitment & Selection” section above. Despite the many methods employed, recruitment of ob-gyn practices to the project was challenging and time consuming. Many practices were concerned about the time commitment involved with participation, and it was often difficult to secure applications or get practices to return direct ACOG contact. A few of the selected Immunization Champions were volunteered for participation by ACOG leaders rather than expressing interest themselves. Additionally, some Champions that were recruited left the project early in the demonstration phase, requiring ACOG staff to attempt to find ob-gyn replacements.

Once practices were recruited, considerable effort was needed by ACOG staff to maintain engagement over the course of the demonstration phase. Ob-gyns are busy providers, with time divided between routine appointments, deliveries, and surgeries, as well as with many competing clinical priorities during their time spent counseling patients. This often resulted in the project, and sometimes immunizations altogether, getting moved to the back burner. Contacting the Immunization Champions to schedule check-in calls, get updates on planned activities, provide resources, and plan events generally required multiple follow-up emails before responses were received. This was especially arduous during time-sensitive activities, such as data collection for the chart reviews and practice surveys, and planning for the annual Learning Labs. Check-in calls were often rescheduled at the last minute or missed entirely by the Champions due to conflicts or patient emergencies.

Even with ACOG's on-going efforts to maintain engagement of the Champions, two Champions left the project following recruitment and the start of their participation in activities. In one case, the Champion left the ob-gyn practice and the practice could not commit another provider to the project. Fortunately, ACOG was able to recruit a new Immunization Champion from the same state based on the recommendation of an existing Champion. In another case, the Immunization Champion was also involved in ACOG activities outside of this project, and while they believed in the value and importance of the work, they could not feasibly dedicate the time required to fulfill their responsibilities to the project. A mutual decision was made between ACOG and this Champion to end their participation. Finally, another Immunization Champion nearly left the project due to the other demands of their busy practice, but decided to continue after assurances and encouragements from the ACOG team.

ACOG's experiences highlight the many challenges associated with recruiting and maintaining on-going engagement of ob-gyns in a demonstration project. While all the ob-gyns who participated reported a commitment to promoting immunizations to their patients and believed in the value of the project, competing priorities and logistical challenges made consistent engagement difficult. Additionally, the degree of support and follow-up provided by both ACOG and partners is not sustainable or replicable to a larger audience of physicians.

Engaging Colleagues & Staff

Throughout this project, ACOG staff encouraged the Immunization Champions to engage colleagues and staff within their practice in immunization integration activities. The practices with the greatest buy-in and involvement of others often experienced the most success with implementation of new processes and increases in immunization rates. Conversely, the practices that faced ongoing challenges in gaining the support of colleagues and staff often experienced the greatest difficulty in making improvements. These Champions were commonly in practices that did not hold regular meetings or trainings, making it hard to consistently and effectively disseminate information.

As the demonstration phase of the project began to wrap-up, the Champions were asked what, if anything, they would have done differently in their efforts to increase their immunization rates during this project. In numerous cases, the Champions emphatically

communicated that if they could go back to the beginning, they would have done more at the onset to communicate to their team the importance of immunizations and the rationale for suggested changes, and then continued to do so throughout the project. Similarly, when asked what they would suggest to other ob-gyns aiming to take steps to increase their immunization rates, many Champions specifically recommended getting feedback from staff at all levels on needed changes and how new processes might impact their work or the practice as a whole. For these Champions, they felt their success was due in no small part to the buy-in and engagement of staff, from medical assistants to nurses to physicians.

Strong Recommendations

From the beginning of the project, the Immunization Champions were provided training, resources, and education on the importance of strong immunization recommendations, and what constitutes a strong recommendation. The Champions were encouraged throughout the project to share these messages with their colleagues and practice staff. By the end of the project, 84% of the Champions reported that the immunizers in their practice were delivering a strong immunization recommendation all or most of the time. However, by the end of the project, 42% of Champions also reported that the immunization message in their practice most resembled the phrase, “I see you need to get a flu shot. Would you like to get it today?” This phrasing does not provide a specific recommendation, timeframe, or benefit to the patient, which are the hallmarks of a strong recommendation. The discrepancy between the messages actually being given by the Champion practices and the perception of strong recommendations being given suggests that ongoing education, training, and reminders for both ob-gyns and practice staff are necessary for ensuring consistent delivery of strong immunization recommendations to all patients.

Standing Orders

At the start of the project, ACOG began education and promotion of immunization standing orders to all Champions. Particularly in the second project year, ACOG staff provided significant encouragement and technical assistance around the implementation of standing orders, including conducting state-specific webinars on the topic with expert speakers from the Immunization Action Coalition and the respective states. However, by the time of the second Learning Lab, few practices had implemented standing orders, and most Champions

had ongoing questions and concerns about how they could be applicable given their practice structure and staffing levels.

After consultation with experts at the Immunization Action Coalition (IAC) on how to move forward, ACOG asked questions on its second annual Champion practice survey specifically targeted to elicit information around standing orders. From the survey, ACOG identified the biggest barriers to their implementation were a lack of mid-level providers, uncertainty around the role of medical assistants in standing orders, challenges with moving standing orders through the lengthy approvals process within a hospital or medical system, and overall satisfaction with the current immunization process in place.

As a result of these identified challenges and barriers, at the end of the project's second year and well into the third, ACOG worked with Champions to think through what process changes could be implemented even in the absence of written standing orders. It was with this shift in context that several Champions were able to identify changes they could make to their work flow that improved the way they offered, administered, and documented immunizations. The examples listed in the above sections detail the successful methods some of the Champions used to adapt their existing immunization processes in a manner that was best suited to their staffing and practice structure. These examples come directly from the experiences of the Champions as they found value in streamlining their immunization process and shifting immunization work away from the providers, even when formal written standing orders could not be implemented.

Immunization Information Systems

By the end of the project's demonstration phase, more than 80% of Champion practices were enrolled in their state immunization information system (IIS) or were in the process of enrollment. (For practices with an enrollment in progress, the majority of these Champions were in practices affiliated with a large medical system that enrolled the system as a whole, with affiliated practices and individual hospital units being gradually onboarded.) While this was an achievement for the project, it masks the significant challenges experienced by the Champions and the level of technical assistance offered to them by both ACOG and the state health departments.

In both Massachusetts and California, the project Champions and their practices experienced barriers to registering for the state IIS, confirming that their data was being transmitted, and establishing bidirectional data exchange. For example, IIS registration and enrollment itself was frequently arduous for the Champions and their practices. Ob-gyns and their staff often have no previous experience with state registries; as a result, registration was often considered to be complicated, detailed, and time consuming, and required technical ability that many of the practices did not possess on their own. Champions also reported that making basic updates to their practice information in the IIS (e.g. adding new staff logins, requesting a new password, etc.) and confirming the registry's receipt of their data required considerable technical assistance and time to accomplish, depending on the practice's set-up and access to IT resources. Additionally, the California IIS updated its registry (to CAIR2) during the timeframe of the project, and was closed to new enrollees for several months. This impacted the momentum of the project and the California Champions' interest in the registry.

Over the course of the demonstration phase, four of the 19 ACOG Champions attempted to establish bidirectional data exchange, but each were unsuccessful. In one case, there were significant delays coordinating and securing multiple internal approvals within their large medical system. In the other three cases, the EHRs used by the practices were determined not to have the compatibility to support bidirectional data exchange. The inability to establish bidirectional data exchange was frustrating for these Champions, as bidirectionality was generally considered to be the most marketable benefit of the IIS to the practice itself.

Due largely to the barriers detailed here, while enrollment in the IIS increased over the course of the project, there was a decrease in Champions' perception of its usefulness. For example, from baseline to Year 3, there was a 67% decline in practice Champions who described the benefit to their practice of enrollment in the IIS as "a lot." Similarly, at the end of the project, 32% of Champions described the benefit of enrollment in the IIS as "I don't know", and 21% described the benefit as "little to none." The decrease in perceived benefit, and the significant portion who saw little or unknown benefit of the IIS at the conclusion of the project's demonstration phase, speaks to the many challenges the Champions experienced with the process of enrolling and establishing data transmission. It also underscores the difficulty with demonstrating the benefit of the IIS when bidirectional data exchange has not been established.

Referrals for Immunizations Not Offered On-Site

One strategy that was emphasized by ACOG staff throughout the project's demonstration phase was the importance of establishing a referral system for immunizations not carried on-site. ACOG encouraged all Champions to identify or establish relationships with local pharmacies or clinics which they could refer patients to for needed immunizations. ACOG also focused on the importance of the practice documenting in the EHR if a patient received a recommended immunization elsewhere. These strategies were promoted during annual Learning Labs and site-visits, as well as on quarterly Champion check-in calls. Moreover, during the project's second year, ACOG facilitated a conference call between the Immunization Champions, ACOG staff, members and staff of the National Association of Chain Drug Stores (NACDS), and staff at the American Pharmacists Association (APhA). The discussions on this call focused on methods for referring patients to pharmacies, and gave the Champions opportunities to ask questions directly of experts.

However, despite these efforts, by the end of the demonstration phase only 41% of practices reported having a standard approach for referring women to outside pharmacies or primary care sites for immunizations the practice does not stock, and only 11% reported having a mechanism in place for knowing if a patient received an immunization she was referred out for. To explain their lack of a standard referral process, the Champions cited the difficulties associated with developing a list of referral locations; requiring all immunizers in the practice staff to be familiar with such a list; establishing a process and having staff available for patient follow-up; and ensuring patients were even being assessed for non-routine immunizations such as hepatitis B, pneumococcal, and herpes zoster.

To help address some of these ongoing challenges both with the Champions and with ACOG members as a whole, ACOG immunization staff collaborated with NACDS and APhA on the development of a [tip sheet](#) that highlights steps practices should consider implementing to build a robust referral system. Considering the many barriers, development of immunization referral systems will likely be an on-going challenge for ob-gyns, and additional resources will likely be needed to support practices as they work to improve these processes.

Reimbursement

Receipt of reimbursement for immunizations at a level that is adequate to offset the costs of ordering and administering vaccines to patients was an ongoing challenge for many Immunization Champions. This was especially the case in regard to the Tdap and HPV vaccines, which were reported to consistently have low reimbursement rates from insurers. One Champion practice even suspended giving Tdap and HPV immunizations to patients over the course of the project due to the combination of the high cost of the vaccine, insufficient reimbursement, and a move to a new office with less space. However, three Champion practices, through research of different vendors and special pricing offers, were able to secure a low enough purchase price on their Tdap vaccine that they either began newly offering Tdap, started offering again after a previous suspension of their Tdap ordering, or shifted from losing revenue to gaining a profit per administration. (One of these Champions also pursued and was successful in securing a lower purchase price for the HPV vaccine.) While this project was unable to address immunization reimbursement specifically, the work of the Champions to identify strategies for reducing the vaccine purchase price was significant and has implications for other health care provider practices. Ob-gyns should consult their legal counsel regarding discounts and other special pricing offers, as certain restrictions may apply.

Patient Immunization Screening Form

In 2016, ACOG began development of a Patient Immunization Screening Form (PISF) for ob-gyns, based off a [CDC patient intake form](#). The form was designed to help ob-gyn practices assess for recommended immunizations based on key indicators such as age, health conditions, living and working conditions, pregnancy status, etc. By asking patients to complete the form at the beginning of an office visit, ACOG aimed to help providers more quickly assess for indicated immunizations.

The first iteration of the PISF was reviewed by the Immunization Champions and then piloted in a number of their practices. Feedback from these pilot sessions was gathered during the second annual Learning Lab of the project. As a whole, the Champions believed the form should be simplified so that it was less arduous and overwhelming for the patient to complete. (The Champions also felt that a format that could be integrated into the electronic health

record (EHR) would be best for most ob-gyn practices.) Based off the Champion feedback, ACOG redesigned the PISF into a separate patient-completed intake form and provider reference supplement. This new version was again reviewed by the Champions, and was considered to be more helpful to the providers and easier to complete by patients. However, ACOG's Immunization, Infectious Disease, and Public Health Preparedness Expert Work Group subsequently reviewed the form and offered recommendations for significant changes. Their suggestions included making pregnancy and non-pregnancy versions of the form, as well as adding the reference information directly back onto the form rather than having a separate patient intake form and provider supplement.

Due to the back-and-forth nature of the comments from the Champions and Expert Work Group members, including feedback that often contradicted each other, ACOG decided to suspend work on the Patient Immunization Screening Form for the time being. Next steps in development of the PISF will be revisited at a later date, out of the confines of this project. However, ACOG aims to pursue new formats for the form in future iterations. During the review processes, both Champions and the Expert Work Group members expressed a preference for a screening tool that could be integrated into the electronic health record (EHR). The ACOG Immunization team plans to work with its internal Health Information Technology department to discuss options for an immunization screening tool that has EHR capability.

Overall Project Success

Despite the many challenges noted above, ACOG considers the Increasing Adult Immunization Rates project to be a success. While working with the Immunization Champions did require extensive amounts of time, coaching, and technical assistance, the Champions were passionate in their support of immunizations for their patients and interested in making improvements to their practices. Through a commitment to their patients and to the project itself, and with the support of ACOG staff, the Champions were able implement considerable changes to their immunization processes. And each of the barriers identified through this report also represent opportunities for future improvements that can ultimately increase immunization rates.

CONCLUSION

ACOG's *Increasing Adult Immunization Rates through Obstetrician-Gynecologist Partnerships* project utilized a three-year demonstration phase to identify and pilot a range of immunization integration strategies among 19 ob-gyn Immunization Champions. From the experiences of these Champions and the data collected throughout the project, ACOG has identified key "Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care" that can assist other ob-gyns as they work to increase their immunization rates and improve their immunization processes. The fourth and final year of the project will focus on dissemination of these Strategies and the overall findings from the project to ACOG members and partner organizations.

ACOG members are encouraged to consider adapting these Strategies, and the outlined examples and considerations for implementation, to their practice settings as appropriate. Ob-gyns serve a unique role as providers of both specialty care and women's primary health care; accordingly, integration of these Strategies into routine ob-gyn practice has the potential to improve the practice work flow, increase immunization rates, and enhance the patient experience.

Additional Resources

For additional resources to assist in implementation of the Strategies outlined in this report, please visit <https://www.acog.org/More-Info/ImmunizationsinPractice>.

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