Vaccines for Adults Program Webinar: 
Best Practices to Increase Adult 
Immunization Rates

July 31, 2019

Sarah Wright, MA, Senior Program Manager 
American College of Obstetricians and Gynecologists (ACOG)

Bart Smoot, MD, Assistant Medical Director 
Family Health Centers of San Diego
Agenda

• Vaccine ordering and administration data

• Program reminders and updates

• **Sarah Wright**, American College of Obstetricians and Gynecologists (ACOG):
  Partnerships with OB/GYNs to develop effective strategies for integrating immunizations into routine practice

• **Dr. Bart Smoot**, Family Health Centers of San Diego:
  Improving adult vaccine assessment through integration of EHR-based decision aids
VFA vaccines doses ordered, reported quarterly, CA, 2017-2019
VFA Doses Ordered by Vaccine Type, Q2-Q3 2019
Reminder

• Currently, HPV is recommended through 26 years of age for females and through 21 years of age for males.*

• Follow published ACIP recommendations for HPV and PCV13.

*Men who have sex with men; transgender persons; and men with certain immunocompromising conditions (including HIV infection) may receive vaccine through 26 years of age.
Program Reminders and Updates

• Next ordering cycle: Late Sept/early Oct 2019
• Next webinar: November 2019
• **VFA Poster** mailed 7/19
• **VFA Program Participation Requirements At-a-Glance** now available online
• Missed a VFA communication? Visit the [VFA webpage](#) for archived communications and more

**NOTE:** **ALL VFA PROVIDERS WILL BE REQUIRED TO HAVE AN ACCOUNT WITH CA IMMUNIZATION REGISTRY OR LOCAL IMMUNIZATION REGISTRY BEGINNING IN 2020**
Sarah Wright, MA

American College of Obstetricians and Gynecologists (ACOG):

Partnerships with OB/GYNs to develop effective strategies for integrating immunizations into routine practice
Increasing Adult Immunization Rates through Obstetrician-Gynecologist Partnerships

ACOG Adult Immunization Cooperative Agreement

Sarah Wright, MA, Senior Program Manager
American College of Obstetricians and Gynecologists (ACOG)
Immunization, Infectious Disease, and Public Health Preparedness Department
Acknowledgements

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Project Background

- 4-year cooperative agreement funded by CDC
  - 3-year demonstration phase working directly with ob-gyns
  - 1-year dissemination phase to share findings from the demo phase
- Aimed at increasing rates of 5 adult immunizations in pregnant and non-pregnant populations
- Worked closely with 19 diverse ob-gyn practices in two states (Massachusetts and California)
  - On-going collaboration with state health departments for resources and technical support
  - Focused on implementation & adaptation of the National Vaccine Advisory Committee’s (NVAC) Standards for Adult Immunization Practice
Targeted Strategies

- Standing orders
- Strong recommendations
- Consistent documentation
- IIS enrollment
- Immunization referral
- Prompting
- Engaging practice staff
- Patient & health care provider education and use of resources
# Project Findings: Immunization Rates

## Increasing Adult Immunization Rates Project Cohort: Comparisons of Immunization Rates by Immunization and Project Year

<table>
<thead>
<tr>
<th></th>
<th>Immunization Rates at Baseline</th>
<th>Immunization Rates at Year 3</th>
<th>Immunization Rates Percent Change Over Course of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tdap</td>
<td>24%</td>
<td>63%</td>
<td>163%</td>
</tr>
<tr>
<td>Influenza</td>
<td>21%</td>
<td>35%</td>
<td>66%</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>55%</td>
<td>72%</td>
<td>31%</td>
</tr>
<tr>
<td>Herpes Zoster</td>
<td>10%</td>
<td>33%</td>
<td>233%</td>
</tr>
<tr>
<td>Pneumococcal</td>
<td>30%</td>
<td>33%</td>
<td>11%</td>
</tr>
</tbody>
</table>
## Project Findings: Missed Opportunities

### Increasing Adult Immunization Rates Project Cohort:
Comparisons of Missed Opportunity Rates by Immunization and Project Year

<table>
<thead>
<tr>
<th></th>
<th>Missed Opportunities at Baseline</th>
<th>Missed Opportunities at Year 3</th>
<th>Missed Opportunities Percent Change Over Course of Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tdap</td>
<td>76%</td>
<td>37%</td>
<td>-51%</td>
</tr>
<tr>
<td>Influenza</td>
<td>79%</td>
<td>65%</td>
<td>-17%</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>45%</td>
<td>28%</td>
<td>-38%</td>
</tr>
<tr>
<td>Herpes Zoster</td>
<td>90%</td>
<td>67%</td>
<td>-26%</td>
</tr>
<tr>
<td>Pneumococcal</td>
<td>70%</td>
<td>67%</td>
<td>-4%</td>
</tr>
</tbody>
</table>

**Missed opportunity** = eligible for a vaccine but no record of contraindication, receipt, or refusal of the vaccine
Identifying Effective Strategies

• Through careful tracking of the project data and activities pilot-tested, ACOG identified the immunization improvement strategies that were:
  ‣ Successfully implemented by the Champions
  ‣ Capable of driving change at the practice level
  ‣ Easy to implement in all practice settings
  ‣ Sustainable over time
  ‣ Applicable to the wider ACOG membership
<table>
<thead>
<tr>
<th>Strategies for Effectively Integrating Immunizations into Routine Obstetric-Gynecologic Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Administer routinely discussed and recommended vaccines, which at a minimum include influenza, Tdap, and HPV.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>3. Develop a standard process for assessing, recommending, administering, and documenting vaccination status of patients.</td>
</tr>
<tr>
<td>4. Utilize existing systems and resources to conduct periodic assessments of immunization rates among patients to determine if and where progress is needed.</td>
</tr>
</tbody>
</table>
Administer routinely discussed and recommended vaccines, which at a minimum include influenza, Tdap, and HPV.

- **Talk to each patient directly.** Make a strong recommendation, which includes:
  - The recommendation: “As your physician, I recommend you get the flu vaccine.”
  - A timeframe: “I want you to get the vaccine today before you leave.”
  - A benefit to the patient: “The vaccine is important for your health.”
- **Train staff** on how to deliver strong immunization recommendations
- **Document declinations** and reintroduce discussion at subsequent visits
- **Order vaccine early**—pre-booking flu vaccine helps secure lower pricing
- **Develop a referral system**—if feasible, establish a relationship with an existing pharmacy, health care provider, or clinic for referrals
- **Expand immunization** offerings methodically
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.

- **Educate clinicians and staff on importance of immunizations** for patients & themselves (at regular intervals)
- Educate clinicians and staff on **role non-physician staff can play**
- **Develop scripts** for staff to follow when promoting immunizations
- **Utilize front desk staff** to promote immunizations as appropriate
- **Display patient education materials**
- **Delegate immunization program** duties to an Immunization Champion team or individual
Develop a standard process for assessing, recommending, administering, and documenting vaccination status of patients.

• Consider implementing immunization standing orders for vaccines carried on-site
• When standing orders are not feasible, develop a standard immunization process
• Consider shifting administration of immunizations to early in the patient visit
• Make use of electronic prompts within the EHR
• Build immunization reminder language into intake, check-in, and check-out forms
• When feasible, enroll in your state’s immunization information system (IIS)
Utilize existing systems and resources to conduct periodic assessments of immunization rates among patients to determine if and where progress is needed.

• Periodic assessments can highlight if and where improvements are needed
• Examples include:
  ‣ Chart reviews
  ‣ Comparisons of immunization billing codes to number of patients seen over a certain timeframe
  ‣ Comparisons of vaccine purchasing and doses administered to the number of vaccine eligible patients over a certain timeframe
• When assessing immunization rates, consider starting with just one population group or immunization over a specific timeframe
• Develop a plan for how you will use the findings of your immunization rates assessment
Adult Immunization Project Resources

- Increasing Adult Immunization Rates through Obstetrician-Gynecologist Partnerships **project report**
- Strategies for Integrating Immunizations into Routine Obstetric-Gynecologic Practice **tip sheet**
- Developing an Immunization Referral System **tip sheet**
- Seasonal Influenza Vaccination Programs: Tips for Optimizing Practice Management **tip sheet**
- Optimizing Immunization Programs in Obstetric-Gynecologic Practices **tool kit**
Other ACOG Immunization Resources

ImmunizationforWomen.org and ACOG.org/immunization websites

- Clinical guidance
- ACOG app with Immunization applet
- Toolkits & FAQs
- Coding and reimbursement resources
- Practice management resources
- Vaccine safety resources
Contact the ACOG Immunization Department

Immunization@acog.org

www.ImmunizationforWomen.org
www.acog.org/immunization
Questions?
Dr. Bart Smoot

Family Health Centers of San Diego:

Improving adult vaccine assessment through integration of EHR-based decision aids
Our approach to Immunizations in Adults

Close coupling of EHR based solutions
Goals of talk today

• Discuss ways in which your EHR might work better towards meeting your patient’s vaccine needs
• Show data in which VFA programs improve completion of needed vaccines in vulnerable adults
• Discuss ways to engage your support staff in helping providers to complete needed vaccines
Disclosures

I have nothing to disclose!
Background

- Family Health Centers is a Federally Qualified Health Center in the San Diego area
  - 37 different sites (includes dental, behavioral health, other support services)
  - 130,000 unique patients annually
  - 600,000+ unique visits annually
  - 150+ providers
  - 2000+ employees
  - FM (and now Scripps IM) residency program
Background

• Organizational size is large enough to take advantage of some economies of scale
  o Long record of in-house solutions to problems
    • Fully functioning IT department to develop software solutions
    • In house solutions for almost all software (scheduling, billing, inventory, EHR, etc)
  o Close and constructive collaboration between administration and physicians
  o Flexibility to change course when a particular route is not working or has become obsolete

• Focus is on patient quality
  o But we have to be aware of our payers’ expectations
  o Payer mix is about 15% totally uninsured, another 15% mostly uninsured, rest mostly Medicaid (MediCal or payers), 10% or so exchange, another 15% or so Medicare.
  o HRSA is a major grantor of funds for FQHC’s
Background

• Our EHR is ‘home grown’
  o Provider Champions were critical in acceptance of the system as well as key to a more user-friendly system
  o Backbone of our system allows for easily extensible changes in the character of our system without IT involvement
    • Much if not most of the design changes in our system are done by non-IT people
      o Order Sets – collaboration between specialists and primary care, and maintained by our small provider team
      o Message Pools - allow for extensibility in messaging as practice models in our clinics change
      o Problem searches are provider designed and maintained
        • Conversion to ICD10 was seamless for the majority of our providers
  o Decision aids are based on a platform that allows them to be easily modified and added to
  o Documents have auto-fill of relevant fields making PAs, morbidity reports and similar documents quicker and easier to fill out
  o Trends allow for real-time problem based review of patient care
  o Interact provides computer generated dialogs to allow MA’s and other support staff to execute ‘top of scope’ interventions in focused patient improvement
Vaccine needs are fully integrated into our EHR

- Currently utilizes the county registry (San Diego Immunization Registry) which is part of California Immunization Registry (CAIR)
- System wide solutions that address many metrics at once using a common pathway can result in overall improvements on many fronts
- Involving providers and making use of their expertise, being responsive, having a flexible means to change the behavior of the system have helped us
- Interdisciplinary teams to address specific improvements have also been very important
- Having the EHR help our providers has been key
  - Order sets (there are almost 600 in our system) also serve as reminders to not forget things associated with specific problems and include specific immunizations for specific problems
  - Decision aids in lieu of pop-up reminders prevents ‘reminder fatigue’
  - The logic behind decision aids can be exploited for tailored interventions from support staff
## Immunization Registry View

<table>
<thead>
<tr>
<th>Immunization</th>
<th>Immu. Date</th>
<th>Dose</th>
<th>Comment</th>
<th>Source</th>
<th>Status</th>
<th>Modifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>INFLUENZA (TIV-INJECTABLE) - Influenza</td>
<td>2012-10-09 [Age: 69 Yrs]</td>
<td>8</td>
<td>INFLUENZA (TIV-INJECTABLE)</td>
<td>Nursing</td>
<td>Current</td>
<td>FIGUERDA, LAURA</td>
</tr>
<tr>
<td>INFLUENZA (TIV-INJECTABLE) - Influenza</td>
<td>2013-11-08 [Age: 71 Yrs]</td>
<td>9</td>
<td>INFLUENZA (TIV-INJECTABLE)</td>
<td>Nursing</td>
<td>Current</td>
<td>BRAVO, CHRISTINA</td>
</tr>
<tr>
<td>INFLUENZA QDV - Influenza</td>
<td>2014-11-25 [Age: 72 Yrs]</td>
<td>10</td>
<td>INFLUENZA QDV</td>
<td>Nursing</td>
<td>Current</td>
<td>CABRERA, DARLINE</td>
</tr>
<tr>
<td>INFLUENZA (TIV-INJECTABLE) - Influenza</td>
<td>2015-10-02 [Age: 72 Yrs]</td>
<td>11</td>
<td>INFLUENZA (TIV-INJECTABLE)</td>
<td>Nursing</td>
<td>Current</td>
<td>RIVERA, MARCI</td>
</tr>
</tbody>
</table>

**GroupNames:**
- PneumoPCV
  - PCV 13 - PneumoPCV
    - 2019-07-11 [Age: 76 Yrs] | 1 | Due | SMOOT, CHARLES |

- PneumoPPV
  - PPV 23 - PneumoPPV
    - 2013-02-12 [Age: 70 Yrs] | 1 | PPV 23 | Nursing | Current | BRAVO, CHRISTINA |

- Td
  - TD - Td
    - 2019-07-11 [Age: 76 Yrs] | 3 | Due | SMOOT, CHARLES |
  - TD - Td
    - 2005-12-01 [Age: 63 Yrs] | 1 | TD | SDIR | Current | BATCH, |
  - TDAP - Td
    - 2015-01-01 [Age: 72 Yrs] | 2 | done outside clinic | EHR | Current | ESCOBEDO, CHRISTIAN |

**GroupNames:**
- Zoster - SHINGRIX
  - SHINGRIX (ZOSTER) - Zoster - SHINGRIX
    - 2019-07-11 [Age: 76 Yrs] | 1 | Due | SMOOT, CHARLES |
EHR design: Order Sets

- Built by providers for providers
- Are changing every week!
- Almost 600 of these in our system now
- Once the basic concept is taught to providers then additions or changes can occur without the need to communicate every single change
EHR support

- Diabetes order set (includes specific Imms for that issue)
EHR Support: Decision Aids

- Age, gender, problem specific
- Designed by providers for providers
- Context-sensitive emphasis
  - Bold are highest priority
  - Will not show an aid where context is not appropriate (e.g. Mental Health appointment will not show that a diabetic foot exam is overdue)
- Easy ‘organization wide’ interventions shown to place patient on pathway to getting problem satisfied
- Allows for easier teaching of system. “One stop shop” to satisfy health metrics
- As things change, less teaching is needed – once basic system is understood then easier to follow what interventions to use
- Over 130 of these now exist in our system. We’re building more every week!
  - E.g. new 2019 California law to rx Narcan to certain vulnerable populations
EHR Support – Decision Aids

- Simple and intuitive – show only what needs attention
- Do not ‘pop-up’ such that they cause provider fatigue (and thereby get ignored)
Decision Aids are age and problem specific for adults

<table>
<thead>
<tr>
<th>Adult Imms: MCV4</th>
<th>OVERDUE</th>
<th>HIV+ will need booster after 8 weeks Active Problem: 042</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Imms: Hep B</td>
<td>OVERDUE</td>
<td>Hep B not immune. Booster or immunization series is due Last Draw Date: 06/21/2019 Test: Hepatitis C Virus (HCV) Antibody (AB) (GW-AR) Result: 0</td>
</tr>
<tr>
<td>Adult Imms: PCV13</td>
<td>OVERDUE</td>
<td>PCV13 is indicated (age over 65 yo). If PPSV23 is also due, give PCV13 this visit and wait at least 12 months to give PPSV23</td>
</tr>
<tr>
<td>Adult Imms: PPSV23</td>
<td>OVERDUE</td>
<td>Patient has an immune compromising condition for which a PPSV23 is due Active Problem: 042</td>
</tr>
</tbody>
</table>

Auto-recalculates to 2 months for PCV13 once given for HIV+
## Decision Aids

<table>
<thead>
<tr>
<th>Title</th>
<th>Outcome</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult/Teen Chlamydia Screen and Treat</td>
<td>EXCLUDE</td>
<td>No chlamydia screening on file in last 5 years</td>
</tr>
<tr>
<td>Adult/Teen Gonorrhea Screen and Treat</td>
<td>EXCLUDE</td>
<td>No gonorrhea test on file in last 3 years</td>
</tr>
<tr>
<td>Adults: Aflib Anticoagulation using CHADS2 score</td>
<td>SATISFIED</td>
<td>Patient is taking warfarin [Active Medication]</td>
</tr>
<tr>
<td>Adults: Colon Cancer Screening</td>
<td>SATISFIED</td>
<td>Abnormal Colonoscopy. Next colonoscopy is Comment: Polyp removed. 3 year f/u Exp on: 05/01/2017</td>
</tr>
<tr>
<td>Adults: Hypertension (&lt;140/90)</td>
<td>NOT MET</td>
<td>BP is over 140/90</td>
</tr>
<tr>
<td>Adults: Routine Vision Screening</td>
<td>SATISFIED</td>
<td>Completed Appt: 02/12/2016</td>
</tr>
<tr>
<td>Adults imms: Hep A</td>
<td>EXCLUDE</td>
<td>Patient shows Immunity to Hepatitis A. Unnecessary Last Draw Date: 12/17/2014</td>
</tr>
<tr>
<td>Adults imms: Hep B</td>
<td>EXCLUDE</td>
<td>Not indicated due to lab evidence of immunity (or core Ab positive at provider discretion)</td>
</tr>
<tr>
<td>Adults imms: PCV13</td>
<td>SATISFIED</td>
<td>PCV13 received [Last Imm on 04/28/2016]</td>
</tr>
<tr>
<td>Adults imms: PPSV23</td>
<td>SATISFIED</td>
<td>PVX within last 5 years [Last Imm on 01/10/2014]</td>
</tr>
<tr>
<td>Adults imms: Td or Tdap every 10 years</td>
<td>SATISFIED</td>
<td>Tdap in last 10 years [Last Imm on 10/24/2014]</td>
</tr>
<tr>
<td>Adults imms: Zoster</td>
<td>EXCLUDE</td>
<td>Contraindicated (live vaccine) Comment: Live vaccine contraindicated</td>
</tr>
<tr>
<td>Adults/Adolescent Depression Screening</td>
<td>SATISFIED</td>
<td>Recent PHQ2 screening - negative Last PHQ 2 on 02/18/2016 - Score = 0</td>
</tr>
<tr>
<td>Adults: ASCVD Aspirin Prescribing Calculator</td>
<td>EXCLUDE</td>
<td>Patient taking warfarin. The decision to prescribe aspirin as well needs to be individualized. ASCVD risk 19.62% [Active Medication]</td>
</tr>
</tbody>
</table>
Decision Aids are working! (Tdap completion in 18+ yo)
PCV13 completion (over 18 yo all indications)
Hep A (18 yo+ where indicated)

Measure expanded during Hepatitis A outbreak beyond ACIP guidelines
Zoster and Shingrix (over 50 yo with exclusions)

Estimated Score with credit for partials Archive by PKDate

Switch over to Shingrix. Expanded ages, revaccine some populations

Ongoing vaccine shortage
Data Analysis

- Extensive capabilities now
- Hosted on ‘cloud’ servers for system-wide review
- Provide automated composite analysis of our patient populations
- Allow for easy ‘dive down’ information that allow our individual clinics to quickly find patients needing interventions
Impact of VFA (PCV13 in VFA clinic)
Vs PCV13 in non-VFA clinic

Estimated Score with credit for partials Archive by PKDate:

% 70%
60%
50%
40%
30%
20%
10%
0%
2015 2016 2017 2018 2019

- 12.50%
- 10.00%
- 25.00%
- 20.00%
- 14.29%
- 16.44%
- 2.42%
- 13.89%
- 4.59%
- 53.67%

VFA Webinar for CDPH
8/2/2019

- 21
MA’s and support staff at top of scope

- Allows us to work more efficiently to address a myriad of healthcare issues systematically
- Empowers MA’s to provide healthcare interventions before the patient is seen by the provider
Our records show that you are due for a tetanus shot. Do you think you've had this shot already in the last 10 years?

OK. Would you like this shot today? If you lack insurance, the cost is approximately $35. With insurance, there is generally no charge.

Our records show that you are due for a pneumonia shot (PCV13). Can we offer this shot today?

OK. I will prepare the necessary paperwork and get you this shot today.

For nurse: is patient going to receive the PCV13 immunization today? (note that unless you have already discussed this above and ordered the PCV13 then the answer is no)
MA/Nurse Top of Scope – Interact

• Most vaccines are actually initiated by our MA’s for both Pediatrics and Adults!
• Key barrier is additional rooming time, and labor (more MA’s to get through scripts)
• Standing orders happen during MA/nursing visits, particularly for kids (better access) but also adults for some indications (flu shots for instance)
• Nursing gets weekly reports to monitor ordered vaccines not given to ensure good supplies
• Other clinics run queries on their patients behind in their vaccines to come in for vaccines
Interact results of interest are then presented to provider.

• Show results from screening (alcohol, DV, depression, specialty screens)
• Show results from scripts where patient is declining something you might want to address
• Show other results of ‘interest’ – health goals, recent ER visits, recent travel, etc.
Impressions

• The EHR has empowered providers to ask for additional decision aids and has empowered administration to ask for additional Interact scripts
  o Our methods have provided a means for us to provide a relatively quick way to effect a positive change in health outcomes
  o MA’s/nurses also feel they are a more critical part of the healthcare team
• Administration is feeling empowered to change Interact scripts to try to improve outcomes
• Still, we see a leveling off that occurs. While interventions get us part of the way there, they are not getting us to 100%
  o Not all providers pay attention to decision aids
  o Not all Interact scripts are run 100% of the time
  o And obviously not all patients follow-through on what gets ordered!
• Remains to be seen: how do we engage everyone all the time? (patients, providers, health care staff)
Summary

- Our organization made significant improvements across a wide range of metrics using systematic approaches with customizations.
Thank-you!

Questions?
Discussion Questions

• What best practices shared today are you interested in implementing in your practice? What will it take to implement?

• Does your clinic have standing orders or a standard immunization process in place for assessing, recommending, administering, and documenting vaccination status of patients? If not, how would you develop one at your practice? Who would need to be at the table?
Discussion Questions

• Does your clinic utilize **EHR order sets** and **decision aids** for adult immunizations?

If not, what would it take to implement? Consider meeting with providers, staff, IT, EHR rep and other relevant staff to discuss the feasibility of implementing. Are there small steps that your clinic can take?
Questions?

my317vaccines@cdph.ca.gov

VFA Resources webpage