An Overview of Adult Immunizations for OB/GYN Providers

ACOG Webinar
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Amy Parker Fiebelkorn, MSN, MPH
Immunization Services Division
Centers for Disease Control and Prevention
Continuing Education

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**Windows**
- Processor: 850MHz or faster processor (or above)
- Memory: 512MB of RAM (or above)
- Screen Resolution: 1024 x 768 (or above)
- Microsoft Internet Explorer 5.5 (or higher) or Mozilla Firefox 1.5
- Adobe Flash Player 8 (or higher)
- Adobe Acrobat 6 (or higher)

**Macintosh**
- Processor: G3 500MHz or faster processor (or above)
- Operating System: OS 10.3 (or above)
- Memory: 512MB of RAM (or above)
- Screen Resolution: 1024 x 768 (or above)
- Mozilla Firefox 1.5 or Safari 1.2.2 browser supported for Mac OS X 10.3 or higher
- Adobe Flash Player 8 (or higher)
- Adobe Acrobat 6 (or higher)
Course Faculty

Amy Parker Fiebelkorn, MSN, MPH
CAPT (sel), U.S. Public Health Service
Pandemic Influenza Vaccine Response Program Deputy
Immunization Services Division
Centers for Disease Control and Prevention
National Center for Immunization and Respiratory Diseases
Objectives

Upon completion of the presentation, participants will be able to:

▪ Identify vaccines recommended for routine use in their adult patients
▪ Effectively describe and communicate the burden of vaccine preventable disease in adult patients
▪ Incorporate immunizations into routine ob-gyn practice
▪ Identify, locate, and provide patient resources to address adult immunizations with patients
Vaccine-preventable diseases disproportionately affect adults
Background

- Vaccine preventable diseases cause substantial morbidity and mortality among adults.
- Vaccinations have decreased the burden of illness in adults.
- The vaccine effectiveness varies by vaccine type, the disease outcome being measured, and the age or health of the person vaccinated.
Liver infection caused by Hepatitis B virus (HBV).

~3,218 cases of acute Hepatitis B were reported in US in 2016 (but after adjusting for under-reporting, an estimated 20,900 acute hepatitis B cases occurred).

~95% of new HBV infections occur among adults.

Persons with diabetes are at twice risk of Hepatitis B.

Reported Acute Hepatitis B Incidence by Age Group, United States, 2000-2015

Source: National Notifiable Diseases Surveillance System (NNDSS)
Impact of **Hepatitis B** Vaccination

- 90-100% of subjects receiving HEPLISAV-B (2 doses), a new Hepatitis B vaccine with a novel adjuvant, demonstrate seroprotection vs. 71%-90% of subjects in comparison group (3 doses)
  
  - Type 2 diabetes mellitus: 90% (HEPLISAV-B, 2 doses) vs. 65% (comparator, 3 doses)
  
  - Chronic kidney disease: 90% (HEPLISAV-B, 3 doses) vs. 82% (comparator, 4 double doses)

Proportion of subjects with anti-HBs≥ 10 mIU/mL following HEPLISAV-B or comparison vaccine
Healthy adults aged 40-70 years; n= 1101-1123 (Heplisav-B); 353-359 (comparator)

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Burden of Disease among U.S. Adults – Herpes Zoster (Shingles)

- Shingles is caused by the varicella zoster (chickenpox) virus. After recovering from chickenpox, the virus stays dormant in the body and can reactivate years later, causing shingles.

- About 1 million cases of shingles annually in U.S.
  - 10-11/1000 per year in persons ≥60 yrs
  - Lifetime risk: 32%

- Thoracic, cervical, and ophthalmic involvement are most common

- Approximately 10-25% with complication of eye (herpes zoster ophthalmicus)

Impact of Vaccination – Herpes Zoster

- **Zoster vaccine live (ZVL)**
  - 51% against shingles
  - 66% against post-herpetic neuralgia (PHN)
  - Among vaccinated adults ≥60y, efficacy wanes within 5y and protection >5y uncertain

- **NEW Recombinant Zoster (RZV) subunit vaccine**—PREFERRED over ZVL
  - 96% (95% CI 93,98) efficacy among 50-, 60-, 70-year olds
  - Subsequent 90% (95% CI 84,94) effectiveness among ≥70y
  - Immunogenicity persisted through 9y post-vaccination

“I watched my sister suffer with shingles, that’s why I made sure we both got vaccinated.”

Vaccine Efficacy Against Herpes Zoster for ZVL and RZV, by Year following Vaccination

Note: The Shingles Prevention Study, Short-term Persistence Study, and Long-term Persistence Study followed the same study population over time.
Burden of Disease among U.S. Adults – Human Papilloma Virus (HPV)

- ~14 million people become infected with HPV each year\(^1\).
- The symptoms resolve without intervention in 9 of 10 people within two years.
- HPV infections can last longer and can cause certain cancers.
- HPV causes 30,700 cancers in men and women annually.

Impact of Vaccination – HPV


NOTE: Error bars indicate 95% confidence interval.

Burden of Disease among U.S. Adults – Influenza

- Influenza disease burden varies year to year
  - Millions of cases and average of 226,000 hospitalizations annually with >75% among adults\(^1\)
  - 3,000-49,000 deaths annually, >90% among adults\(^2\)
- Direct medical costs in U.S.: \(~$10.4\) billion\(^3\)
- Add in loss of work and life: \(~$87\) billion

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Influenza Severity in Pregnant Women

- During seasonal influenza, ~19.5-33.5% of lab-confirmed influenza hospitalizations among women 15-45 years are pregnant

- During 2009 H1N1 pandemic, 6.3% of all influenza-related hospitalizations, 5.9% of ICU admissions, and 5.7% of deaths were among pregnant women

  - In contrast, only 1% of US population pregnant at a given time

- Risk of influenza-related hospitalization increases with trimester (5-fold difference from 1st to 3rd trimester)

Impact of Vaccination - **Influenza**

- Effectiveness varies based on antigenic match and age and health of person being vaccinated
  - ~60–70% effective in younger adults when good match
  - ~30% in adults ≥65 years against medically attended influenza when good match\(^1\)
  - Reduces antibiotic use, medical visits, loss of work days

- 2017-18 interim VE estimate for US flu season: 36% (95% CI = 27%- 44%) against medically-attended laboratory-confirmed influenza\(^2\)

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2. [https://www.cdc.gov/mmwr/volumes/67/wr/mm6706a1.htm?s_cid=mm6706a1_e](https://www.cdc.gov/mmwr/volumes/67/wr/mm6706a1.htm?s_cid=mm6706a1_e)
Impact of Influenza Vaccination—Illnesses and Hospitalizations Prevented, 2011–2016

Cases and Hospitalizations Averted by Vaccination

- Over 70,000 hospitalizations prevented
- Over 5 million cases prevented

www.cdc.gov/flu/about/disease/2015-16.htm
Influenza Vaccine Effectiveness for Persons with Chronic Conditions

- High risk medical conditions\(^1\)
  - 78% reduction in deaths attributable to any cause
  - 87% reduction in hospitalization attributable to acute respiratory or cardiovascular disease
- Diabetes\(^2\)
  - 56% reduction in any complication, 54% reduction in hospitalizations, 58% reduction in deaths
- Chronic obstructive lung disease\(^3\)–\(^4\)
  - Reduced COPD exacerbation

Burden of Disease Among U.S. – *Streptococcus pneumoniae*

- Can cause pneumonia, ear infections, sinus infections, and invasive pneumococcal disease (IPD), including meningitis and bacteremia

- Adults at increased risk for pneumococcal disease include:
  - Adults aged $\geq 65$ years
  - Certain adults aged 19–64 years
    - With chronic illnesses (chronic heart, liver, kidney, or lung [including chronic obstructive lung disease, emphysema, and asthma] disease; diabetes; or alcoholism)
    - With conditions that weaken the immune system (HIV/AIDS, cancer, or damaged/absent spleen)
    - With cochlear implants or cerebrospinal fluid leaks
    - Who smoke cigarettes

- 24 cases IPD per 100,000 in 2016 among adults $\geq 65$ years
- 8 cases IPD per 100,000 in 2016 among all adults aged 19-64 years

Impact of Vaccination – Pneumococcal Vaccines

- PCV13 (pneumococcal conjugate vaccine) among adults aged ≥65 years:
  - 45% effective against vaccine-type pneumococcal pneumonia
  - 75% effective against vaccine-type invasive pneumococcal disease (IPD)

- PPSV23 (pneumococcal polysaccharide):
  - 74% (CI: 55-86%) effective in meta-analysis against IPD
  - Not effective against non-IPD pneumonia

Tetanus and diphtheria are rare in U.S.

Pertussis: 15,808 provisional cases reported in 2017* (3,429 cases among adults)

- Burden in older adults unknown:
  - Under-recognized cause of cough illness
  - Atypical clinical presentation in adults
  - Low suspicion by providers

- Maternal Tdap vaccination (during pregnancy) has a high level of effectiveness of 88% in preventing pertussis in infants before their first dose of DTaP

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Impact of Vaccination – Td/ Tdap

- Tdap is ~70% effective against pertussis in the first year after vaccination.
- Effectiveness decreases each year: 4 years post-vaccination, effectiveness is 30-40%.
- Vaccinated persons who are infected with pertussis are less likely to have a serious infection.

https://www.cdc.gov/pertussis/about/faqs.html
Updates to the Adult Immunization Schedule
Figure 1. Recommended immunization schedule for adults aged 19 years or older by age group, United States, 2018

This figure should be reviewed with the accompanying footnotes. This figure and the footnotes describe indications for which vaccines, if not previously administered, should be administered unless noted otherwise.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–21 years</th>
<th>22–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza¹</td>
<td>1 dose annually</td>
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<tr>
<td>Tdap² or Td²</td>
<td>1 dose Tdap, then Td booster every 10 yrs</td>
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<tr>
<td>MMR³</td>
<td>1 or 2 doses depending on indication (if born in 1957 or later)</td>
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<tr>
<td>VAR⁴</td>
<td>2 doses</td>
<td></td>
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<tr>
<td>RZV⁷ (preferred) or ZVL⁵</td>
<td></td>
<td>2 doses RZV (preferred)</td>
<td></td>
<td></td>
<td>1 dose ZVL</td>
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<tr>
<td>HPV–Female⁶</td>
<td>2 or 3 doses depending on age at series initiation</td>
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<tr>
<td>HPV–Male⁸</td>
<td>2 or 3 doses depending on age at series initiation</td>
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<tr>
<td>PCV13⁷</td>
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<td></td>
<td>1 dose</td>
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<tr>
<td>PPSV23⁹</td>
<td>1 or 2 doses depending on indication</td>
<td></td>
<td></td>
<td></td>
<td>1 dose</td>
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<tr>
<td>HepA⁴</td>
<td>2 or 3 doses depending on vaccine</td>
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<tr>
<td>HepB⁵</td>
<td>3 doses</td>
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<tr>
<td>MenACWY¹⁰</td>
<td>1 or 2 doses depending on indication, then booster every 5 yrs if risk remains</td>
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<td></td>
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<tr>
<td>MenB¹⁸</td>
<td>2 or 3 doses depending on vaccine</td>
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<tr>
<td>Hib¹¹</td>
<td>1 or 3 doses depending on indication</td>
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</tbody>
</table>

Legend:
- Yellow: Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection
- Purple: Recommended for adults with other indications
- Blank: No recommendation
### Figure 2. Recommended immunization schedule for adults aged 19 years or older by medical condition and other indications, United States, 2018

This figure should be reviewed with the accompanying footnotes. This figure and the footnotes describe indications for which vaccines, if not previously administered, should be administered unless noted otherwise.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Pregnancy</th>
<th>Immuno-compromised (excluding HIV infection)&lt;sup&gt;2,3,5,11&lt;/sup&gt;</th>
<th>HIV Infection CD4+ count (cells/μL)&lt;sup&gt;11,14,15&lt;/sup&gt;</th>
<th>≥200</th>
<th>&lt;200</th>
<th>Asplenia, complement deficiencies&lt;sup&gt;9,15&lt;/sup&gt;</th>
<th>End-stage renal disease, on hemodialysis&lt;sup&gt;8,15&lt;/sup&gt;</th>
<th>Heart or lung disease, alcoholism&lt;sup&gt;12&lt;/sup&gt;</th>
<th>Chronic liver disease&lt;sup&gt;2&lt;/sup&gt;</th>
<th>Diabetes&lt;sup&gt;12&lt;/sup&gt;</th>
<th>Health care personnel&lt;sup&gt;4,15&lt;/sup&gt;</th>
<th>Men who have sex with men&lt;sup&gt;15&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza&lt;sup&gt;14&lt;/sup&gt;</td>
<td>1 dose annually</td>
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<tr>
<td>Tdap&lt;sup&gt;1&lt;/sup&gt; or Td&lt;sup&gt;1&lt;/sup&gt;</td>
<td>1 dose Tdap each pregnancy</td>
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<tr>
<td>MMR&lt;sup&gt;2&lt;/sup&gt;</td>
<td>contraindicated</td>
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<tr>
<td>VAR&lt;sup&gt;5&lt;/sup&gt;</td>
<td>contraindicated</td>
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<tr>
<td>RZV&lt;sup&gt;11&lt;/sup&gt; (preferred)</td>
<td>2 doses RZV at age ≥50 yrs (preferred)</td>
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<tr>
<td>ZVL&lt;sup&gt;11&lt;/sup&gt;</td>
<td>contraindicated</td>
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<tr>
<td>HPV-Female&lt;sup&gt;1&lt;/sup&gt;</td>
<td>3 doses through age 26 yrs</td>
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<tr>
<td>HPV-Male&lt;sup&gt;6&lt;/sup&gt;</td>
<td>3 doses through age 26 yrs</td>
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<tr>
<td>PCV13&lt;sup&gt;7&lt;/sup&gt;</td>
<td>1 dose</td>
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<tr>
<td>PPSV23&lt;sup&gt;3&lt;/sup&gt;</td>
<td>1, 2, or 3 doses depending on indication</td>
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<tr>
<td>HepA&lt;sup&gt;8&lt;/sup&gt;</td>
<td>2 or 3 doses depending on vaccine</td>
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<tr>
<td>HepB&lt;sup&gt;9&lt;/sup&gt;</td>
<td>3 doses</td>
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<tr>
<td>MenACWY&lt;sup&gt;8,11&lt;/sup&gt;</td>
<td>1 or 2 doses depending on indication, then booster every 5 yrs if risk remains</td>
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<tr>
<td>MenB&lt;sup&gt;8,11&lt;/sup&gt;</td>
<td>2 or 3 doses depending on vaccine</td>
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<tr>
<td>Hib&lt;sup&gt;11&lt;/sup&gt;</td>
<td>3 doses HSCT recipients only</td>
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</tbody>
</table>

- **Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection**
- **Recommended for adults with other indications**
- **Contraindicated**
- **No recommendation**
Adult Immunization Updates – New Hepatitis B Vaccine with a Novel Adjuvant for Adults

- FDA licensed (Nov 9, 2017) and approved by ACIP in Feb 2018
- Single antigen HepB (Heplisav-B) for all HBV subtypes for ≥18y
- 5th inactivated HepB in U.S. (Engerix-B, Recombivax HB, Pediarix, Twinrix)
- Contains yeast-derived recombinant HBsAg with Cytosine-phosphate-Guanine (CpG) adjuvant
- **2 doses** 1 month apart
- No preferential recommendation for use of HepB-CpG over HepB-alum
- HepB-CpG may be used in 3-dose HepB-alum series
  - 3 doses of HepB are needed unless 2 doses of HepB-CpG are administered 1 month apart
- Safety and reactogenicity profiles are similar
  - Mild: 45.6% (Heplisav-B) vs. 45.7% (Engerix-B)
  - Serious: 5.4% (Heplisav-B) vs. 6.3% (Engerix-B)

# Adult Immunization Updates – Herpes Zoster Vaccination

<table>
<thead>
<tr>
<th></th>
<th><strong>Recombinant zoster vaccine (RZV)</strong> - PREFERRED</th>
<th><strong>Zoster Vaccine Live (ZVL)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Storage</strong></td>
<td>Refrigerator</td>
<td>Freezer</td>
</tr>
<tr>
<td><strong>Vaccine type</strong></td>
<td>Adjuvanted recombinant protein subunit vaccine (non-live)</td>
<td>Live</td>
</tr>
<tr>
<td><strong>Route of administration</strong></td>
<td>Intramuscular</td>
<td>Subcutaneous</td>
</tr>
<tr>
<td><strong>Dose interval</strong></td>
<td>2 doses (2–6 mos apart to adults ≥50y regardless of past herpes zoster or receipt of ZVL)</td>
<td>1 dose</td>
</tr>
<tr>
<td><strong>Age of patient recommended</strong></td>
<td>≥50 years, immunocompetent</td>
<td>≥60 years old, immunocompetent</td>
</tr>
<tr>
<td><strong>Side effects</strong></td>
<td>1 in 6 people experience grade 3 side effects</td>
<td>No more than 0.9% reported grade 3 side effects</td>
</tr>
</tbody>
</table>

Adult Immunization Updates – HPV Vaccination Recommendations

- Adult females through age 26 and adult males through age 21 (and males 22–26 who may receive vaccination) who initiated HPV vaccination series before age 15 and:

  - **Received 2 doses at least 5 months apart** are considered adequately vaccinated and **do not need** additional dose of HPV vaccine

  - **Received only 1 dose, or 2 doses less than 5 months apart**, are not considered adequately vaccinated and **should receive 1 additional dose** of HPV vaccine
Adult Immunization Updates – Influenza Vaccination Recommendations

- Annual influenza vaccination recommended for persons ≥6 mos
  - Options for adults include high-dose IIV for ≥65y, adjuvanted IIV for ≥65y, intradermal IIV for 18–64y, cell culture-based IIV for ≥18y, RIV for ≥18y, or LAIV for adults ≤49y

- The updated ACIP recommendation for 2018–2019 season – Reinstitute use of LAIV²
  - Contains new H1N1 strain (A/Slovenia)

Influenza Vaccination Recommendation Updates (cont.)

- “Providers should offer vaccination by the end of October, if possible” (previously “by October”)

- Changes to egg allergy recommendations
  - If hives-only, use any licensed age-appropriate influenza vaccine
  - If other than hives, may use any age-appropriate vaccine in medical setting
Pregnant women should receive 1 dose of Tdap during each pregnancy, preferably during the early part of gestational weeks 27–36, regardless of prior history of receiving Tdap.

https://www.cdc.gov/vaccines/pregnancy/hcp-toolkit/index.html
Improving Use of the Adult Immunization Schedule

- HCP want to see immunization recommendations from their professional organizations
  - ACOG developed the Maternal Immunization Committee Opinion 741,¹ a summary of maternal immunization recommendations

- Many HCP treating adults are not using the adult immunization schedule
  - Prompts for age-based recommendations built into EHRs
  - No prompts built in for risk-based recommendations

Adult immunization coverage rates are persistently low.
Proportion of Adults Aged ≥19 Years Who Received Selected Vaccines, by Age Group and Increased Risk Status — National Health Interview Survey, United States, 2010–2015

- Tetanus-toxoid (Td or Tdap) - age ≥19 yrs
- Hepatitis A - age ≥19 yrs
- Pneumococcal - age 19-64 yrs, increased risk
- Influenza - age ≥19 yrs
- HPV females - 19-26 yrs
- Pneumococcal - age ≥65 yrs
- Tdap - age ≥65 yrs
- Herpes zoster - age ≥60 yrs
Influenza Vaccination Coverage Among Pregnant Women, 2010-11 through 2016-17 Influenza Seasons

* Beginning in the 2012-13 season, women vaccinated since July 1 were counted as vaccinated; in prior seasons, only women vaccinated since August 1 were counted as vaccinated.
† 2016-17 estimate is preliminary.
### Vaccination Coverage Among Older Adults, by Race/Ethnicity, 2015

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Influenza Adults ≥65 years 2014–2015</th>
<th>Pneumonia Adults ≥65 years 2015</th>
<th>Tdap Adults ≥65 years 2015</th>
<th>Zoster Adults ≥60 years 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>75.1%</td>
<td>68.1%</td>
<td>18.2%</td>
<td>34.6%</td>
</tr>
<tr>
<td>Black</td>
<td>64.3%</td>
<td>50.2%</td>
<td>9.7%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>64.1%</td>
<td>41.7%</td>
<td>9.1%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Asian</td>
<td>83.5%</td>
<td>49.0%</td>
<td>13.8%</td>
<td>26.0%</td>
</tr>
<tr>
<td>Overall</td>
<td>73.5%</td>
<td>63.6%</td>
<td>16.5%</td>
<td>30.6%</td>
</tr>
</tbody>
</table>

Health Insurance Status and Vaccination Coverage

- 87% reported some type of health insurance
- Vaccination coverage 2–5x higher with health insurance for influenza, Tdap, zoster, and HPV vaccinations
- Among insured persons with ≥10 physician contacts in past 12 months, 24–89% were missing recommended vaccines
  - 65% adults with diabetes missing hepatitis B vaccination
  - 61% adults 19–64y at high risk missing pneumococcal vaccine
What can be done: Implementing the Standards for Adult Immunization Practice
Components of Successful Vaccination Programs

- Use combination of approaches
- Strategies shown to improve coverage:
  - Use of standing orders
  - Use of reminder-recall systems
  - Efforts to remove administrative barriers
  - Provider and practice assessment of vaccination and feedback
  - Use of immunization registries
  - Education of both providers and public (component)

www.thecommunityguide.org/vaccines/index.html
### Meta-Analysis of Interventions to Increase Adult Vaccine Uptake

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Odds Ratio*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational change (e.g., standing orders, separate clinics devoted to prevention)</td>
<td>16.0</td>
</tr>
<tr>
<td>Provider reminder</td>
<td>3.8</td>
</tr>
<tr>
<td>Patient financial incentive</td>
<td>3.4</td>
</tr>
<tr>
<td>Provider education</td>
<td>3.2</td>
</tr>
<tr>
<td>Patient reminder</td>
<td>2.5</td>
</tr>
<tr>
<td>Patient education</td>
<td>1.3</td>
</tr>
</tbody>
</table>

*Compared with usual care or control group, adjusted for all remaining interventions

Standards for Adult Immunization Practice

- In 1990, the National Coalition for Adult Immunization developed the Standards for Adult Immunization Practice (the “Standards”), outlining basic strategies to improve vaccine delivery to adults.

- Updated in 2014 by the National Vaccine Advisory Committee
  - More vaccinators and vaccination locations (e.g., pharmacies, workplaces, OB-GYN practices)
  - Increased use of electronic health records and immunization registries (and social media)
  - Changes in healthcare system (e.g., Affordable Care Act)
Standards for Adult Immunization Practice

The Standards were revised to emphasize the responsibility of all HCP who treat adults to:

▪ Conduct routine **assessments** of a patient’s vaccination needs during every clinical encounter

▪ Strongly **recommend** vaccines that patients need

▪ **Administer** needed vaccines or **refer** patients for vaccination

▪ **Document** administered vaccinations in IIS (state vaccine registries)
Reported Implementation of Standards Components among HCPs, by Provider Specialty, United States, 2016 (N=1,918)

- **Assessed**
- **Recommended**
- **Administered**
- **Referred**
- **Used IIS**

**Internal Medicine**
- Assessed: 97%
- Recommended: 98%
- Administered: 69%
- Referred: 47%
- Used IIS: 47%

**Family Medicine**
- Assessed: 95%
- Recommended: 97%
- Administered: 75%
- Referred: 47%
- Used IIS: 47%

**OB/GYN**
- Assessed: 84%
- Recommended: 95%
- Administered: 87%
- Referred: 39%
- Used IIS: 39%

**Non-OB/GYN Specialties**
- Assessed: 85%
- Recommended: 85%
- Administered: 55%
- Referred: 22%
- Used IIS: 22%

**Pharmacy**
- Assessed: 86%
- Recommended: 91%
- Administered: 68%
- Referred: 64%
- Used IIS: 42%

[Link to CDC report](https://www2.cdc.gov/vaccines/ed/pickup/ciinc/2017/CIINC_4_26_2017.pdf)
Reported Implementation of Standards Components, Patients’ Perspective, Internet Panel Survey, 2016, United States

Tools for implementing the Standards for Adult Immunization Practice
Resources For Assessment


▪ Patient on-line quiz – direct patients to complete the quiz before coming to their appointment – gives them and you a starting point for talking about which vaccines they might need. http://www2.cdc.gov/nip/adultimmsched/.

▪ CDC adult vaccine schedule app at: http://www.cdc.gov/vaccines/schedules/hcp/schedule-app.html.
Examples of Assessment Tools

Patient vaccine needs-assessment form from Immunization Action Coalition at immunize.org.

Consider:
Health,
Age,
Lifestyle and
Occupation/Other Factors

H-A-L-O
RECOMMENDATION
Medscape Module

- Case Presentations/Videos showing how to make strong vaccine recommendations

ADMINISTRATION OR REFERRAL
Vaccine Administration Resources

- CDC General Immunization Training
  www.cdc.gov/vaccines/ed/courses.htm

- Immunization Skills Self-Assessment
  www.immunize.org/catg.d/p7010.pdf

- Storage and Handling
  www.cdc.gov/vaccines/recs/storage

- Dose and Route Chart
  www.immunize.org/catg.d/p3084.pdf

- Vaccine Information Statements (VIS)
  www.cdc.gov/vaccines/hcp/vis

- Guide to Infection Prevention for Outpatient Care

- Chart of Medical Management of Vaccine Reactions in Patients
  www.immunize.org/catg.d/p3082.pdf
Vaccine Referral Options

- Pharmacies
- **Health Departments** [www.vaccines.gov/getting/where/](www.vaccines.gov/getting/where/)
  Check your state to see if they provide routine vaccinations or can help you identify other local vaccine providers.
- **Travel Clinics** [wwwnc.cdc.gov/travel/page/find-clinic](wwwnc.cdc.gov/travel/page/find-clinic)
- **HealthMap Vaccine Finder** [vaccine.healthmap.org](vaccine.healthmap.org)
  Free online service where users can search by zip code for providers who offer vaccines.

Remind patients to check with their insurance plans regarding which providers their insurance covers for vaccination services.
Vaccine Finder

- Providers and patients can find vaccine providers in their area at http://vaccine.healthmap.org
Immunization Information Systems (IIS)

- Consolidate vaccination records for patients
- Help assess patients’ immunization status
- Ensure patients have completed necessary vaccine series
- Reduce chances for unnecessary doses of vaccine or missed opportunities to provide vaccines
- Facilitate use of reminder and recall notifications to send to patients
- Make calculation of immunization coverage rates easier
Percentage of Adults Aged ≥19 Years Participating in an Immunization Information System -- United States, Five Cities§, and D.C., 2015

National Participation: 39% (excluding Territories)
Source: CY2015 IISAR

§ Chicago, IL; Houston, TX; New York City, NY; Philadelphia, PA; San Antonio, TX.
*Awardees are federally funded immunization programs
Percentage of U.S. Adults 19+ years with 1+ Adult Immunizations in IIS, CDC IIS Annual Report

What can be done: Next Steps
Next Steps

- Improve providers’ ability to see their own vaccination performance data
- Increase use of IIS and IIS/EMR interoperability
- Develop new (and utilize existing) quality measures as motivator for systems change
- Address billing and reimbursement issues
- Address state level policies in some states that result in barriers for some providers, especially pharmacies
ACOG Resources

- ACOG app – Immunization applet
- Immunization for Women website
- Patient & Provider Resources:
  - Clinical Guidance & Recommendations
  - FAQs
  - Safety
  - Coding and Reimbursement
  - Practice Management and Tip Sheets
Contact Information

ACOG
Debra Hawks, MPH dhawks@acog.org
Sarah Carroll, MPH scarroll@acog.org
Sarah Wright, MA swright@acog.org
Lindsey Regallis lregallis@acog.org

CDC
Amy Parker Fiebelkorn, MSN, MPH dez8@cdc.gov
The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.