Vaccinating Adults with Chronic Conditions: Recommendations and Lessons Learned

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Today’s Presenters

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Adult Immunization Schedule 2020: Focus on Adults with Chronic Medical Conditions

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Disclosure

- Presenter has no conflict of interest
- Discussions on unlicensed products and off-label uses are in the context of ACIP considerations
- The use of trade names is for identification purposes only and does not imply endorsement
- Disclaimer – The opinions expressed in this presentation are solely those of the presenter and do not necessarily represent official positions of CDC
Objectives

- Provide an overview of adult vaccination coverage
- Review adult vaccine schedule focused on adults with chronic conditions
- Review guidance related to immunizations during the COVID pandemic
- Provide resources for healthcare professionals

*Information on other vaccine-preventable diseases not covered during this presentation can be found at https://www.cdc.gov/vaccines/acip/*
Adult Vaccination Coverage in the United States
Trends in Adult Vaccination Coverage – NHIS, 2010-2017

- Influenza - age ≥19 yrs
- Pneumococcal - age 19-64 yrs, increased risk
- Pneumococcal - age ≥65 yrs
- Tetanus toxoid (Td or Tdap) - age ≥19 yrs
- Influenza - age ≥65 yrs
- Tdap - age 19-64 yrs
- Tdap - age ≥65 yrs
- Hepatitis A - age ≥19 yrs
- Hepatitis B - age ≥19 yrs
- Herpes zoster - age ≥60 yrs
- HPV females - 19-26 yrs
- HPV males - 19-26 yrs

## Vaccination Decision-Making: General

<table>
<thead>
<tr>
<th>Which of the following best describes you?</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am not aware that I need any vaccines as an adult besides the flu vaccine.</td>
<td>31%</td>
</tr>
<tr>
<td>I am aware that I need a vaccine as an adult besides the flu vaccine, but haven’t thought about getting it.</td>
<td>11%</td>
</tr>
<tr>
<td>I am considering getting vaccinated against a disease other than the flu but have not yet decided.</td>
<td>6%</td>
</tr>
<tr>
<td>I have decided to get vaccinated against a disease other than the flu, but have not yet gotten vaccinated.</td>
<td>4%</td>
</tr>
<tr>
<td>I have decided not to get vaccinated against a disease other than the flu.</td>
<td>7%</td>
</tr>
<tr>
<td>I have gotten vaccinated against a disease other than flu as an adult.</td>
<td>13%</td>
</tr>
<tr>
<td>I make sure I am up-to-date with recommended vaccinations.</td>
<td>30%</td>
</tr>
</tbody>
</table>

*All percentages are weighted.

## Decision-Making by Vaccine Type

### 2015

<table>
<thead>
<tr>
<th>Vaccine Type</th>
<th>Tdap (19+)</th>
<th>Pneumo (65+)</th>
<th>Zoster (60+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am not aware that I need this vaccine.</td>
<td>53%</td>
<td>22%</td>
<td>19%</td>
</tr>
<tr>
<td>I am aware that I need this vaccine, but haven’t thought about getting it.</td>
<td>5%</td>
<td>3%</td>
<td>8%</td>
</tr>
<tr>
<td>I am considering getting this vaccine, but have not yet decided.</td>
<td>5%</td>
<td>4%</td>
<td>11%</td>
</tr>
<tr>
<td>I have decided to get this vaccine, but have not yet gotten vaccinated.</td>
<td>2%</td>
<td>4%</td>
<td>8%</td>
</tr>
<tr>
<td>I have decided not to get this vaccine.</td>
<td>14%</td>
<td>11%</td>
<td>18%</td>
</tr>
<tr>
<td>I have gotten this vaccine.</td>
<td>21%</td>
<td>56%</td>
<td>36%</td>
</tr>
</tbody>
</table>

*All percentages are weighted.*

A Strong Recommendation Makes a Difference

Adults believe vaccines are important and are likely to get them if recommended by their healthcare provider.
In the past year, has this vaccine been recommended to you by a medical professional?

*All percentages are weighted.
Bottom Line:
Adults are not getting the vaccines they need.
Flu vaccine and chronic diseases

- High risk medical conditions\(^1\)
  - 78% ↓ deaths attributable to any cause, 87% ↓ hospitalization to acute respiratory or cardiovascular disease
- Diabetes\(^2\)
  - 56% ↓ complications, 54% ↓ hospitalizations, 58% ↓ deaths
- Chronic obstructive lung disease\(^3,4\)
  - 76% vaccine effectiveness against influenza-related respiratory illness
  - Reduced COPD exacerbation
- Heart Disease\(^5,6\)
  - Vaccine effectiveness (29%–36%) comparable to statins (36%), anti-hypertensives (15–18%), smoking cessation (26%) against major cardiac events

Burden of pneumococcal disease

- >30,000 cases, >3000 deaths reported per year
- 89% cases, almost all deaths occur among adults
- Adults at increased risk for pneumococcal disease
  - Age ≥65y
  - Age 19–64y with following
    - Immunocompromised (HIV, cancer, asplenia) – at highest risk
    - Asplenia
    - Cochlear implants, cerebrospinal fluid leak
    - Chronic illnesses (heart, liver, kidney, lung disease; diabetes)
    - Alcoholism
    - Cigarette smoking

Adult Immunization Schedule
Table 1

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza inactivated (IV) or</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza live, attenuated (LAIV)</td>
<td></td>
<td>1 dose annually</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Tdap or Td)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(MMR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella (VVA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoster recombinant (IHZV) (preferred)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoster live (ZVL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal conjugate (PCV13)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pneumococcal polysaccharide (PPSV23)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A (HepA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B (HepB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal A, C, W, Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(MenACWY)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal B (MenB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neisseria meningitidis type B (Hib)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Recommended vaccination for adults who meet signs of risk in Table 1 and lack documentation of vaccination, or lack evidence of protective antibody. See notes for booster recommendations if indicated.
### Structural Changes to Table 1

#### Table 1: Recommended Adult Immunization Schedule by Age Group, United States, 2020

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>19–26 years</th>
<th>27–49 years</th>
<th>50–64 years</th>
<th>≥65 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza inactivated (IV) or influenza recombinant (IVR)</td>
<td></td>
<td></td>
<td>1 dose annually</td>
<td></td>
</tr>
<tr>
<td>Influenza live, attenuated (LAV)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, diphtheria, pertussis (Td/tP or TdP)</td>
<td></td>
<td>1 dose TdP, then Td or TdP booster every 10 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measles, mumps, rubella (MMR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Varicella (VAK)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herpes zoster recombinant (HZV) (preferred)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herpes zoster live (HZL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human papillomavirus (HPV)</td>
<td></td>
<td></td>
<td>2 or 3 doses depending on age at initial vaccination or condition</td>
<td></td>
</tr>
<tr>
<td>Pneumococcal conjugate (PCV13)</td>
<td></td>
<td></td>
<td></td>
<td>27 through 45 years</td>
</tr>
<tr>
<td>Pneumococcal polysaccharide (PPSV23)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A (HepA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B (HepB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal A, C, W, Y (MenACWY)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal B (MenB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haemophilus influenzae type b (Hib)</td>
<td>1 dose</td>
<td></td>
<td></td>
<td>65 years and older</td>
</tr>
</tbody>
</table>

*Recommended vaccination for adults who meet signs and symptoms of potential illness. Includes documentation of vaccination, or lack of evidence of palpable lymph nodes. 2020 update: New recommendations for meningococcal B disease vaccination.*
Shared Clinical Decision-making

Frequently Asked Questions

These frequently asked questions (FAQs) are intended to provide clarity on the Advisory Committee on Immunization Practices’ (ACIP) shared clinical decision-making recommendations and guidance and implementation considerations for these recommendations.

Q: What are ACIP’s current shared clinical decision-making recommendations that appear on the immunization schedules?

A: ACIP has three recommendations for vaccination based on shared clinical decision-making that appear on the immunization schedules. These recommendations are indicated in blue on the immunization schedules.

- Meningococcal B (MenB) vaccination for adolescents and young adults aged 16–23 years
- Human papillomavirus (HPV) vaccination for adults aged 27–45 years
- Pneumococcal conjugate vaccination (PCV13) for adults aged 65 years and older who do not have an immunocompromising condition, cerebrospinal fluid leak, or cochlear implant

Q: How do shared clinical decision-making recommendations differ from routine, catch-up, and risk-based immunization recommendations?

A: Unlike routine, catch-up, and risk-based recommendations, shared clinical decision-making vaccinations are not recommended for everyone in a particular age group or everyone in an identifiable risk group. Rather, shared clinical
Vaccination during the COVID pandemic
Provider Resources for Adult Vaccination
Resources

- State and local health department immunization programs
  https://www.colorado.gov/pacific/cdphe/categories/services-and-information/health/prevention-and-wellness/immunization

- Centers for Disease Control and Prevention
  www.cdc.gov/vaccines/

- Advisory Committee on Immunization Practices
  www.cdc.gov/vaccines/acip/

- Office of Infectious Disease and HIV/AIDS Policy National Vaccine Program
  https://www.hhs.gov/vaccines/index.html

- Immunization Action Coalition
  www.immunize.org/

- National Adult and Influenza Immunization Summit
  www.izsummitpartners.org/
Adult Patient Education Resources

- **Patient Education Portal:** [www.cdc.gov/vaccines/AdultPatientEd](http://www.cdc.gov/vaccines/AdultPatientEd)
  - Posters and Flyers
  - Educational factsheets and easy to read schedule
  - Matte articles and web features
  - Radio PSAs
  - Web buttons and banners

- **Vaccine Quiz:** [www.cdc.gov/vaccines/adultquiz](http://www.cdc.gov/vaccines/adultquiz)

- **Website:** [www.cdc.gov/vaccines/adults](http://www.cdc.gov/vaccines/adults)
Adult Vaccine Schedule App

Download “CDC Vaccine Schedules” free for iOS and Android devices.

Product Specs

Version: 6.0.1

Requirements: Requires iOS 9.0 or later and Android 8.0 or later; optimized for tablets and useful on smartphones.

Updates: Changes in the app are released through app updates.

Download app free for iOS

Download app free for Android

www.cdc.gov/vaccines/schedules/hcp/schedule-app.html
The Adult Vaccine Assessment Tool

Vaccines are recommended for adults based on age, health conditions, job, and other factors. No personal information will be retained by CDC. *This vaccine assessment tool applies to adults 19 years or older.

**Instructions:**

1. Answer the questions below.
2. Get a list of vaccines you may need based on your answers. (This list may include vaccines you’ve already had).
3. Discuss the list with your doctor or health care professional.

**Questions:**

1. Are you
   - Male

[www2.cdc.gov/nip/adultimmsched/](http://www2.cdc.gov/nip/adultimmsched/)
Making a Strong Vaccine Recommendation: #HowIRecommend Videos

www.cdc.gov/vaccines/howirecommend/adult-vacc-videos.html
Medscape Module: How to Give a Strong Recommendation to Adult Patients Who Require Vaccination

- Case Presentations/Videos
- Older Adult
  - Zoster
  - PCV13
- Adult with Diabetes
  - Hep B
  - Influenza
- Pregnant Woman
  - Tdap
  - Influenza

Fact Sheets: Vaccines and Chronic Diseases

https://www.cdc.gov/vaccines/adults/resources.html
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.

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Vaccinating Adults with Chronic Conditions: Recommendations and Lessons Learned

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BANNER UNIVERSITY MEDICAL CENTER – PHOENIX
Disclosures

- I participate on the ACIP Influenza and Child/Adolescent Schedule workgroups.
- I participate with the American Academy of Family Physicians Commission on Health of the Public and Science.
- I do not receive any financial compensation for these activities.
Case

M is a 59 year old with insulin dependent diabetes, heart failure with preserved ejection fraction, and fatty liver disease who presents for routine chronic disease follow up. He has not had any recent wellness examination. He does not know when he last had any vaccines. He says, “Maybe in the 90s?”

Needs Vaccines:
Influenza, Tdap or Td, MMR, RZV, PPSV23, Hepatitis A, Hepatitis B
## Challenges

<table>
<thead>
<tr>
<th>PATIENTS</th>
<th>CLINICIANS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor access</td>
<td>Limited time for preventive care</td>
</tr>
<tr>
<td>Health literacy</td>
<td>Cost and Storage</td>
</tr>
<tr>
<td>Vaccine misconceptions and attitude</td>
<td>Reimbursement</td>
</tr>
<tr>
<td>Difficulty navigating the healthcare system</td>
<td>Knowledge and attitude</td>
</tr>
<tr>
<td>Cost</td>
<td>EHR</td>
</tr>
<tr>
<td>Lack of clear, strong recommendations from clinicians</td>
<td>Unaware of vaccine status</td>
</tr>
<tr>
<td>Needle fear</td>
<td>Competing priorities</td>
</tr>
</tbody>
</table>
Disparities

With few exceptions, Black, Hispanic, and Asian adults have lower vaccination rates than White adults for routinely recommended vaccines.

Vaccine coverage is lower for those without health insurance.

Vaccine coverage is lower for those with public health insurance vs private health insurance.

Vaccine coverage is lower for rural individuals.

Vaccine coverage is lower for individuals living below the poverty line.
Disparities: Pneumococcal Vaccine in Diabetes

Disparities: HepB Vaccine in Diabetes

Strategies
Strong Recommendations

- Every visit, every time
- Give strong, favorable recommendation
- Every team member participates
- Use presumptive approach
- Be persistent
- Address concerns
Case

You give M a strong recommendation for vaccines. But M hesitates...
Address Hesitancy

- **Play It Cool:**
  - Don’t anticipate push back or disagreements
  - Seek to understand their concerns before pressing your point
  - Be aware of and recognize misinformation in the community
  - Address specific safety concerns
  - Provide accurate education and resources: Educate on disease risks and vaccine safety

- **Don’t Shut the Door:**
  - Readdress over time
  - Avoid dismissing patients for not vaccinating
  - Invite questions and discussion
## Shared decision making

<table>
<thead>
<tr>
<th>FRAMEWORK</th>
<th>BEST PRACTICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify options, including risks, benefits, and cost</td>
<td>Be nonjudgmental</td>
</tr>
<tr>
<td>Check for understanding</td>
<td>Listen actively</td>
</tr>
<tr>
<td>Elicit the patient’s perspective</td>
<td>Focus on the patient</td>
</tr>
<tr>
<td>Understand the psychosocial context</td>
<td>Empathize</td>
</tr>
<tr>
<td>– “It seems like...”</td>
<td>Summarize</td>
</tr>
<tr>
<td>Identify patient’s goals</td>
<td>Use nonverbal cues: Eye contact, facial expressions, open posture</td>
</tr>
<tr>
<td>Develop strategy to meet those goals</td>
<td></td>
</tr>
</tbody>
</table>
Health Literacy Best Practices

- Written and spoken material at or below 8th grade reading level
- Utilize Teach Back technique
- “Ask Me 3”
  1. What is the problem?
  2. What do I need to do?
  3. Why is it important to do this?
- Avoid technical jargon
Make It Easy For Patients

- Increase access:
  - Open Access Scheduling
  - Extended hours
  - Home Visits
  - Group Visits

- Have stock on site of common vaccines
- Provide Reminders: Calls, letter, leaflets, postcard
- Review and recommend vaccines: Every visit, every time
Case

After engage in shared decision making, M agrees to vaccination (Phew!).
When you go to do your charting later that day, you noticed that M managed to leave your office without receiving HepA and HepB vaccines.
## Make It Easy for Care Teams

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinician incentives</td>
<td>• Reward for performance</td>
</tr>
<tr>
<td>Clinician education</td>
<td>• Get everyone comfortable with recommendations, safety, and adverse effects</td>
</tr>
<tr>
<td>Technology</td>
<td>• Utilize EHR, State Immunization Information Systems</td>
</tr>
<tr>
<td>Standing orders</td>
<td>• Develop protocols for vaccination without physician order</td>
</tr>
<tr>
<td>Team Based Care</td>
<td>• Engage entire team to meet vaccination goal</td>
</tr>
</tbody>
</table>
Physician Incentives

Simple Strategies Work:

- Reminding physicians to vaccinate all patients (OR 2.47, 1.53-3.99)
- Posters in clinics presenting vaccination rates and encouraging competition between doctors (OR 2.03, 1.86-2.22)
- Chart reviews and benchmarking to the rates achieved by the top 10% of physicians (OR 3.43, CI 2.37-4.97)
Clinician Education

- Clinician knowledge may vary widely. May lack knowledge in:
  - Vaccine preventable illness
  - Indications, administration, side effects, safety
  - Storage and handling
  - Vaccine development
  - Adverse events reporting
  - Approval and evaluation process
  - Billing, coding, and documentation
  - Laws and regulations
- About 25% of physicians believe that recommendations for adults are difficult to follow
Standing Orders

- Written protocols that authorize designated members of the team to complete clinical task without obtaining physician order first
- Increases immunization rates
- To Implement:
  - Get support of clinical and administrative team
  - Carefully choose the targeted order
  - Have a champion
  - Write the standing order
    - Identify who is responsible for the task, which patient group it applies to, contraindications, and specific information including dose, route of administration
  - Implement the order
  - Reassess and update order as needed
Team Based Care

- Train all team members on:
  - Vaccine fundamentals
  - Giving strong recommendations
  - Communicating that vaccines are safe, necessary and effective

- Population Health Team
  - Case managers, nursing staff, medical assistants

- Registries
  - Identify target populations
  - Develop registry through EHR
  - Track and follow up patients
Office Champion Model

- Champion:
  - Identifies barriers
  - Develops workflows
  - Provides training
  - Creates a shared mission to build culture of vaccination
  - Is the “Go to” person for questions/concerns
  - Provides leadership opportunities
Technology

- **EHR**
  - Reminders and Prompts
  - Disease specific algorithms
    - Requires clinicians to code diagnoses appropriately

- Participate in the state immunization information systems
  - Ideally, EHR compatibility
  - No national IIS
  - Not as widely used for adults
Community Based Strategies for Offices

- Culturally sensitive programs and recommendations
  - Tailor to population being served
  - Utilize preferred language
- Engage partner organizations and respected community leaders
- Patient advisory council
Reduce Missed Opportunities and Improve Rates!

- **Act**
  - What changes are to be made?
  - Next cycle?

- **Plan**
  - Objective.
  - Questions and predictions.
  - Plan to carry out the cycle (who, what, where, when).

- **Study**
  - Complete the data analysis.
  - Compare data to predictions.
  - Summarize what was learned.

- **Do**
  - Carry out the plan.
  - Document problems and unexpected observations.
  - Begin data analysis.
Case

Your population health team reaches out to M to arrange vaccination. M is going to make an appointment with you.
COVID-19
COVID-19

- Clinical preventive services reduced
- Wellness visits postponed
- Telemedicine prioritized over face to face encounters when possible
- Vaccinate when:
  - An in-person visit must be scheduled for another purpose
  - Compelling need for in-person visit and potential benefit outweighs the risk from COVID-19
- Keep track and readdress once safe
References

- Center for Health Statistics N. *Table 69. Pneumococcal Vaccination among Adults Aged 18 and over, by Selected Characteristics: United States, Selected Years 1989–2016.* 2017. [https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6140a4.htm](https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6140a4.htm)
- IHI Ask Me 3: [http://www.ihi.org/resources/Pages/Tools/Ask-Me-3-Good-Questions-for-Your-Good-Health.aspx](http://www.ihi.org/resources/Pages/Tools/Ask-Me-3-Good-Questions-for-Your-Good-Health.aspx)
- Immunization Action Coalition. 10 steps to implementing standing orders for immunization in your practice setting. [https://bit.ly/1S5qFTe](https://bit.ly/1S5qFTe)
Questions?

Dr. Tara Jatlaoui

Dr. Sarah Coles
Thank You!

Webinar archive will be available at:
www.phf.org/immunization

Questions or comments?
immunization@phf.org