Immunizations for Adults: Working together to increase vaccination rates

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Disclosures

• I have directed my financial advisor to exclude vaccine manufacturers from my portfolio.

• Opinions expressed are NOT those of Immunize Milwaukee!, the University of Wisconsin, the City of Milwaukee Health Department, or the Advisory Committee on Immunization Practices (ACIP) of the United States Centers for Disease Control and Prevention.

• ACIP recommendations are standard of care and scientifically supported, but occasionally differ with indications for use approved by the United States Food and Drug Administration.
Learning Objectives:

1. Recall the factor most strongly associated with the patient choosing to be vaccinated.
2. Recall at least 2 clinical practices that reduce missed opportunities to vaccinate or increase access to immunizations.
3. Recall the two pneumococcal vaccines recommended for all patients age 65 years and older, which is better to give first, and the recommended length of time between the two vaccinations.
4. Recognize which symptoms associated with egg allergy that require patients to receive influenza vaccination in a medical facility while under the care of a clinician able to recognize and treat severe allergic conditions.
5. Recall the number of doses of tetanus – diphtheria – acellular pertussis (Tdap) recommended for non-pregnant adults after their 18th birthday.
6. Recall an important contraindication to the current zoster vaccine and state why certain zoster vaccines in development will probably not have that contraindication.
7. List at least 3 indications common to both hepatitis A and hepatitis B vaccines.
immunize Milwaukee!
Immunize Milwaukee! is a

- Community coalition focused on
- Education, communication, & collaboration to
- Improve and sustain vaccination rates in
- Metro-Milwaukee
Immunize Milwaukee! Goals

Decrease vaccine-preventable disease via
1. Awareness of importance of vaccinations
2. Policies that increase immunization
3. Increased access to immunization services
   → Decreased disparities in immunizations
4. Collaboration capable of change
Strength of Recommendation

Clinician’s recommendation are the factor most strongly associated with the patient choosing to be vaccinated

pediatrics.aappublications.org/content/early/2011/10/14/peds.2011-0950.abstract
Reducing Missed Opportunities

• Clearly written standing medical orders
• Check vaccination status on every visit by using immunization registries (WIR)
• Provider education with feedback
• Provider reminder and client recall systems
Pneumococcal
- 19–64y at risk ↑2.8 % pts to 23.0%
- ≥65y: 63.6%

Influenza ≥18y: 41.7%

Tdap
- ≥19y: ↑3.1 % to 23.1%;
- living w infants <1y: ↑10.0 % to 41.9%

Zoster
- ≥60y: ↑2.7 % to 30.6%

Hepatitis B
- 19–59y w diabetes: 24.4%

Lower rates in blacks and Hispanics
Adult Vaccines

• **Pneumococcal**: PPSV23, PCV13, 0-3 doses <65, 2 ≥65
• **Influenza**: H3N2, H1N1, Victoria, Yamagata; Egg allergy
• **Tdap**: Once for adults except every pregnancy
• **Zoster**: HZV=live, 1-dose. HZ/su=inactivated, 2
• **Hepatitis A**: Risks: chronic liver disease, MSM, drug abuse,
• **Hepatitis B**: A + STDs, household contact, diabetics
Pneumococcal: Two Vaccines

**PCV13**
- *Conjugate* Vaccine
- 13 valent
- Prevnar 13® from Pfizer

**PPSV23**
- *Polysaccharide* Vaccine
- 23 valent
- Pneumovax® from Merck
Goal of Pneumococcal Vaccination

Prevent *invasive* pneumococcal disease
• Bacteremia and meningitis
• Pneumococcal bacteremia kills
  • 20% of adults with it
  • 60% of elderly with it
Immunocompromised: Definitions

- Congenital or acquired immunodeficiency including complement deficiencies
- Human immunodeficiency virus infection
- Chronic renal failure, Nephrotic syndrome
- Leukemia, Lymphoma, Hodgkin’s, Multiple myeloma
- Generalized malignancy
- Iatrogenic: long-term systemic corticosteroids, radiation therapy, and solid organ transplant
High Risk & Age < 65 years

3 – PCV13 then PPSV23, repeat PPSV once
• Immunocompromised – previous slide
• Asplenia: functional or anatomic
  Including sickle cell disease

2 – PCV13 then PPSV23 (No repeat PPSV)
• CSF leaks and Cochlear implants
High Risk & Age < 65 years

1 – PPSV23 (No repeat PPSV. No PCV13.)
• CHF & cardiomyopathies (not HTN)
• COPD, asthma, & cigarette smoking
• Diabetes mellitus
• Alcoholism, chronic liver disease, & cirrhosis
2 Doses for Age ≥65 Years

Preferred:

PCV13 → PPSV23
- ACIP recommended interval of 1 year
- ACIP minimum interval of 8 weeks
- Medicare payment interval of >11 months

Alternative:

PPSV23 → PCV13
- Recommended = min. interval of 1 year
- If PPSV23 at age <65 yrs: PPSV → PPSV minimum interval of 5 years
Minimum Interval Rules

• **PCV13** → **PPSV23**  8 weeks
• **PPSV23** → **PCV13**  1 year
• **PPSV23** → **PPSV23**  5 years
• Medicare payment  >11 months
Benefits of Standing Orders

• Efficient assessment for and administration of vaccines
• Improve vaccination rates in your practice.
• Protect more of your patients from preventable diseases
• Empower nurses & medical assistants
• Decrease opportunities for disease transmission in your clinic
Influenza

• Age ≥6 months, annually, as soon as available till supply gone
• No preferential recommendations for one product over another
  • High-dose trivalent versus standard-dose quadrivalent
• Tri-3-valent = 2 A + 1 B. Quadri-4-valent = 2 A + 2 B
  • 2 A = H3 N2 + H1 N1. 2 B = Victoria + Yamagata
• Live attenuated influenza vaccine (LAIV) for up to 49 years old
  • ACIP recommended against in June 2016 (Still FDA approved)
  • Based on lack of protection again H1 N1.
Egg Allergy and Influenza Vaccine

• Only hives → vaccinate
• If angioedema, respiratory distress, lightheadedness, recurrent emesis, or required epinephrine or another emergency medical intervention → vaccinate
  
  In inpatient or outpatient medical setting under the supervision of a healthcare provider able to recognize and manage severe allergic conditions
Increase Access to Immunizations

• Vaccinate at all appointment types including urgent care, follow up for problems, chronic disease management, and physicals

• “Nurse-only” visits for vaccinations

• Use standing orders on a walk-in basis

• Give vaccinations on evenings or weekends

• “Express” service for vaccination during regular office hours

• Provide an easy-to-access site, separated from usual traffic pattern
Tetanus, diphtheria, pertussis: Tdap

Tetanus:
• Tdap once (even if Td yesterday) then ...
• Td Booster every 10 years. Revaccinate after 5 year if risk
• If unvaccinated:
  2 doses ≥4 weeks apart
  3rd dose 6–12 months after 2nd

Diphtheria:
• European, not American, anti-toxin shortage
Tetanus, diphtheria, **pertussis**: Tdap

**Pertussis:**
- Keep babies (<6 months) from dying
  - Every pregnancy, early in 27-36 weeks
  - Passive immunity from mom to baby
- Immunity declines after a few years,
  but only one Tdap for adults
Clinic Practices to Increase Vaccinations

Add best practice alerts (prompts) to medical record
• Standing orders protocols
• Screening questionnaires

Determine current immunization rates of clinic’s patients
• Generate standard reports from state registry
• Use medical record or billing to identify rates
Zoster (Shingles)

HZV = Live attenuated
• Contraindicated if immunocompromised
• Single dose
• age 60 and older (ACIP, 50 FDA)

Efficacy
• 51% - zoster
• 67% - post herpetic neuralgia
• negligible after 7-8 years
• reduced in older recipients

HZ/su = Inactivated adjuvanted subunit
• Okay for immunocompromised?
• NOT licensed yet, 2 companies
• Two doses? No ACIP recomdtn yet

Efficacy
• 91% - zoster
• 89% - post herpetic neuralgia
• 85% after 4 years
Zoster

Indicated regardless of history of zoster disease

Immunodeficiency =
• Cancer of bone marrow or lymphatic system
• Systemic immunosuppressive therapy
• HIV with CD4 count <200
Zoster insurance coverage by age

• **Availability at locations below varies greatly**
  - **60 years and older**
    - Local health department
  - **60 through 64 years**
    - Medical clinic
  - **65 years and older**
    - Pharmacy. Expect co-pay of $0 to $90
  - **Uninsured**
  - **Medicare Part B (and no D)**
  - **Senior Care**
  - **Commercial insurance**
  - **Medicare Part D**
Recommend vaccines!

• “You are due for the influenza vaccine. Here is the Vaccine Information Statement for the vaccine. Let’s take care of this for you today.”

• “Your doctor recommends the vaccine. Here is the Vaccine Information Statement for it. I will get it ready while you see the doctor”

• If patient says, “I usually see Dr. X, shouldn’t I wait?”
  “All of our doctors follow the same schedule. Dr. X recommends this too.”

• Bundle vaccines—”You are due for Flu, Pneumonia, and Hepatitis B vaccine. Let’s take care of this today.”

• “I believe in these vaccines and I get them for my family and for myself.”
Hepatitis A – Adult Indications:

• Anyone who asks for it, no matter why they want it.
• Chronic liver disease: elevated enzymes or pre- or post transplant, not just B or C infection
• On clotting factor concentrates
• Men who have sex with men
• Injection or non-injection drugs

• Work with hepatitis A virus: infected primates or in a research laboratory
• Travel in countries with high or intermediate levels of endemic infection
• Reside in same household or regularly babysit adoptee from a country with high or intermediate level of endemic infection ≤60 days after arrival
Communication Principles

• Make simple, clear, consistent recommendations
  – “These are the vaccines you need today”

• Only if objections, then stop & listen to concerns
  – Express surprise that refusal is not the social norm
  – Assume patients have their own welfare as the goal

• Positive messages: Vaccine safety & efficacy

• Build trust - multiple visits
  – Motivational interviewing
  – CASE: Corroborate, About me, Science, Explain/advise
Hepatitis B – Adult Indications:

- Anyone who asks for it, no matter why they want it.
- Men who have sex with men
- Sex partner is HBsAg+
- Not mutually monogamous
- Evaluation or treatment for sexually transmitted infection
- Percutaneous or mucosal exposure to blood
  - Recent or current injection drugs
  - HBsAg+ household contact
  - Residents and staff of facilities for developmentally disabled
  - Incarcerated
  - Health and public safety workers
  - Diabetics <60 years
  - DM ≥60 years, clinical discretion
Hepatitis B – Adult Indications:

- Chronic liver disease
  - Hep C infection
  - Cirrhosis,
  - Fatty liver
  - Alcoholic liver
  - Autoimmune hepatitis
  - ALT or AST >2x upper limit of nl

- End-stage renal disease
  - Dialysis: Pre-, Hemo-, Peritoneal
  - HIV
  - International travelers to regions with high or intermediate levels of endemic infection
Hepatitis A and B intervals

• Hep A at 0 and 6–12 months and
• Hep B at 0, 1, and 6 months or
• Combined Hep A and B at 0, 1, and 6 months

• Hemodialysis:
  • 3 Recombivax HB® 40 μg (4x adult) at 0, 1, and 6 months
  • 4 Engerix-B® 40 μg (2x adult) at 0, 1, 2, and 6 months
Use the Registry

Basic Functions

• At every visit
  • Not just at health maintenance visits, but also
  • At disease management, acute care, procedures, hospitalizations, nursing home, home visits

• Enter data
  • Support clinic policies to enter data daily
  • Advocate for info tech staff to work with state on two way, real-time data exchange
Human papillomavirus

Ages 9 through 26 years

- Men ages 22 through 26 years who are not MSM may get HPV
- May give to 9-10 year olds. Should give to 11-12 year olds

For healthy clients who are not MSM:

- 1\textsuperscript{st} dose before age 15 years $\rightarrow$ 2 doses: 0 and 6-12 months
  - Minimum interval = 5 months
- 1\textsuperscript{st} dose at age 15 years or later $\rightarrow$ 3 doses: 0, 1–2, and 6 months

For immunocompromised and men who have sex with men (MSM):

- 3 doses: 0, 1–2, and 6 months
Human papillomavirus

Immunocompromising conditions for which a 3-dose series of HPV vaccine is indicated are:

- Primary or secondary immunocompromising conditions that might reduce cell-mediated or humoral immunity, e.g.,
  - B-lymphocyte antibody deficiencies,
  - Complete or partial T-lymphocyte defects,
  - HIV infection,
  - Malignant neoplasm,
  - Transplantation,
  - Autoimmune disease, and
  - Immunosuppressive therapy.
Use the Registry

Advanced Functions

• Advocate for medical assistants to get training in and regularly use the advanced functions

• Order vaccine and manage inventory
  • Decrease staff time and expiring vaccines

• Generate reports
  • Remove inactive patients from denominator
  • Document quality measures
  • Identify patients who need to come in for vaccinations
Standards for Adult Immunization Practice

Call to action for healthcare professionals for adults to

• ASSESS vaccination status
  • all patients at
  • every clinical encounter

• Strongly RECOMMEND vaccines that patients need

(National Vaccine Advisory Committee)

• ADMINISTER needed vaccines or
  • REFER to a vaccine provider

• DOCUMENT vaccines received by patients in
  • state vaccine registries