i-RAISE the Rates

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Relevant commercial relationships appear in italics below each individual’s name. All others have nothing to disclose.
Acknowledgement

This session is made possible through generous support by the Centers for Disease Control and Prevention (CDC).

The session has been partially supported by funding from Merck & Co., Inc.
Adult Immunization Resource Hub

Developed as part of ACP’s *I Raise the Rates* initiative. Provides updated clinical information, patient education materials, quality improvement guidance and much more. For more information, visit:

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Learn core QI skills that empower you to implement practice-changing initiatives to increase adult immunization rates in your practice. Additional ACP Advance offerings include a physician-led coaching service and chronic care resources. To learn more, visit:

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Financial Disclosures

None
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1. Overview of impact / effectiveness of immunizations
2. Review Updated ACIP Recommendations
3. Discern the barriers to immunization
4. Understand source of miss information regarding vaccination
5. Employ Motivational Interviewing for Patient Engagement
6. Initiate “Team Huddles” for identifying opportunities to vaccinate
7. Recommend resources for patients to further understand importance of vaccinations
## Impact of Vaccines During the Past 70 Years

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Vaccination Rates (2015)

Tetanus-toxoid (Td or Tdap) – age ≥19 yrs
Pneumococcal – age ≥65 yrs
Influenza – age ≥19 yrs
Hepatitis B – age ≥19 yrs
HPV females – age 19–26 yrs
Hepatitis A – age ≥19 yrs
Pneumococcal – age 19–64 yrs, IR
Herpes zoster – age ≥60 yrs
Tdap – age 19–64 yrs
HPV males – age 19–25 yrs

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ACIP Recommendations
(June 2019)

Source: CDC – Advisory Committee on Immunization Practices https://www.cdc.gov/vaccines/acip
Immunizations covered by ACIP

- Anthrax
- BCG
- Cholera
- DTaP/Tdap/Td
- **Hepatitis A**
- Hepatitis B
- Hib
- **HPV**
- **Influenza**
- Japanese Encephalitis
- Measles, Mumps and Rubella
- MMRV
- Meningococcal
- **Pneumococcal**
- Polio
- Rabies
- Rotavirus
- Smallpox (Vaccinia)
- Typhoid
- Varicella (Chickenpox)
- Yellow Fever
- **Zoster** (Shingles)
Hepatitis A

- Recommended routinely for:
  - children at age 12–23 months
  - for any person wishing to obtain immunity
  - Persons at increased risk for HAV infection:
    - international travelers to high or intermediate hepatitis A endemic area
    - men who have sex with men
    - users of injection and non-injection drugs
    - Persons with chronic liver disease or clotting factor disorders
    - persons who anticipate close contact with an international adoptee from a country of high or intermediate endemicity

- Updates:
  - all persons with HIV aged ≥1 year
  - Persons experiencing homelessness → higher risk for HAV infection & severe infection-associated outcomes
    - 1 dose of Hep A develops antibody within 4 weeks for >95% immunocompetent persons
    - *Loss to follow-up before HepA vaccine series completion should not be a deterrent* to initiating vaccine series → One dose of HepA vaccine provides personal protection & contributes to herd immunity, “although long-term protection might be suboptimal”

Source: MMRW – Recommendations of Advisory Committee on Immunization Practices for Use of Hepatitis A Vaccine for Persons experiencing Homelessness. [https://www.cdc.gov/mmwr/volumes/68/wr/mm6806a6.htm](https://www.cdc.gov/mmwr/volumes/68/wr/mm6806a6.htm)
**Human Papilloma Virus**

- **Impact Factor:**
  - 33,700 cancers are caused by HPV in the United States each year
    - 12,900 oropharyngeal cancers among men and women
    - 10,800 cervical cancers among women
    - 6,000 anal cancers among men and women;
  - Prevalence of 4vHPV vaccine-type infection decreased 2013-2016 vs. pre-vaccine era
    - 11.5% to 1.8% among females aged 14 -19 years
    - 18.5% to 5.3% among females aged 20 - 24 years

- **Recommended routinely for:**
  - Females through age 26
  - Males through age 21

- **Updates:**
  - Catch-up vaccination for **ALL** persons through age 26 years who are not adequately vaccinated
  - Vaccination based on shared clinical decision making for individuals aged 27 through 45 years who are not adequately vaccinated.
  - Consider: 1) risk and cost – insurers vary on coverage for >26 years old; 2) health economic modeling showed low gains after age 26 in QALY

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Source: MMRW – Recommendations of Advisory Committee on Immunization Practices for Use of Human Papilloma Virus Vaccine. [https://www.cdc.gov/mmwr/volumes/68/wr/mm6832a3.htm](https://www.cdc.gov/mmwr/volumes/68/wr/mm6832a3.htm)
Influenza

- Impact Factor: data reviewed over six influenza seasons from 2010/11 through 2015/16, show that vaccination prevented ... (for EACH season)

- 1.6 - 6.7 million illnesses
- 790,000 - 3.1 million outpatient medical visits
- 39,000 - 87,000 hospital stays
- 3,000 - 10,000 respiratory & circulatory deaths

Source: Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practice. [https://www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm](https://www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm)
Influenza

• Impact Factor: For 2017/18 season
  • estimated overall effectiveness of vaccine = Inf. A (H1N1) 62%, Inf. B 50%
  • In 1 season, vaccine prevented:
    - 7.1 million illnesses
    - 3.7 million outpatient medical visits
    - 8,000 respiratory & circulatory deaths
    - 109,000 hospital stays

Source: Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practice. https://www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm
Influenza

- Annual influenza vaccination is recommended for all persons aged 6 months and older who do not have contraindications
- Fluzezone High-Dose (HD-IIV3) vs. Fluzezone Standard-Dose (SD-IIV3) → superior efficacy against laboratory-confirmed influenza in randomized trial conducted over two seasons (2011–12 and 2012–13) among 31,989 persons aged ≥65 years → may provide better protection than SD-IIV3 for this age group
- Contraindications:
  - Allergic reaction to any component
  - Guillain-Barre Syndrome within 6 weeks of influenza vaccination receipt
  - For Live Attenuated:
    - Aspirin- or salicylate-containing therapy in children and adolescents
    - Adults who are immunocompromised due to any cause (including immunosuppression caused by medications or HIV infection)
    - Close contacts and caregivers of severely immunosuppressed persons who require a protected environment
    - Pregnancy
    - Receipt of influenza antiviral medication within the past 48 hours

Source: Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practice. https://www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm
Influenza

• **Timing:** vaccination should be offered by the end of October; however, vaccination should continue to be offered as long as influenza viruses are circulating and unexpired vaccine is available

• If **vaccine supply limited,** vaccination efforts should be focused upon:
  • Adults aged ≥50 years
  • Persons who are extremely obese (BMI ≥40 for adults)
  • Chronic disease burden (pulmonary inc. asthma), cardiovascular (excluding isolated HTN), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus)
  • Immunocompromised state (due to any cause, inc. medications or HIV infection)
  • Women who are or will be pregnant during the influenza season
  • Residents of nursing homes and other long-term care facilities
  • American Indians/Alaska Natives
  • Caregivers and contacts of those at risk:
    • Health care personnel
    • Household contacts and caregivers of children aged <5 years, (esp. contacts of children aged <6 months) and adults aged ≥50 years
    • Household contacts and caregivers of persons with medical conditions assoc. with increased risk of severe complications for influenza

Source: Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practice. [https://www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm](https://www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm)
Pneumococcal
Previous Schedule:

If patient >65 and received only one - PPSV23 or PCV13 – administer the other vaccine >1 year later

If patient <65 at time of PPSV23, administer PCV13 >1 year later, then re-immunize with PPSV23 >1 year later, total # of years between 2 PPSV23 should be >5 years

Source: Recommendations of the Advisory Committee on Immunization Practice. https://www.cdc.gov/vaccines/acip/recommendations.html
Pneumococcal

• **Currently** - all adults 65 years or older should receive a dose of **PPSV23**

• **Updates:**
  
  **PCV13** based on *shared clinical decision making* for adults 65 years or older who *do not* have an immunocompromising condition and who have not previously received PCV13.

  • Transitioned from absolute recommendation to shared decision making
  • Justification: herd immunity from pediatric dosing of PCV13 may suffice in protection for those without immunocompromising conditions (All children in the United States should receive PCV13 at ages 2 months, 4 months and 6 months, and a booster dose between 12 and 15 months)

Source: Recommendations of the Advisory Committee on Immunization Practice. [https://www.cdc.gov/vaccines/acip/recommendations.html](https://www.cdc.gov/vaccines/acip/recommendations.html)
Zoster

- Two options: Zoster Vaccine Live (ZVL; Zostavax) and Recombinant Zoster Vaccine (RZV, Shingrix approved by FDA in 2017)

- **Updates:**
  - ACIP recommends **RZV for use in immunocompetent adults aged ≥50 years.**

- **Evidence** supporting RZV:
  - Prevention of herpes zoster was:*  
    - in persons aged 50–59 years 96.6% (95% CI = 89.6–99.3)  
    - in persons aged 60–69 years 97.4% (95% CI = 90.1–99.7)  
    - in persons aged >70 years 91.3% (95% CI = 86.8–94.5)  
  - Number of persons needed to be vaccinated with RZV:  
    - to prevent 1 case of herpes zoster 11–17  
    - to prevent 1 case of postherpetic neuralgia 70–80

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* two-part, phase III multicenter clinical trial, enrolled >30,000 participants, who were randomized 1:1 to receive vaccine or saline placebo; no direct comparison trials between ZVL & RZV;  

Source: Recommendations of the Advisory Committee on Immunization Practice: Herpes Zoster. [https://www.cdc.gov/mmwr/volumes/67/wr/mm6703a5.htm](https://www.cdc.gov/mmwr/volumes/67/wr/mm6703a5.htm)
Zoster - Recombinant Zoster Vaccine (RZV) considerations:

• Dosing: 2 doses (0.5 mL each), administered intramuscularly, 2–6 months apart

• Timing of RZV for persons previously vaccinated with ZVL: no data or theoretical concerns to indicate that RZV would be less safe or less effective when administered at an interval of <5 years
  • RZV should not be given <2 months after receipt of ZVL

• Persons with a history of herpes zoster: Herpes zoster can recur. Adults with a history of herpes zoster should receive RZV.

• Immunocompromised persons:
  • in persons taking low-dose immunosuppressive therapy (e.g., <20 mg/day of prednisone or equivalent or using inhaled or topical steroids) and persons anticipating immunosuppression or who have recovered from an immunocompromising illness → recommend use of RZV
  • immunocompromised persons, those on moderate to high doses of immunosuppressive therapy were excluded from the efficacy studies → ACIP has not made recommendations

• Screening for a history of varicella (either verbally or via laboratory serology) before vaccination for herpes zoster is not recommended

Source: Recommendations of the Advisory Committee on Immunization Practice: Herpes Zoster. https://www.cdc.gov/mmwr/volumes/67/wr/mm6703a5.htm
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Economic Impact of Under Vaccination

14.1 million cases of vaccine-preventable diseases attributable to unvaccinated adults in 2015

Total economic burden of approximately: $9 billion due to direct costs and productivity losses from vaccine-preventable diseases

Barriers to Immunization

Patient Engagement

Miss information

Missed Opportunity for Immunization
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NO LINK TO AUTISM WAS FOUND IN ANY CASE. IN ALL OF THE STUDIES.

They had conducted invasive investigations on the children without obtaining the necessary ethical clearances... picked and chose data that suited their case; THEY FALSIFIED FACTS.

1999

A study of 500 children no connection was found

NO LINK WAS FOUND

So people started investigating his claims

Following Dr. Wakefield’s study, here's what other more rigorous studies found

2004

Lancet released a statement REFUTING the original findings

Controlled case series studies, 5 time series trials, 2 ecological studies, 1 case cross-over trial covering over 14,700,000 children

Also found no connection
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Is there a way to impact these reasons for under vaccination?
Patient Engagement: Motivational Interviewing

Express Empathy : Build Rapport
Develop Discrepancy : Elicit Pros and Cons or understanding of patient
Roll with Resistance : Respect patient autonomy
Support Self-efficacy : Communicate that patient is capable of change

* Adapted from the ACP iRAISE the Rates Campaign
Patient Engagement: Motivational Interviewing *

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<td><strong>Collaboration</strong>: Patient is the expert and the Physician creates an atmosphere that is <em>conducive rather than coercive</em> and built on partnership</td>
<td><strong>Confrontation</strong>: Patient is seen as impaired, unable to understand the situation and the Physician imposes reality of the situation</td>
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<td><strong>Evocation</strong>: Patient has resources and motivation to change within and the physician must evoke this from the patient</td>
<td><strong>Education</strong>: Patient is assumed to lack knowledge necessary for changes to occur and <em>MD enlightens patient by forcing education</em></td>
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<td><strong>Autonomy</strong>: Patient has right and capacity for self direction and the physician respects and affirms this</td>
<td><strong>Authority</strong>: Patient is assumed to lack capacity for self direction and <em>MD tells patient what he/she must do</em></td>
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Patient Engagement: Motivational Interviewing & OARS*

Open Questions: questions that cannot be answered with one word

Affirmations: statements that establish a respectful, collaborative relationship by acknowledging commitment by the patient for self care

Reflections: conversational statements that promote discussion

Summarization: Closing statements that seek to clarify and promote shared decisions made during a discussion & identify next steps

* Adapted from the ACP iRAISE the Rates Campaign

Source: ACP iRAISE the Rates Webinars: https://www.acponline.org/clinical-information/clinical-resources-products/adult-immunization/i-raise-the-rates/i-raise-the-rates-webinars
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Missed Opportunity: The Team Huddle

- **Team Huddles: short**, daily meetings with a teamlet (Physician/Clinician, Medical Assistant, and/or other support staff – RN)

- an opportunity for members from **inter-disciplinary fields** to come together and **anticipate agenda** for the patients’ visits.

- usually last **less than 10 minutes**

- Is it Supported by data? **YES! AHRQ best practice!**

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Miss Information: Resources for Patients

- Immunization contents: www.cdc.gov/vaccines/vac-gen/additives.htm
- CDC / immunization: www.immunize.org
- Families Fighting Flu www.familiesfightingflu.org
- Immunization Action Coalition: www.vaccineinformation.org
Resources for Physicians

- ACP i-RAISE the Rates Webinars: https://www.acponline.org/clinical-information/clinical-resources-products/adult-immunization/i-raise-the-rates/i-raise-the-rates-webinars
- Team Huddles: AHRQ: https://www.ahrq.gov/evidencenow/tools/team-huddles.html
- Updates to ACIP Recommendations – Physician & Patient facing: https://www.immunize.org
- ACIP Guidelines & Recommendations: https://www.cdc.gov/vaccines/hcp/acip-recs
MOC Questions
MOC Question 1

The Advisory Committee on Immunization Practice for the Centers for Disease Control included a recommendation that physicians consider what patient factor as an indicator for hepatitis A vaccination?

a) Age over 60
b) Homelessness
c) Home-bound
d) Smoker
MOC Question 2

The Advisory Committee on Immunization Practice for the Centers for Disease Control included a recommendation that physicians consider the following at time of recommendation for Recombinant Zoster Vaccine (RZV)

I. Dosing 2 doses (0.5 mL each), administered intramuscularly, 2–6 months apart
II. Adults with a history of herpes zoster should receive RZV.
III. Screening for a history of varicella (either verbally or via laboratory serology) before vaccination for herpes zoster is not recommended

a) I only
b) I, II only
c) All of the above
d) None of the above
MOC Question 3

The Advisory Committee on Immunization Practice for the Centers for Disease Control included a recommendation that physicians consider Human Papilloma Virus vaccination for which patient?

a) Females over the age 45
b) Males through the age 65
c) Only persons known to have HPV disease
d) All persons through the age 26
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  • Persons experiencing homelessness → higher risk for HAV infection & severe infection-associated outcomes
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- **Dosing**: 2 doses (0.5 mL each), administered intramuscularly, 2–6 months apart

- **Persons with a history of herpes zoster**: Herpes zoster can recur. Adults with a history of herpes zoster should receive RZV.

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  • vaccination based on shared clinical decision making for individuals aged 27 through 45 years who are not adequately vaccinated.

Questions/Comments/Feedback

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