

ACIP Adult Immunization Schedule Update 2015

David Kim, MD
Immunization Services Division
Centers for Disease Control and Prevention



Centers for Disease Control and Prevention

National Center for Immunization and Respiratory Diseases

Burden of Vaccine-preventable Diseases in U.S.

❑ Influenza

- Millions of cases
- ~226,000 hospitalizations annually, majority among adults
- 3000–49,000 deaths annually, over 90% among adults¹

❑ Invasive pneumococcal disease (IPD)²

- ~33,500 cases, 3500 deaths in 2013 (provisional)
- 91% of IPD cases and 98% IPD deaths among adults

❑ Pertussis³

- 41,880 total reported cases 2012, ~9000 among adults

❑ Hepatitis B⁴

- 3350 acute cases reported 2010, ~35,000 cases

❑ Zoster⁵

- ~1 million cases annually

1. CDC. Estimates of deaths associated with seasonal influenza – United States, 1976–2007. MMWR. 2010;59(33):1057–1062

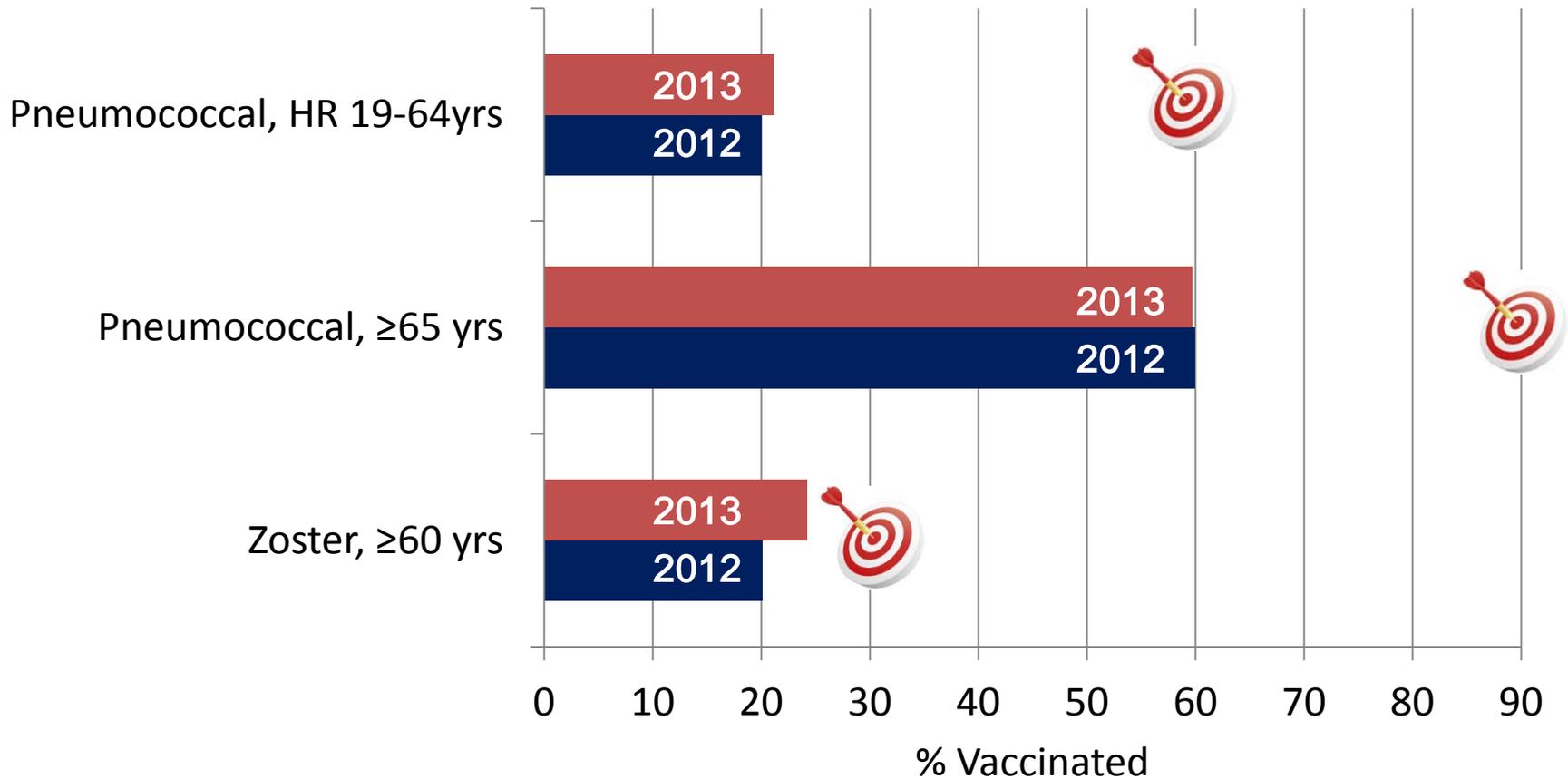
2. CDC. Active Bacterial Core Surveillance. http://www.cdc.gov/abcs/reports_findings/survreports/spneu13.pdf

3. CDC. Notifiable Diseases and Mortality Tables. MMWR 2013. 61(51&52): ND 719–ND 732

4. CDC. Viral Hepatitis Surveillance United States, 2010. National Center for HIV/AIDS, Viral Hepatitis, STD& TB Prevention/Division of Viral Hepatitis

5. CDC. Prevention of Herpes Zoster. MMWR 2008. 57(RR 5): 1–30

Adult Immunization Coverage, Selected Vaccines by Age and High-risk Status, United States



HP2020 Targets: 90% PPV ≥65 yrs, 60% PPV HR 19-64 yrs, 30% zoster ≥60 yrs

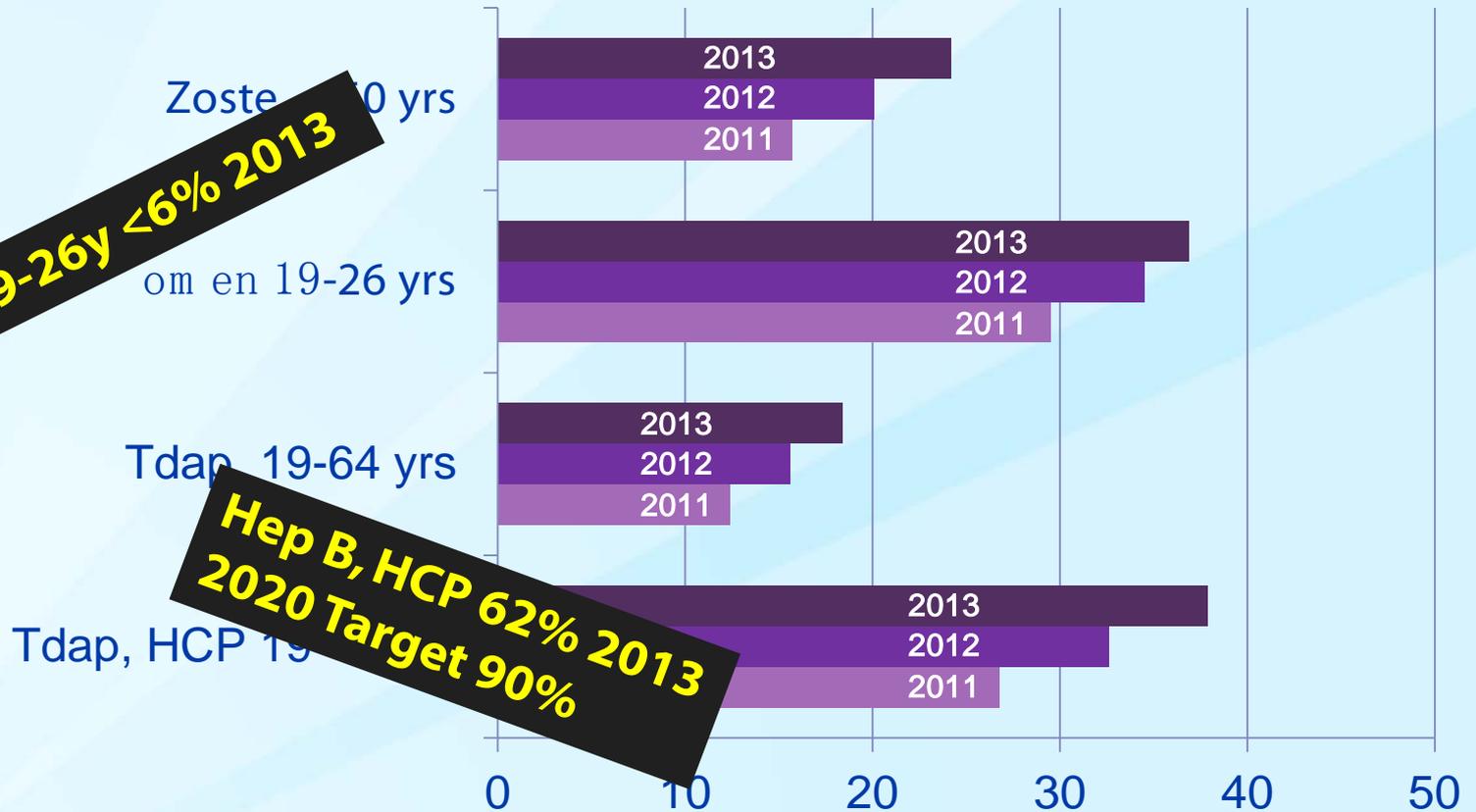
Data Source: 2012 and 2013 NHIS

Non-Influenza Adult Vaccination Coverage Vaccines with Increases from 2011 to 2013



Data Source: NHIS 2011-2013

Non-Influenza Adult Vaccination Coverage Vaccines with Increases from 2011 to 2013



HPV Men 19-26y <6% 2013

**Hep B, HCP 62% 2013
2020 Target 90%**

Data Source: NHIS 2011-2013

Adult Immunization Schedule

- ❑ **Advisory Committee on Immunization Practices (ACIP) annual updates**
 - Summarizes existing ACIP policy and changes in past year
 - Published in *MMWR* and *Annals of Internal Medicine*
 - Vaccines included in schedule must be covered with no copay for persons with private insurance within year after MMWR publication
- ❑ **2015 schedule also approved by**
 - American College of Physicians
 - American Academy of Family Physicians
 - American College of Obstetricians and Gynecologists
 - American College of Nurse-Midwives

2015 Adult Immunization Schedule Changes from 2014

- ❑ **September 2014 pneumococcal vaccine recommendation**
 - Routine administration of 13-valent pneumococcal conjugate vaccine (PCV13) in series with 23-valent pneumococcal polysaccharide vaccine (PPSV23) for all adults aged 65 years or older
- ❑ **August 2014 influenza vaccine contraindications and precautions for live attenuated influenza vaccine (LAIV)**
 - Move "influenza antiviral use within the last 48 hours" from precautions to contraindications
 - Move asthma and chronic lung diseases; cardiovascular, renal, and hepatic diseases; and diabetes and other conditions from contraindications to precautions
- ❑ **October 2014 approval by Food and Drug Administration to expand approved age for recombinant influenza vaccine (RIV)**
 - Adults aged 18 years or older (changed from 18 through 49 years) can receive RIV

Recommended Adult Immunization Schedule

United States - 2015

The 2015 Adult Immunization Schedule was approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), American Academy of Family Physicians (AAFP), the American College of Physicians (ACP), the American College of Obstetricians and Gynecologists (ACOG), and the American College of Nurse-Midwives (ACNM). On February 3, 2015, the adult immunization schedule and a summary of changes from 2014 were published in the *Annals of Internal Medicine*, and a summary of changes was published in the *Morbidity and Mortality Weekly Report (MMWR)* on February 5, 2015.

All clinically significant postvaccination reactions should be reported to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.hhs.gov or by telephone, 800-822-7967.

Additional details regarding ACIP recommendations for each of the vaccines listed in the schedule can be found at www.cdc.gov/vaccines/hcp/acip-recs/index.html.

American Academy of Family Physicians (AAFP)

www.aafp.org/

American College of Physicians (ACP)

www.acponline.org/

American College of Obstetricians and Gynecologists (ACOG)

www.acog.org/

American College of Nurse-Midwives (ACNM)

www.midwife.org/



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Recommended Adult Immunization Schedule—United States - 2015

Note: These recommendations must be read with the footnotes that follow containing number of doses, intervals between doses, and other important information.

Figure 1. Recommended adult immunization schedule, by vaccine and age group¹

VACCINE ▼	AGE GROUP ►	19-21 years	22-26 years	27-49 years	50-59 years	60-64 years	≥ 65 years
Influenza ^{*2}		1 dose annually					
Tetanus, diphtheria, pertussis (Td/Tdap) ^{*3}		Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs					
Varicella ^{*4}		2 doses					
Human papillomavirus (HPV) Female ^{*5}		3 doses					
Human papillomavirus (HPV) Male ^{*5}		3 doses					
Zoster ⁶						1 dose	
Measles, mumps, rubella (MMR) ^{*7}		1 or 2 doses					
Pneumococcal 13-valent conjugate (PCV13) ^{*8}		1-time dose					1-time dose
Pneumococcal polysaccharide (PPSV23) ⁸		1 or 2 doses					1 dose
Meningococcal ^{*9}		1 or more doses					
Hepatitis A ^{*10}		2 doses					
Hepatitis B ^{*11}		3 doses					
<i>Haemophilus influenzae</i> type b (Hib) ^{*12}		1 or 3 doses					

*Covered by the Vaccine Injury Compensation Program

For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indication)

No recommendation

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at www.vaers.hhs.gov or by telephone, 800-822-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at www.hrsa.gov/vaccinecompensation or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at www.cdc.gov/vaccines or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 8:00 a.m. - 8:00 p.m. Eastern Time, Monday - Friday, excluding holidays.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Physicians (ACP), American College of Obstetricians and Gynecologists (ACOG) and American College of Nurse-Midwives (ACNM).

Figure 2. Vaccines that might be indicated for adults based on medical and other indications¹

VACCINE ▼	INDICATION ►	Pregnancy	Immuno-compromising conditions (excluding human immunodeficiency virus [HIV]) ^{4,6,7,8,12}	HIV infection CD4+ T lymphocyte count ^{4,6,7,8,12}		Men who have sex with men (MSM)	Kidney failure, end-stage renal disease, receipt of hemodialysis	Heart disease, chronic lung disease, chronic alcoholism	Asplenia (including elective splenectomy and persistent complement component deficiencies) ^{8,12}	Chronic liver disease	Diabetes	Healthcare personnel	
				< 200 cells/μL	≥ 200 cells/μL								
Influenza ^{*,2}				1 dose IIV annually		1 dose IIV or LAIV annually		1 dose IIV annually				1 dose IIV or LAIV annually	
Tetanus, diphtheria, pertussis (Td/Tdap) ^{*,3}		1 dose Tdap each pregnancy	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs										
Varicella ^{*,4}			Contraindicated	2 doses									
Human papillomavirus (HPV) Female ^{*,5}			3 doses through age 26 yrs				3 doses through age 26 yrs						
Human papillomavirus (HPV) Male ^{*,5}			3 doses through age 26 yrs				3 doses through age 21 yrs						
Zoster ⁶			Contraindicated	1 dose									
Measles, mumps, rubella (MMR) ^{*,7}			Contraindicated	1 or 2 doses									
Pneumococcal 13-valent conjugate (PCV13) ^{*,8}							1 dose						
Pneumococcal polysaccharide (PPSV23) ⁸							1 or 2 doses						
Meningococcal ^{*,9}							1 or more doses						
Hepatitis A ^{*,10}							2 doses						
Hepatitis B ^{*,11}							3 doses						
<i>Haemophilus influenzae</i> type b (Hib) ^{*,12}			post-HSCT recipients only				1 or 3 doses						

*Covered by the Vaccine Injury Compensation Program

For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster

Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)

No recommendation



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These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly recommended for adults ages 19 years and older, as of February 1, 2015. For all vaccines being recommended on the Adult Immunization Schedule: a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/hcp/acip-recs/index.html). Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

CLINICAL GUIDELINE

Advisory Committee on Immunization Practices Recommended Immunization Schedule for Adults Aged 19 Years or Older: United States, 2015*

David K. Kim, MD; Carolyn B. Bridges, MD; and Kathleen H. Harriman, PhD, MPH, RN on behalf of the Advisory Committee on Immunization Practices†

In October 2014, the Advisory Committee on Immunization Practices (ACIP) approved the Recommended Adult Immunization Schedule, United States, 2015. This schedule provides a summary of ACIP recommendations for the use of vaccines routinely recommended for adults in 2 figures (Figures 1 and 2), footnotes for each vaccine, and a table that describes primary contraindications and precautions for commonly used vaccines for adults (Table 1). Changes in the 2015 adult immunization schedule from the 2014 schedule include the September 2014 recommendation for routine administration of the 13-valent pneumococcal conjugate vaccine (PCV13) in series with the 23-valent pneumococcal polysaccharide vaccine (PPSV23) for all adults aged 65 years or older (1), the August 2014 revision on contraindications and precautions for the live attenuated influenza vaccine (LAIV) (2), and the October 2014 approval by the U.S. Food and Drug Administration

- The footnotes for pneumococcal vaccination have been revised to provide algorithmic, patient-based guidance for the health care provider to arrive at appropriate vaccination decisions for individual patients.
- The footnote for influenza vaccination has been updated to indicate that adults aged 18 years or older (changed from adults aged 18 through 49 years) can receive RIV. A list of updated available influenza vaccines can be found at www.cdc.gov/flu/protect/vaccine/vaccines.htm.
- Table 1, showing contraindications and precautions to commonly used vaccines in adults, has been revised to update the section on LAIV to reflect the changes in the ACIP recommendations for the 2014–2015 influenza season. These changes include moving “influenza antiviral use within the last 48 hours” from the precautions column to the contraindications col-

Pneumococcal Vaccination Recommendations in 2015 Adult Immunization Schedule

□ Adults ≥65 years

- Have not received PCV13 or PPSV23, or unknown history PCV13 → PPSV23¹
- Have not received PCV13 but received PPSV23 at ≥65y PCV13³
- Have not received PCV13 but received ≥1 PPSV23 at <65y PCV13³ → PPSV23^{1,4}
- Have received PCV13 but not PPSV23 at <65y PPSV23¹
- Have received PCV13 and ≥1 PPSV23 at <65y PPSV23^{1,4}

□ Adults 19–64 years immunocompromised, asplenia

- Have not received PCV13 or PPSV23, or unknown history PCV13 → PPSV23² → PPSV23⁴
- Have not received PCV13 but received 1 dose PPSV23 PCV13³ → PPSV23^{2,4}
- Have not received PCV13 but received 2 doses PPSV23 PCV13³
- Have received PCV13 but not PPSV23 PPSV23² → PPSV23⁴
- Have received PCV13 and 1 dose PPSV23 PPSV23⁴

□ Adults 19–64 years

- CSF leaks, cochlear implants PCV13 → PPSV23²
- Chronic health conditions, smoke cigarettes or reside in long-term facilities PPSV23

¹6–12 mos after PCV13

²≥8 wks after PCV13

³≥1y after most recent PPSV23

⁴≥5y after most recent PPSV23

Pneumococcal Vaccination Recommendations in 2015 Adult Immunization Schedule

□ **Adults ≥65 years**

- **Have not received PCV13 or PPSV23, or unknown history** PCV13 → PPSV23¹
- Have not received PCV13 but received PPSV23 at ≥65y PCV13³
- Have not received PCV13 but received ≥1 PPSV23 at <65y PCV13³ → PPSV23^{1,4}
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Pneumococcal Vaccination Recommendations in 2015 Adult Immunization Schedule

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- Have received PCV13 but not PPSV23 at <65y PPSV23¹
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- CSF leaks, cochlear implants PCV13 → PPSV23²
- Chronic health conditions, smoke cigarettes or reside in long-term facilities PPSV23

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³≥1y after most recent PPSV23

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Pneumococcal Vaccination Recommendations in 2015 Adult Immunization Schedule

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- **Have not received PCV13 but received ≥1 PPSV23 at <65y** **PCV13³ → PPSV23^{1,4}**
- Have received PCV13 but not PPSV23 at <65y PPSV23¹
- Have received PCV13 and ≥1 PPSV23 at <65y PPSV23^{1,4}

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- Have received PCV13 and 1 dose PPSV23 PPSV23⁴

□ **Adults 19–64 years**

- CSF leaks, cochlear implants PCV13 → PPSV23²
- Chronic health conditions, smoke cigarettes or reside in long-term facilities PPSV23

¹6–12 mos after PCV13

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- CSF leaks, cochlear implants PCV13 → PPSV23²
- Chronic health conditions, smoke cigarettes or reside in long-term facilities PPSV23

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Pneumococcal Vaccination Recommendations in 2015 Adult Immunization Schedule

□ Adults ≥65 years

- Have not received PCV13 or PPSV23, or unknown history
- Have not received PCV13 but received PPSV23 at ≥65y
- Have not received PCV13 but received ≥1 PPSV23 at <65y
- Have received PCV13 but not PPSV23 at <65y
- **Have received PCV13 and ≥1 PPSV23 at <65y**

PCV13 → PPSV23¹
 PCV13³
 PCV13³ → PPSV23^{1,4}
 PPSV23¹
PPSV23^{1,4}

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PCV13 → PPSV23² → PPSV23⁴
PCV13³ → PPSV23^{2,4}
 PCV13³
 PPSV23² → PPSV23⁴
 PPSV23⁴

□ Adults 19–64 years

- CSF leaks, cochlear implants
- Chronic health conditions, smoke cigarettes or reside in long-term facilities

PCV13 → PPSV23²
 PPSV23

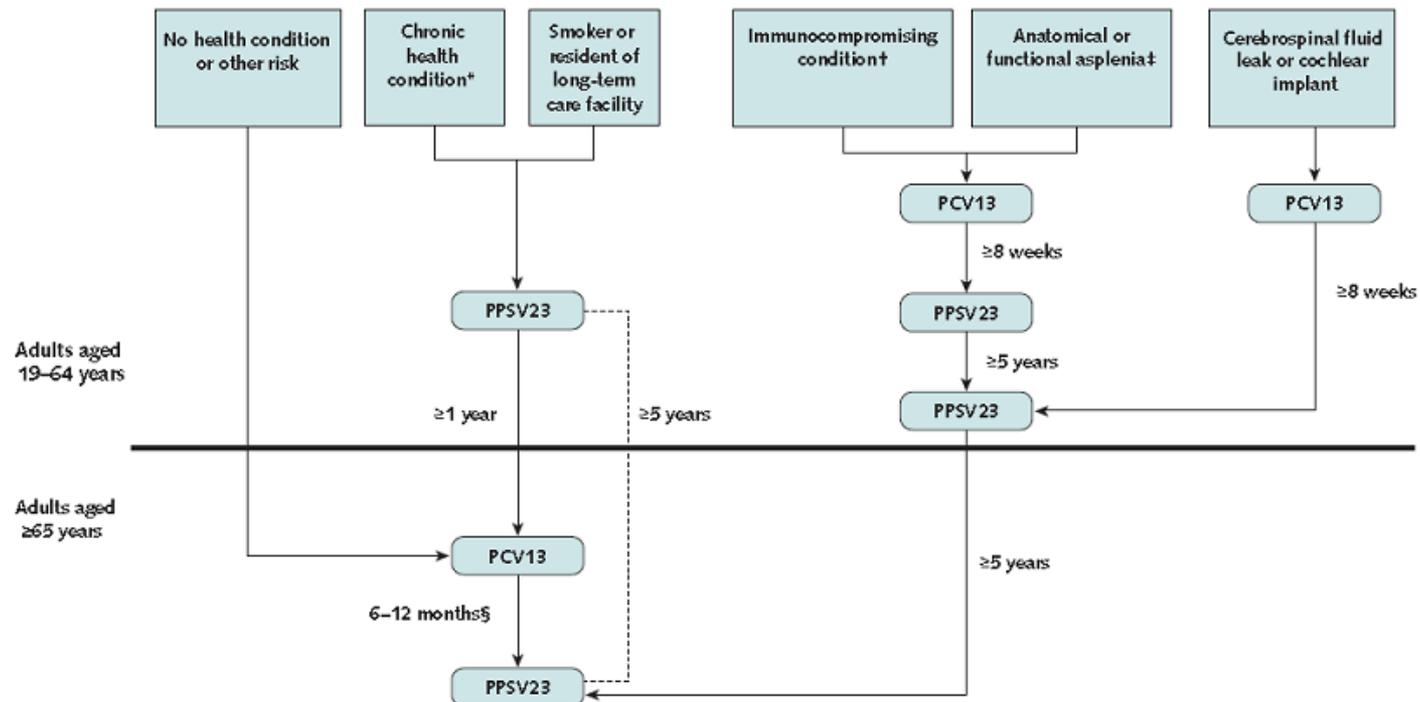
¹6–12 mos after PCV13

²≥8 wks after PCV13

³≥1y after most recent PPSV23

⁴≥5y after most recent PPSV23

Figure 3. Recommended pneumococcal vaccination schedule and intervals, by age, health condition, and other risks.



The dashed line represents the interval between the two PPSV23 doses. PCV13 = 13-valent pneumococcal conjugate vaccine; PPSV23 = 23-valent pneumococcal polysaccharide vaccine.

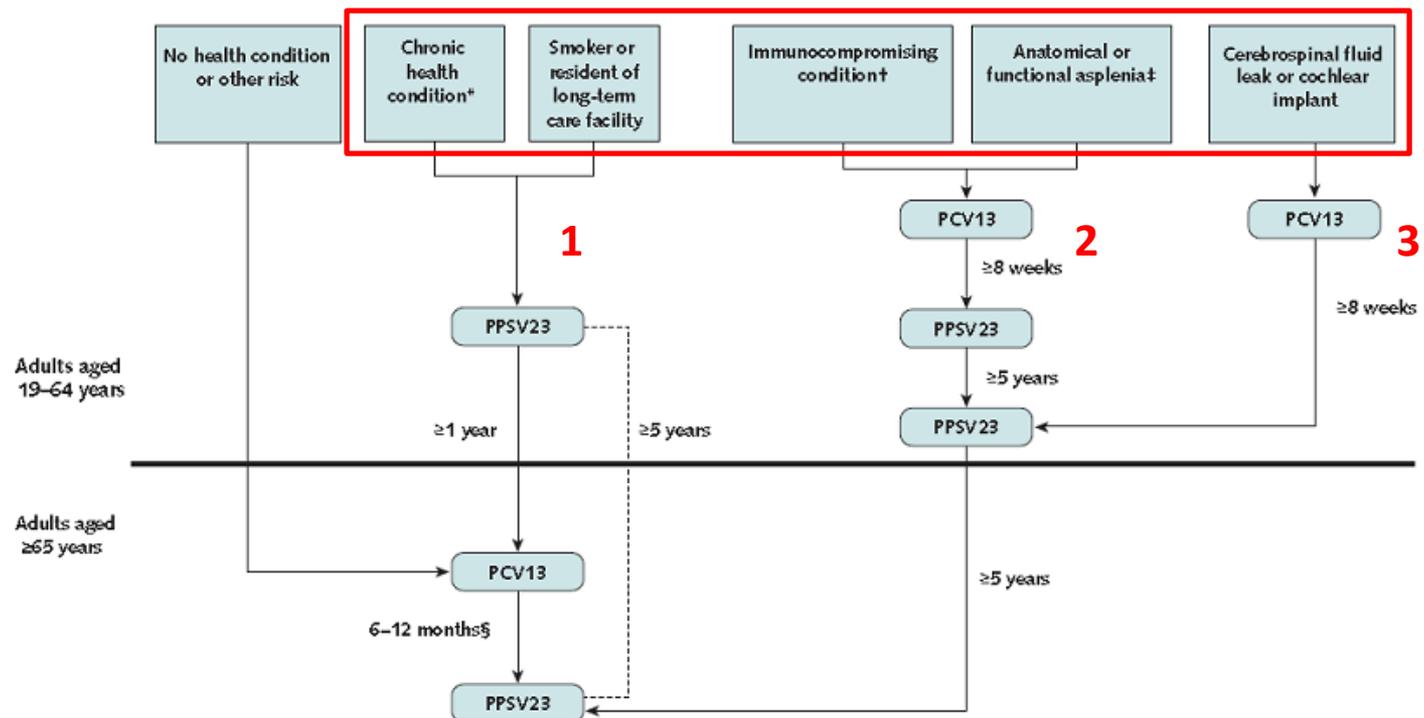
* Chronic health conditions are defined as chronic heart disease (including congestive heart failure and cardiomyopathies, excluding hypertension), chronic lung disease (including chronic obstructive lung disease, emphysema, and asthma), chronic liver disease (including cirrhosis), alcoholism, or diabetes mellitus.

† Immunocompromising conditions are defined as congenital or acquired immunodeficiency (including B- or T-lymphocyte deficiency, complement deficiencies, and phagocytic disorders excluding chronic granulomatous disease), HIV infection, chronic renal failure, nephrotic syndrome, leukemia, lymphoma, Hodgkin disease, generalized malignancy, multiple myeloma, solid organ transplant, and iatrogenic immunosuppression (including long-term systemic corticosteroids and radiation therapy).

‡ Anatomical or functional asplenia is defined as sickle cell disease and other hemoglobinopathies, congenital or acquired asplenia, splenic dysfunction, and splenectomy.

§ Administer PPSV23 as soon as possible if the 6- to 12-month time window has passed.

Figure 3. Recommended pneumococcal vaccination schedule and intervals, by age, health condition, and other risks.



The dashed line represents the interval between the two PPSV23 doses. PCV13 = 13-valent pneumococcal conjugate vaccine; PPSV23 = 23-valent pneumococcal polysaccharide vaccine.

* Chronic health conditions are defined as chronic heart disease (including congestive heart failure and cardiomyopathies, excluding hypertension), chronic lung disease (including chronic obstructive lung disease, emphysema, and asthma), chronic liver disease (including cirrhosis), alcoholism, or diabetes mellitus.

† Immunocompromising conditions are defined as congenital or acquired immunodeficiency (including B- or T-lymphocyte deficiency, complement deficiencies, and phagocytic disorders excluding chronic granulomatous disease), HIV infection, chronic renal failure, nephrotic syndrome, leukemia, lymphoma, Hodgkin disease, generalized malignancy, multiple myeloma, solid organ transplant, and iatrogenic immunosuppression (including long-term systemic corticosteroids and radiation therapy).

‡ Anatomical or functional asplenia is defined as sickle cell disease and other hemoglobinopathies, congenital or acquired asplenia, splenic dysfunction, and splenectomy.

§ Administer PPSV23 as soon as possible if the 6- to 12-month time window has passed.

Pneumococcal Vaccination Recommendations

General Information

- ❑ **One dose of PCV13 indicated for all adults; timing of PCV13 dependent on age and health conditions**
- ❑ **No additional doses of PPSV23 indicated for adults who received PPSV23 at or after age 65 years**
- ❑ **When both PCV13 and PPSV23 are indicated, administer PCV13 first; PCV13 and PPSV23 should not be administered during same visit**
- ❑ **For adults with incomplete or unknown pneumococcal vaccination history, administer PCV13 and PPSV23 as indicated (but not during the same visit)**
- ❑ **Note PPSV23 should be administered 6-12 months after PCV13 for adults 65 years or older; but for adults aged 19-64 years with immunocompromising conditions, anatomical or functional asplenia, or cerebrospinal fluid leak or cochlear implant, PPSV23 should be administered at least 8 weeks after PCV13**

Adult Vaccination Opportunities

- ❑ Healthcare providers believe immunizations are important for adults AND...
- ❑ Adults are receptive to information about and getting vaccinated when recommended by their trusted healthcare provider BUT...
- ❑ Awareness of need for adult vaccines is low among patients

Adult Immunization Practice Standards

- ❑ All providers, including those who don't provide vaccine services, have role in ensuring patients up to date on vaccines
- ❑ Call to action for healthcare professionals to
 - Assess immunization status of all patients at every clinical encounter
 - Strongly recommend vaccines that patients need
 - Administer needed vaccines or refer to a provider who can immunize
 - Document vaccines received by patients in state vaccine registries
- ❑ Formally supported by
 - American Academy of Pediatrics (AAP), American Academy of Family Physicians (AAFP), American College of Obstetricians and Gynecologists (ACOG), American College of Physicians (ACP), American Pharmacists Association (APhA), Association of State and Territorial Health Officials (ASTHO), others
- ❑ Contact immunization program at state or local health department for assistance, education materials, access to state vaccine registry

Bottom Lines

- ❑ **Burden of disease high for vaccine-preventable diseases**
- ❑ **Adult vaccination coverage low**
- ❑ **ACIP recommendations for adults updated annually as Adult Immunization Schedule**
- ❑ **2015 Adult Immunization Schedule**
 - Pneumococcal vaccination: PCV13 for all adults aged ≥ 65 years (followed by PPSV23 in 6-12 months)
- ❑ **Opportunities to improve adult vaccination**
- ❑ **Adult immunization practice standards**
 - Assess
 - Recommend
 - Administer or refer
 - Document (in state vaccine registry)

Thank You

For patients and providers

800-CDC-INFO (800-232-4636)

www.cdc.gov/vaccines

@CDCizlearn

For providers

NIPInfo@cdc.gov