

The Latest Guidance on STIs & Immunizations for Older Adults

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AMA Board of Trustees

AMA Liaison to CDC's ACIP

(Advisory Committee on Immunization Practices)

November 2024

Orlando

Learning Objectives:

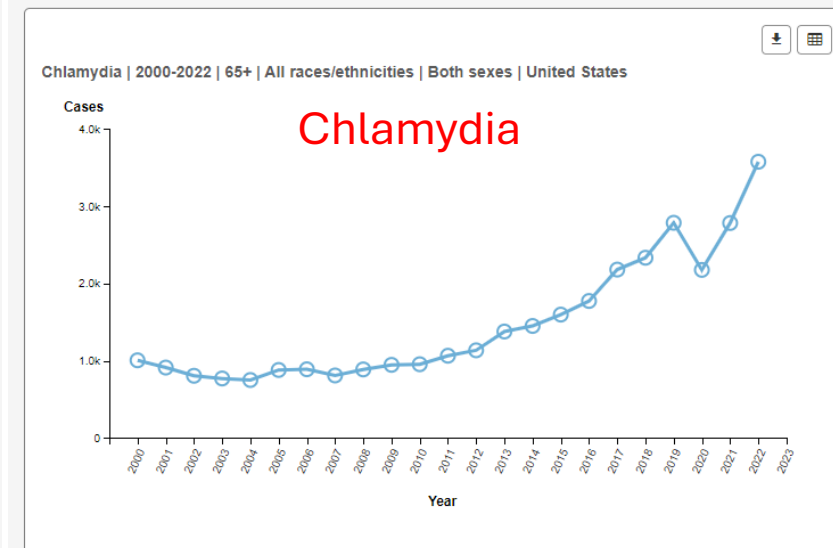
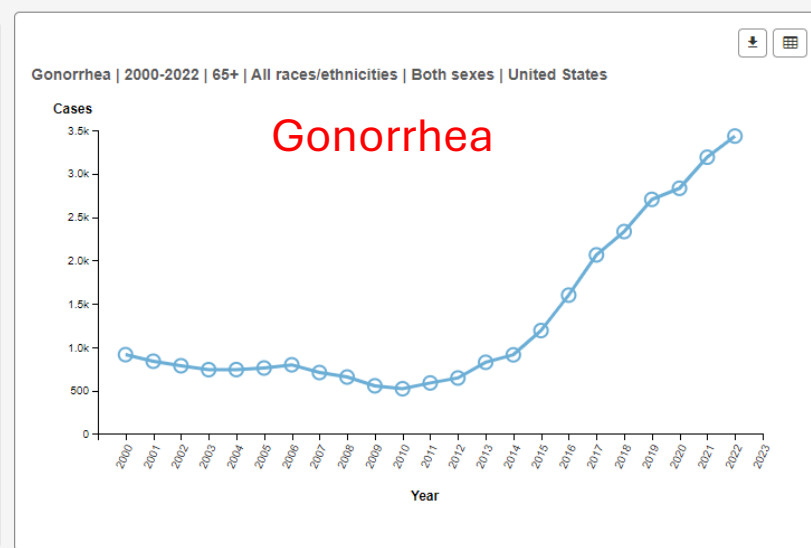
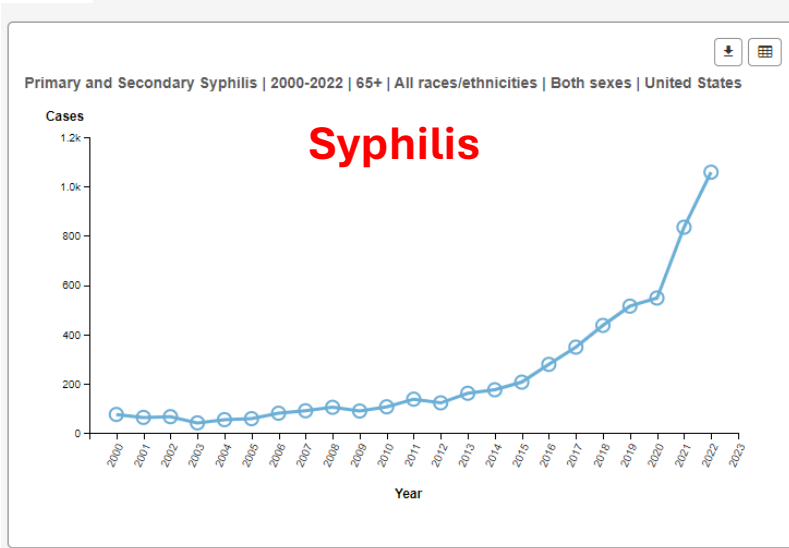
- Describe the CDC and ACIP guidelines regarding sexually transmitted infections (STIs) and immunizations in older adults.
- Recognize the importance of HPV vaccination to prevent STIs and other health conditions in older adults.

DISCLOSURES: NONE

Agenda:

- Define how sexually transmitted infections (STI's) impact adults 65 & older
- Review current ACIP recommended immunizations that protect against STIs
- Review current ACIP recommendations for HPV vaccine, as well as availability for those over age 45, including those working in healthcare
- Review other ACIP recommended immunizations for general health for those 65 & older.

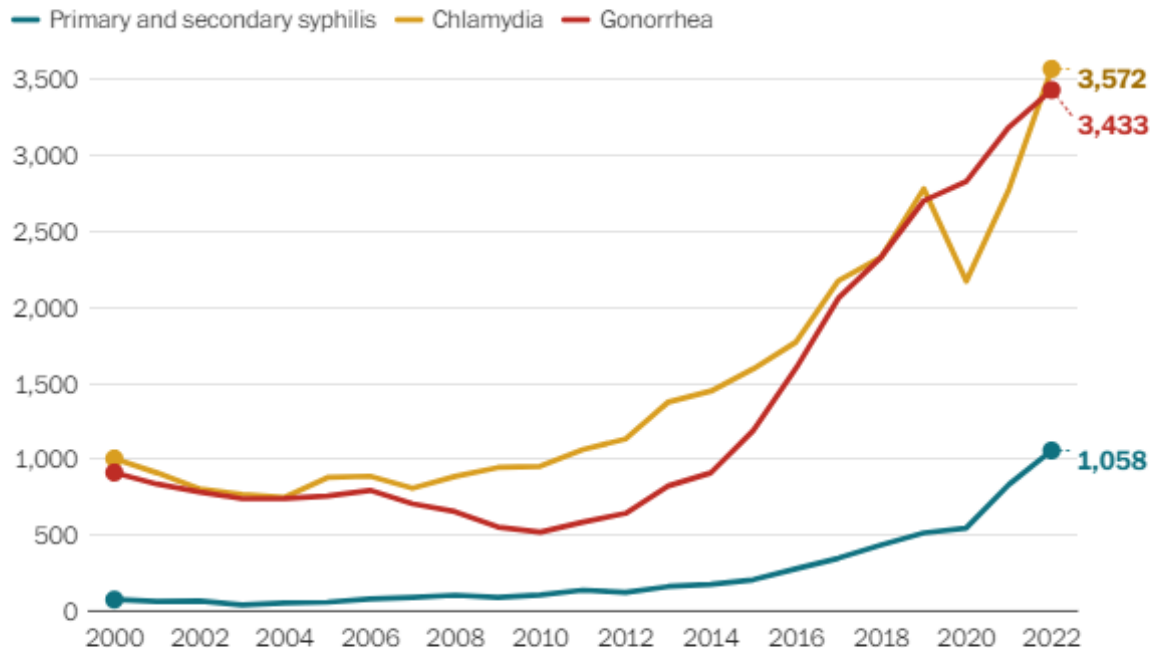




2012 to 2022--
Rates of syphilis, gonorrhea, and chlamydia
more than doubled in those 55 & older

Adults 65 & older:

Cases of sexually transmitted diseases are surging among Americans older than 65



Source: Centers for Disease Control and Prevention

From 2010 to 2023:

Chlamydia:  3 X

Gonorrhea:  6 X

Syphilis:  10 X

STD Diagnoses Rose 4.8 Percent from 2020 to 2023; Patients in the 65 and Older Age Group Had the Largest Increase

Syphilis, Gonorrhea, And HIV And AIDS Were The Fastest-Growing STD Diagnoses, According To FAIR Health Study

NEW YORK, NY—July 8, 2024—The percentage of commercially insured patients with sexually transmitted disease (STD) diagnoses rose by 4.8 percent from 2020 to 2023, according to a new study from FAIR Health. Patients aged 65 and older were the age group with the largest increase (23.8 percent) in STD diagnoses in that period. The next largest increase (16.2 percent) occurred among patients aged 55 to 64. The study results, which are being released today

in the form of an infographic, are based on analysis of data from FAIR Health's repository of over 47 billion commercial healthcare claim records—the largest study repository on the ground.

The FAIR Health findings are consistent with data from the Centers for Disease Control and Prevention showing rising rates of STDs among people aged 55 and older from 2012 to 2022.

Among the other FAIR Health findings, all for the period 2020-2023:

- The fastest-growing STD diagnoses by percent change in the percentage of patients with those diagnoses were syphilis (29.4 percent), gonorrhea (10.8 percent), and HIV and AIDS (14.1 percent).

- Patients aged 65 and older had the largest increase (32.2 percent) in human papillomavirus (HPV) diagnoses. The next largest increase (21.9 percent) occurred among patients aged 55 to 64.

- The percentage of male patients with gonorrhea grew by 59.2 percent while the percentage of female patients with the same diagnosis declined by 19.3 percent.

- The percentage of male patients with syphilis grew by 22.9 percent while the percentage of female patients with the same diagnosis grew by 46.5 percent.

Patients 65 & older had the largest increase in Human Papillomavirus (HPV) diagnoses: 32.2%

The next largest increase was in patients 55-64: 21.9%

HPV



HEALTH

Two-Thirds of Older Adults Are Interested in Sex, Poll Says

University of Michigan/AARP survey finds 40 percent of people ages 65-80 are sexually active



Nearly 72 percent of the individuals surveyed have a romantic partner and of those, 54 percent are sexually active.

JAMIE MACFADYEN/GALLERY STOCK



By: Dena Bunis

[EN ESPAÑOL](#) | Published May 03, 2018

2018 survey:
AARP & University of Michigan
Age 65- 80
40% are sexually active
Two-thirds are interested in sex

[ps://www.aarp.org/health/healthy-living/info-2018/older-sex-sexual-health-survey.html](https://www.aarp.org/health/healthy-living/info-2018/older-sex-sexual-health-survey.html)



**60 - 69 years old:
26 % had sex weekly,**

**70 & older:
17 % had sex weekly**

AGELESS DESIRE: RELATIONSHIPS AND SEX IN MIDDLE AGE AND BEYOND (Ages 40-Plus)

September 2023

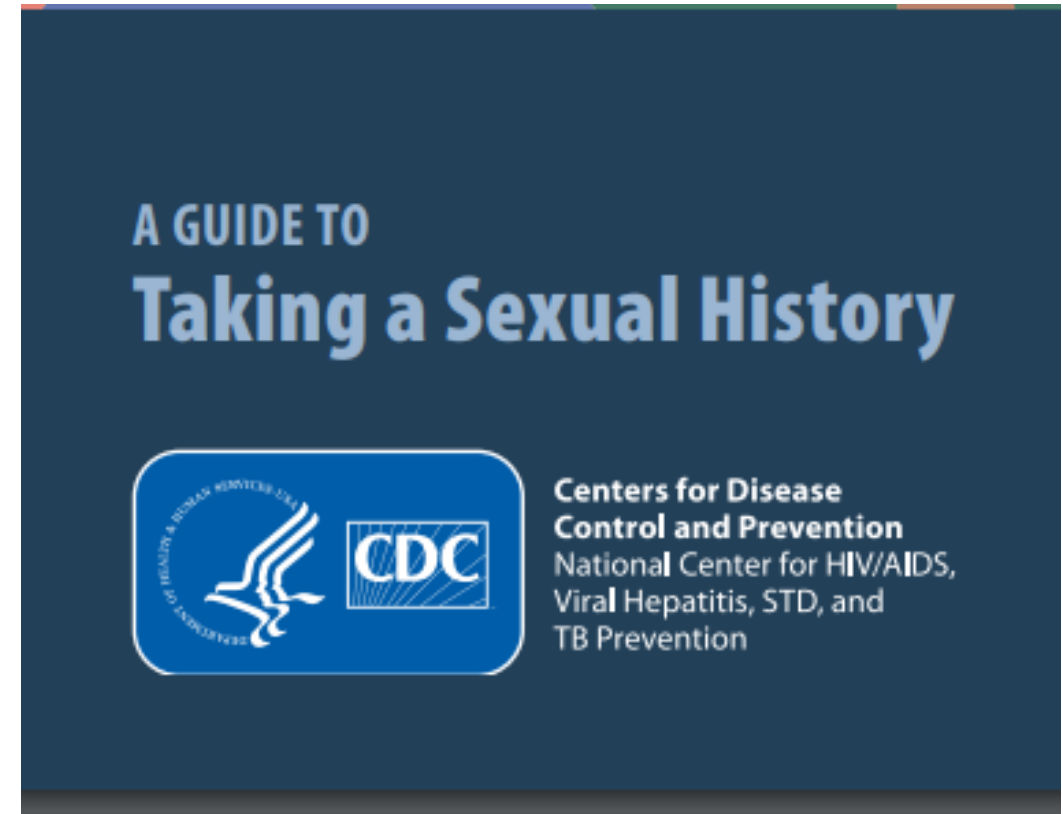
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DOI: <https://doi.org/10.26419/res.00748.001>

AARP RESEARCH

CDC “5 P's approach” *to taking a sexual history*

- **Partners**
- **Practices**
- **Protection from STIs**
- **Past History of STIs**
- **Pregnancy Intention**



<https://www.cdc.gov/std/treatment/sexualhistory.pdf>

Opinion | Sexually transmitted infections are skyrocketing in this unexpected group

Older adults deserve a healthy sex life, too.

5 min



(iStock)



By [Leana S. Wen](#)

June 18, 2024 at 7:15 a.m. EDT

1. Older people are healthier & staying sexually active for longer.
2. Low condom use
3. Lack of knowledge about STIs
4. More opportunities for new sex partners
5. Gender imbalance
6. Discomfort in discussing sex

Lack of knowledge about STIs

Sexually Transmitted Infection Knowledge among Older Adults: Psychometrics and Test-Retest Reliability

[Matthew Lee Smith](#),^{1,2,3,*} [Caroline D. Bergeron](#),⁴ [Heather H. Goltz](#),⁵ [Tammy Coffey](#),⁶ and [Ali Boolani](#)⁷

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(1) identify STI-related knowledge among older adults; (2) report the psychometric properties of a tool commonly used to assess STI-related knowledge among younger populations using data from adults 65 years and older; and (3) determine test-retest reliability of the tool. Data were analyzed from 43 adults, aged 65–94 years, using the 27-item Sexually Transmitted Disease Knowledge

However, the consistently low knowledge scores highlight the need for educational interventions among this population.

and 11.67 (± 7.33) correct responses on Day 2. Cronbach's alpha coefficients for the 27-item composite scale were high for both days (0.905 and 0.917, respectively), which indicates strong response consistency. Pearson's r coefficients were high between responses for the 27-item composite scale on Days 1 and 2 ($r = 0.882$, $p < 0.01$), which indicates strong test-retest reliability. Pearson's r coefficients were high between responses for all but three of the 27 items when assessed separately. Findings suggest the utility of the STD-KQ to assess STI knowledge among older adults. However, the consistently low knowledge scores highlight the need for educational interventions among this population.

Keywords: aging, sexual health, sexual risk behavior, knowledge, measurement, scale validation

More opportunities for new (sex) partners



ENTERTAINMENT
'Date My Grandma' Trailer — Dating Series From AARP

<https://www.aarp.org/videos/entertainment/6000076331001/>



Comedian Grandpa Heats Up Dance Floor on Blind Date

<https://www.youtube.com/watch?v=ejXv6P93XR8>

➤ [J Am Med Dir Assoc. 2016 Jan;17\(1\):71-4. doi: 10.1016/j.jamda.2015.08.013. Epub 2015 Oct 3.](#)

Sex in Nursing Homes: A Survey of Nursing Home Policies Governing Resident Sexual Activity

Paula E Lester ¹, Izchak Kohen ², Richard G Stefanacci ³, Martin Feuerman ⁴

Affiliations + expand

PMID: 26441358 DOI: [10.1016/j.jamda.2015.08.013](#)

Abstract

Objective: To identify nursing home (NH) standards related to sexual activity and sexual relationships for residents through a nationwide survey of directors of nursing (DONs).

Methods: A national survey was distributed online and was completed by 366 DONs of skilled nursing facilities. The DONs answered questions concerning policies and experiences related to sexual activities of their residents including types of resident sexual activity they have encountered, perceptions about residents with dementia engaging in sexual activity, and policies pertaining to sexual activity including masturbation.

Gender Imbalance / Partner Gap



National Center for Health Statistics

[FastStats Homepage](#)

[Diseases and Conditions](#) +

[Infectious/Immune](#) +

[Family Life](#) +

[Health Care and Insurance](#) +

[Disability and Risk Factors](#) +

[Injuries](#) +

Life Expectancy

[Print](#)

Data are for the U.S.

Life expectancy at birth

- Both sexes: 77.5 years
- Males: 74.8 years
- Females: 80.2 years

Source: [Mortality in the United States, 2022 \(Figure 1\)](#).

Agenda

- Define how sexually transmitted infections (STI's) impact adults 65 & older
- Review current ACIP recommended immunizations that protect against STIs
- Review current ACIP recommendations for HPV vaccine, as well as availability for those over age 45, including those working in healthcare
- Review other ACIP recommended immunizations for general health for those 65 & older.



Recommended Adult Immunization Schedule for ages 19 years or older

UNITED STATES
2024

Vaccines in the Adult Immunization Schedule*

Vaccine	Abbreviation(s)	Trade name(s)
COVID-19 vaccine	1vCOV-mRNA	Comirnaty®/Pfizer-BioNTech COVID-19 Vaccine Spikevax®/Moderna COVID-19 Vaccine
	1vCOV-aPS	Novavax COVID-19 Vaccine
Haemophilus influenzae type b vaccine	Hib	ActHIB® Hiberix® PedvaxHIB®
Hepatitis A vaccine	HepA	Havrix® Vaqta®
Hepatitis A and hepatitis B vaccine	HepA-HepB	Twinrix®
Hepatitis B vaccine	HepB	Engerix-B® Heplisav-B® PreHevbrio® Recombivax HB®
Human papillomavirus vaccine	HPV	Gardasil 9®
Influenza vaccine (inactivated)	IIV4	Many brands
Influenza vaccine (live, attenuated)	LAIV4	FluMist® Quadrivalent
Influenza vaccine (recombinant)	RIV4	Flublok® Quadrivalent
Measles, mumps, and rubella vaccine	MMR	M-M-R II® Priorix®
Meningococcal serogroups A, C, W, Y vaccine	MenACWY-CRM	Menveo®
	MenACWY-TT	MenQuadfi®
Meningococcal serogroup B vaccine	MenB-4C	Bexsero®
	MenB-FHbp	Trumenba®
Meningococcal serogroup A, B, C, W, Y vaccine	MenACWY-TT/ MenB-FHbp	Penbraya™
Mpox vaccine	Mpox	Jynneos®
Pneumococcal conjugate vaccine	PCV15	Vaxneuvance™
	PCV20	Pevnar 20™
Pneumococcal polysaccharide vaccine	PPSV23	Pneumovax 23®
Poliovirus vaccine	IPV	Ipol®
Respiratory syncytial virus vaccine	RSV	Arexvy®
		Abrysvo™
Tetanus and diphtheria toxoids	Td	Tenivac® Tdavax™
Tetanus and diphtheria toxoids and acellular pertussis vaccine	Tdap	Adacel® Boostrix®
Varicella vaccine	VAR	Varivax®
Zoster vaccine, recombinant	RZV	Shingrix

*Administer recommended vaccines if vaccination history is incomplete or unknown. Do not restart or add doses to vaccine series if there are extended intervals between doses. The use of trade names is for identification purposes only and does not imply endorsement by the ACIP or CDC.

6/27/2024

How to use the adult immunization schedule

- 1 Determine recommended vaccinations by age (**Table 1**)
- 2 Assess need for additional recommended vaccinations by medical condition or other indication (**Table 2**)
- 3 Review vaccine types, dosing frequencies and intervals, and considerations for special situations (**Notes**)
- 4 Review contraindications and precautions for vaccine types (**Appendix**)
- 5 Review new or updated ACIP guidance (**Addendum**)

Recommended by the Advisory Committee on Immunization Practices (www.cdc.gov/vaccines/acip) and approved by the Centers for Disease Control and Prevention (www.cdc.gov), American College of Physicians (www.acponline.org), American Academy of Family Physicians (www.aafp.org), American College of Obstetricians and Gynecologists (www.acog.org), American College of Nurse-Midwives (www.midwife.org), American Academy of Physician Associates (www.aapa.org), American Pharmacists Association (www.pharmacist.com), and Society for Healthcare Epidemiology of America (www.shea-online.org).

Report

- Suspected cases of reportable vaccine-preventable diseases or outbreaks to the local or state health department
- Clinically significant adverse events to the Vaccine Adverse Event Reporting System at www.vaers.hhs.gov or 800-822-7967

Questions or comments

Contact www.cdc.gov/cdc-info or 800-CDC-INFO (800-232-4636), in English or Spanish, 8 a.m.–8 p.m. ET, Monday through Friday, excluding holidays.



Download the CDC Vaccine Schedules app for providers at www.cdc.gov/vaccines/schedules/hcp/schedule-app.html

Helpful information

- Complete Advisory Committee on Immunization Practices (ACIP) recommendations: www.cdc.gov/vaccines/hcp/acip-recs/index.html
- ACIP Shared Clinical Decision-Making Recommendations: www.cdc.gov/vaccines/acip/acip-scdm-faqs.html
- General Best Practice Guidelines for Immunization www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html
- Vaccine information statements: www.cdc.gov/vaccines/hcp/vis/index.html
- Manual for the Surveillance of Vaccine-Preventable Diseases (including case identification and outbreak response): www.cdc.gov/vaccines/pubs/surv-manual

Scan QR code for access to online schedule



CS310021-D



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

Recommended Adult Immunization Schedule for ages 19 years or older

UNITED STATES
2024

Notes

Recommended Adult Immunization Schedule for Ages 19 Years or Older, United States, 2024

Human papillomavirus vaccination

Routine vaccination

- **All persons up through age 26 years:** 2- or 3-dose series depending on age at initial vaccination or condition
 - **Age 9–14 years at initial vaccination and received 1 dose or 2 doses less than 5 months apart:** 1 additional dose
 - **Age 9–14 years at initial vaccination and received 2 doses at least 5 months apart:** HPV vaccination series complete, no additional dose needed
 - **Age 15 years or older at initial vaccination:** 3-dose series at 0, 1–2 months, 6 months (minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 12 weeks / dose 1 to dose 3: 5 months; repeat dose if administered too soon)
- No additional dose recommended when any HPV vaccine series of any valency has been completed using the recommended dosing intervals.

Shared clinical decision-making

- **Adults age 27–45 years:** Based on shared clinical decision-making, complete a 2-dose series (if initiated age 9–14 years) or 3-dose series (if initiated ≥15 years)

For additional information on shared clinical decision-making for HPV; see www.cdc.gov/vaccines/hcp/admin/downloads/isd-job-aid-scdm-hpv-shared-clinical-decision-making-hpv.pdf

Hepatitis B vaccination

- **Age 60 years or older without** known risk factors for hepatitis B virus infection **may** receive a HepB vaccine series.
- **Age 60 years or older with** known risk factors for hepatitis B virus infection **should** receive a HepB vaccine series.
- **Any adult age 60 years of age or older** who requests HepB vaccination should receive a HepB vaccine series.
- **Risk factors for hepatitis B virus infection include:**
 - **Chronic liver disease** e.g., persons with hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase (ALT) or aspartate aminotransferase (AST) level greater than twice the upper limit of normal
 - **HIV infection**

Sexual exposure risk e.g., sex partners of hepatitis B surface antigen (HBsAg)-positive persons, sexually active persons not in mutually monogamous relationships, persons seeking evaluation or treatment for a sexually transmitted infection, men who have sex with men

Hepatitis A vaccination

Routine vaccination

Any person who is not fully vaccinated and requests vaccination (identification of risk factor not required): 2-dose series HepA (Havrix 6–12 months apart or Vaqta 6–18 months apart [minimum interval: 6 months]) or 3-dose series HepA-HepB (Twinrix at 0, 1, 6 months [minimum intervals: dose 1 to dose 2: 4 weeks / dose 2 to dose 3: 5 months])

Special situations

Any person who is not fully vaccinated and who is at risk for hepatitis A virus infection: 2-dose series HepA or 3-dose series HepA-HepB as above. Risk factors for hepatitis A virus infection include:

- **Chronic liver disease** (e.g., persons with hepatitis B, hepatitis C, cirrhosis, fatty liver disease, alcoholic liver disease, autoimmune hepatitis, alanine aminotransferase [ALT] or aspartate aminotransferase [AST] level greater than twice the upper limit of normal)
- **HIV infection**

Men who have sex with men

- **Injection or noninjection drug use**
- **Persons experiencing homelessness**
- **Work with hepatitis A virus** in research laboratory or with nonhuman primates with hepatitis A virus infection

Mpox vaccination

Special situations

- **Any person at risk for Mpox infection:** 2-dose series, 28 days apart.

Risk factors for Mpox infection include:

- Persons who are gay, bisexual, and other MSM, transgender or nonbinary people who in the past 6 months have had:
 - A new diagnosis of at least 1 sexually transmitted disease
 - More than 1 sex partner
 - Sex at a commercial sex venue
 - Sex in association with a large public event in a geographic area where Mpox transmission is occurring
- Persons who are sexual partners of the persons described above
- Persons who anticipate experiencing any of the situations described above

HPV

Hep B

Hep A

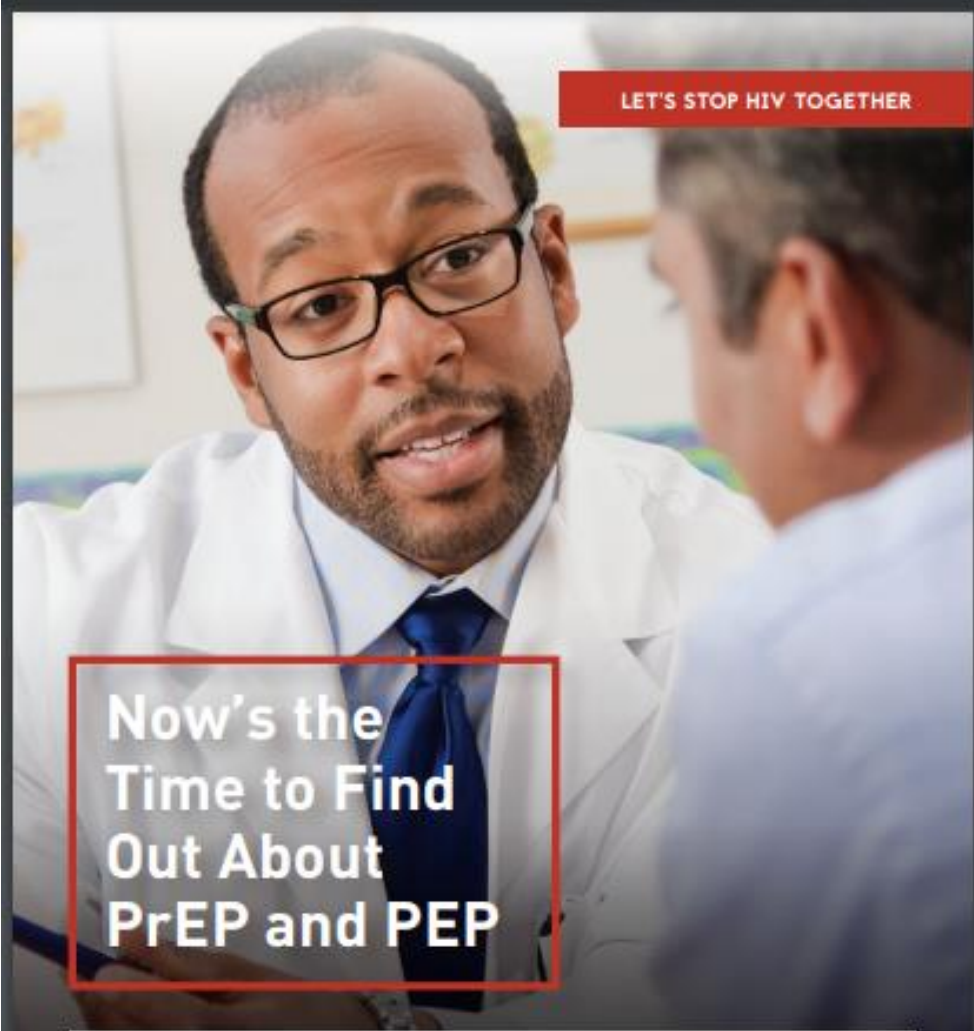
Mpox

HIV Prevention

***PrEP:
Pre-Exposure
Prophylaxis***

***PEP:
Post Exposure
Prophylaxis***

<https://www.cdc.gov/stophivtogether/library/topics/prevention/brochures/cdc-lsht-prevention-brochure-nows-the-time-patient.pdf>






LET'S STOP HIV TOGETHER

Now's the Time to Find Out About PrEP and PEP

Pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) can help you stay HIV negative, even if your partner might have HIV. This brochure includes useful tips on what to ask your health care provider about PrEP and PEP.

Learn more at: [cdc.gov/StopHIVTogether](https://www.cdc.gov/StopHIVTogether).



DoxyPEP: Doxycycline Post-Exposure Prophylaxis

.....It is a morning-after pill for STIs.



Morbidity and Mortality Weekly Report (MMWR)

Search

CDC Clinical Guidelines on the Use of Doxycycline Postexposure Prophylaxis for Bacterial Sexually Transmitted Infection Prevention, United States, 2024

Recommendations and Reports / June 6, 2024 / 73(2);1–8

[Print](#)

Laura H. Bachmann, MD¹; Lindley A. Barbee, MD¹; Philip Chan, MD^{1,2}; Hilary Reno, MD^{1,3}; Kimberly A. Workowski, MD^{1,4}; Karen Hoover, MD⁵; Jonathan Mermin, MD⁶; Leandro Mena, MD¹ [\(VIEW AUTHOR AFFILIATIONS\)](#)

[View suggested citation](#)

Summary

No vaccines and few chemoprophylaxis options exist for the prevention of bacterial sexually transmitted infections (STIs) (specifically syphilis, chlamydia, and gonorrhea). These infections have increased in the United States and disproportionately affect gay, bisexual, and other men who have sex with men (MSM) and transgender women (TGW). In three large randomized controlled trials, 200 mg of doxycycline taken within 72 hours after sex has been shown to reduce syphilis and chlamydia infections by >70% and gonococcal infections by approximately 50%.

This report outlines CDC's recommendation for the use of doxycycline postexposure prophylaxis (doxy PEP), a novel, ongoing, patient-managed biomedical STI prevention strategy for a selected population. CDC recommends that MSM and TGW who have had a bacterial STI (specifically syphilis, chlamydia, or gonorrhea) diagnosed in the past 12 months should receive counseling that doxy PEP can be used as postexposure prophylaxis to prevent these infections. Following shared decision-making with their provider, CDC recommends that providers offer persons in this group a prescription for doxy PEP to be self-administered within 72 hours after having oral, vaginal, or anal sex. The recommended dose of doxy PEP is 200 mg and should not exceed a maximum dose of 200 mg every 24 hours.

Article Metrics

Altmetric:



**DoxyPEP:
Doxycycline
200 mg
within 72 hours
after sex
(oral, vaginal, or anal)**

- Reduces syphilis >70%
- Reduces chlamydia > 70%
- Reduces gonorrhea 50%

Agenda

- Define how sexually transmitted infections (STI's) impact adults 65 & older
- Review current ACIP recommended immunizations that protect against STIs
- Review current ACIP recommendations for HPV vaccine, as well as availability for those over age 45, including those working in healthcare
- ➔ Review other ACIP recommended immunizations for general health for those 65 & older.

Recommended Adult Immunization Schedule for ages 19 years or older

UNITED STATES
2024

Vaccines in the Adult Immunization Schedule*

Table 1 Recommended Adult Immunization Schedule by Age Group, United States, 2024

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
COVID-19	1 or more doses of updated (2023–2024 Formula) vaccine (See Notes)			
Influenza inactivated (IIV4) or Influenza recombinant (RIV4)	1 dose annually			
Influenza live, attenuated (LAIV4)	1 dose annually			
Respiratory Syncytial Virus (RSV)	Seasonal administration during pregnancy. See Notes.			≥60 years
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap each pregnancy; 1 dose Td/Tdap for wound management (see notes) 1 dose Tdap, then Td or Tdap booster every 10 years			
Measles, mumps, rubella (MMR)	1 or 2 doses depending on indication (if born in 1957 or later)			For healthcare personnel, see notes
Varicella (VAR)	2 doses (if born in 1980 or later)		2 doses	
Zoster recombinant (RZV)	2 doses for immunocompromising conditions (see notes)		2 doses	
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition	27 through 45 years	See Notes	
Pneumococcal (PCV15, PCV20, PPSV23)	See Notes			See Notes
Hepatitis A (HepA)	2, 3, or 4 doses depending on vaccine			
Hepatitis B (HepB)	2, 3, or 4 doses depending on vaccine or condition			
Meningococcal A, C, W, Y (MenACWY)	1 or 2 doses depending on indication, see notes for booster recommendations			
Meningococcal B (MenB)	19 through 23 years	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations		
Haemophilus influenzae type b (Hib)	1 or 3 doses depending on indication			
Mpox	See Notes			

■ Recommended vaccination for adults who meet age requirement, lack documentation of vaccination, or lack evidence of immunity.
 ■ Recommended vaccination for adults with an additional risk factor or another indication.
 ■ Recommended vaccination based on shared clinical decision-making.
 ■ No recommendation/Not applicable.

Table 2 Recommended Adult Immunization Schedule by Medical Condition or Other Indication, United States, 2024

Always use this table in conjunction with Table 1 and the Notes that follow. Medical conditions or indications are often not mutually exclusive. If multiple medical conditions or indications are present, refer to guidance in all relevant columns. See Notes for medical conditions or indications not listed.

VACCINE	Pregnancy	Immunocompromised (excluding HIV infection)	HIV infection CD4 percentage and count <15% or <200mm ³	HIV infection CD4 percentage and count ≥15% and ≥200mm ³	Men who have sex with men	Asplenia, complement deficiency	Heart or lung disease	Kidney failure, End-stage renal disease or on dialysis	Chronic liver disease; alcoholism ^b	Diabetes	Healthcare Personnel ^c
COVID-19	See Notes										
IIV4 or RIV4	1 dose annually										
LAIV4	Seasonal administration. See Notes.		See Notes		1 dose annually if age 19–49 years	1 dose annually if age 19–49 years					
RSV	See Notes										
Tdap or Td	Tdap: 1 dose each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years									
MMR	See Notes										
VAR	See Notes										
RZV	See Notes										
HPV	3 dose series if indicated										
Pneumococcal	See Notes										
HepA	See Notes										
HepB	See Notes										
MenACWY	See Notes										
MenB	See Notes										
Hib	See Notes										
Mpox	See Notes										

■ Recommended for all adults who lack documentation of vaccination, OR lack evidence of immunity.
 ■ Not recommended for all adults, but recommended for some adults based on either age OR increased risk for or severe outcomes from disease.
 ■ Recommended based on shared clinical decision-making.
 ■ Recommended for all adults, and additional doses may be necessary based on medical condition or other indications. See Notes.
 ■ Precaution: Might be indicated if benefit of protection outweighs risk of adverse reaction.
 ■ Contraindicated or not recommended. *Vaccinate after pregnancy, if indicated.
 ■ No Guidance/Not Applicable.

a. Precaution for LAIV4 does not apply to alcoholism.
 b. See notes for influenza, hepatitis B, measles, mumps, and rubella, and varicella vaccinations.
 c. Hematopoietic stem cell transplant.

Notes

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Appendix

Contraindications and P

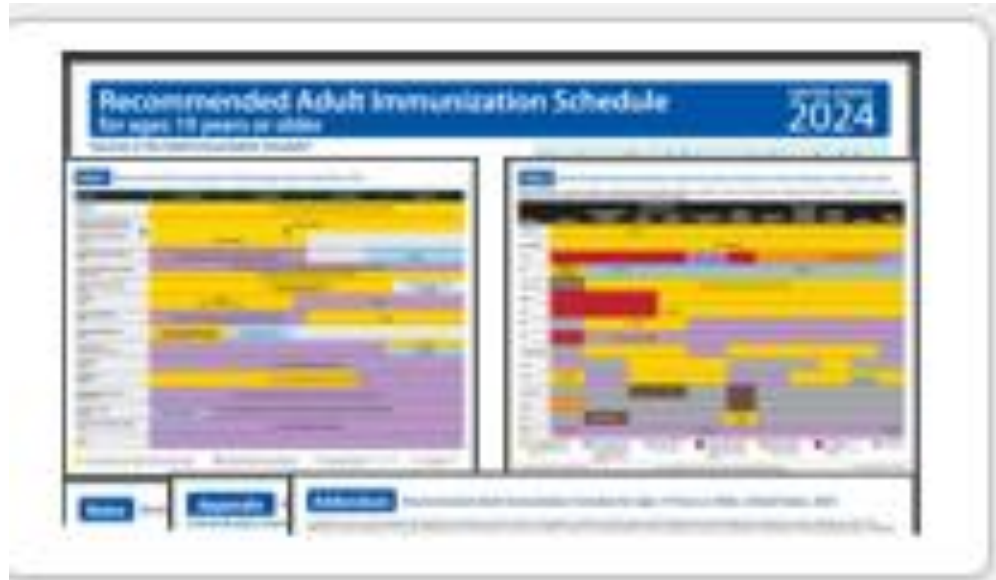
Addendum

Recommended Adult Immunization Schedule for Ages 19 Years or Older, United States, 2024

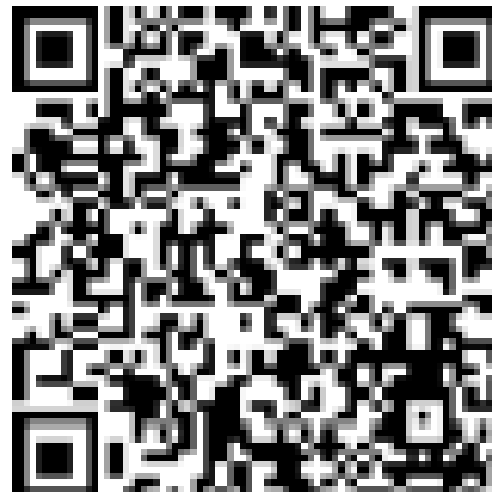
In addition to the recommendations presented in the previous sections of this immunization schedule, ACIP has approved the following recommendations by majority vote since October 26, 2023. The following recommendations have been adopted by the CDC Director and are now official. Links are provided if these recommendations have been published in *Morbidity and Mortality Weekly Report (MMWR)*.

Recommended Adult Immunization Schedule for ages 19 years or older

UNITED STATES
2024

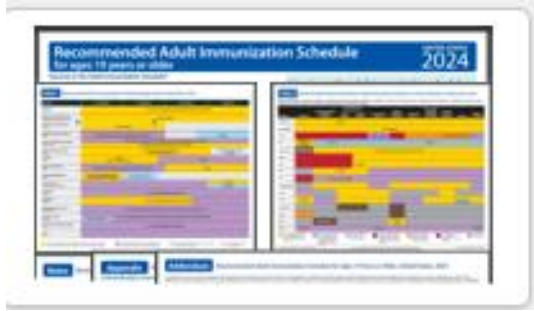


Scan QR code
for access to
online schedule



CS310021-D

Go for the Gold (on the schedule)!



Read the Notes...

Check the Addendum...

- Updated 2024-2025 COVID vaccine;
 - AND additional dose at 6 months for those 65+
- Influenza- preferred for 65 & older:
 - Hi Dose: Fluzone High-Dose OR Recombinant: FluBlok OR Adjuvanted: Flud)
- RSV (for all 75 & older, for 60-74 w/ certain medical conditions)
- Shingles- 2 doses of Shingrix (rec at age 50)
- Tdap
- Pneumococcal –NEW: *start PCV at 50: PCV 20 or new PCV 21:(Capvaxive)*

Pneumococcal Disease Burden among U.S. Adults

- Prior to the COVID-19 pandemic, estimated to have caused every year¹:
 - **≥100,000** non-invasive pneumococcal pneumonia hospitalizations
 - **≥30,000** invasive pneumococcal disease (IPD) cases (e.g., bacteremic pneumonia, pneumococcal bacteremia, meningitis)
 - **3,000** IPD deaths
- Risk of disease and severe outcomes is higher among older adults and adults with certain risk conditions.
 - **Over one-third** of adults aged ≥65 years hospitalized with community-acquired pneumonia in Louisville, KY died within 1 year²
 - **>80%** of IPD cases occurred among adults with risk-based indications³

1. Kobayashi M. October 20, 2021 ACIP Meeting Presentation. Considerations for Age-Based and Risk-Based Use of PCV15 and PCV20 among U.S. Adults and Proposed Policy Options.
2. [Older Adults Hospitalized for Pneumonia in the United States: Incidence, Epidemiology, and Outcomes - Arnold - 2020 - Journal of the American Geriatrics Society - Wiley Online Library](#)
3. CDC Active Bacterial Core surveillance unpublished data

February 2024, ACIP Meeting

Estimated incidence of pneumococcal disease in adults aged ≥ 65 years

Disease	Estimated incidence (per 100,000 population)
All-cause hospitalized pneumonia ¹	847–3,365
All-cause hospitalized noninvasive pneumococcal pneumonia ²	105
Invasive pneumococcal disease (IPD) ³	24

Case fatality ratio from IPD: 14%³

1. McLaughlin et al. Vaccine 2020 (limited to studies that collected data during or after 2010)
2. Gierke et al. IDweek 2020. CDC's Surveillance for NonInvasive Pneumococcal Pneumonia (SNiPP), 2017
3. CDC ABCs, 2018–2019



CDC Newsroom

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ACIP
October 2022

Q SEARCH

[ESP](#)

CDC Recommends Lowering the Age for Pneumococcal Vaccination from 65 to 50 Years Old

STATEMENT

📅 For immediate release: October 23, 2024

CDC Media Relations

📞 (404) 639-3286

✉ media@cdc.gov

- **ACIP recommends a pneumococcal conjugate vaccine (PCV) for all PCV-naïve adults aged ≥ 50 years**

	1	3	4	5	6 A	6 B	7 F	9 V	1 4	1 8 C	1 9 A	1 9 F	2 3 F	2 2 F	3 3 F	8	1 0 A	1 1 A	1 2 F	1 5 B	2	9 N	1 7 F	2 0	1 5 A	1 5 C	1 6 F	2 3 A	2 3 B	2 4 F	3 1	3 5 B		
PCV ₁₅																																		
PCV ₂₀																																		
PPSV ₂₃																																		
PCV ₂₁																																		

	<i>Conjugate</i>	<i>Polysaccharide</i>
	PCV	PPSV23
Basic Vaccine Composition	Capsular polysaccharides conjugated to CRM197 Carrier Protein	Capsular polysaccharide antigens
Mechanism of action	T-cell dependent	T-cell independent
Memory B cell production	Yes	No

PCV: pneumococcal conjugate vaccine, PPSV23: 23-valent pneumococcal polysaccharide vaccine

PCV= PCV15(Vaxneuvance), PCV 20 (Prevnar), PCV 21 (Capvaxive) Advisory Committee on Immunization Practices

October 19, 2022

PCV 21 = CAPVAXIVE

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STN: 125814

Proper Name: Pneumococcal 21-valent Conjugate Vaccine

Tradename: CAPVAXIVE

Manufacturer: Merck Sharp & Dohme LLC

Indication: CAPVAXIVE is indicated for:

- Active immunization for the prevention of invasive disease caused by *Streptococcus pneumoniae* serotypes 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15B, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, 24F, 31, 33F, and 35B in individuals 18 years of age and older.
- Active immunization for the prevention of pneumonia caused by *S. pneumoniae* serotypes 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, 24F, 31, 33F, and 35B in individuals 18 years of age and older.
- The indication for the prevention of pneumonia caused by *S. pneumoniae* serotypes 3, 6A, 7F, 8, 9N, 10A, 11A, 12F, 15A, 15C, 16F, 17F, 19A, 20A, 22F, 23A, 23B, 24F, 31, 33F, and 35B is approved under accelerated approval based on immune responses as measured by opsonophagocytic activity (OPA) [see *Clinical Studies (14.1)*]. Continued approval for this indication may be contingent upon verification and description of clinical benefit in a confirmatory trial.

Serotypes contained in current and new pneumococcal vaccines

	1	3	4	5	6 A	6 B	7 F	9 V	1 4	1 8 C	1 9 A	1 9 F	2 3 F	2 2 F	3 3 F	8	1 0 A	1 1 A	1 2 F	1 5 B	2	9 N	1 7 F	2 0	1 5 A	1 5 C	1 6 F	2 3 A	2 3 B	2 4 F	3 1	3 5 B				
PCV ₁₅	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
PCV ₂₀	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
PPSV ₂₃	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
PCV ₂₁	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

- During the COVID-19 pandemic, rates of IPD declined but are now returning to pre-pandemic levels
- >80% of adult IPD cases have a risk-based indication for vaccination
- PCV₂₁ has greater coverage of the serotypes causing IPD in adults compared to PCV₂₀
 - PCV₂₀ covers 54–58% of adult IPD
 - PCV₂₁ covers 81–84% of adult IPD



February 2024, ACIP Meeting

Serotypes contained in current and new pneumococcal vaccines

	1	3	4	5	6 A	6 B	7 F	9 V	1 4	1 8 C	1 9 A	1 9 F	2 3 F	2 2 F	3 3 F	8	1 0 A	1 1 A	1 2 F	1 5 B	2	9 N	1 7 F	2 0	1 5 A	1 5 C	1 6 F	2 3 A	2 3 B	2 4 F	3 1	3 5 B			
PCV ₁₅	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
PCV ₂₀	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
PPSV ₂₃	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
PCV ₂₁	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Serotype 4:
--PCV 20
contains it;
--PCV 21
does NOT

Increase in serotype 4 (included in currently available vaccines, not in PCV₂₁) IPD reported in certain subpopulations

- Adults experiencing homelessness (especially Western United States)
 - **100–300 times higher** serotype 4 IPD incidence reported in people experiencing homelessness (PEH) vs. non-PEH in the Western United States¹
- Adults in Alaska (especially Alaska Native adults)
 - **88-fold increase** in serotype 4 IPD incidence reported in adults in Alaska, 2011–2018 vs. 2019–2020²

Agenda

- Define how sexually transmitted infections (STI's) impact adults 65 & older
- Review current ACIP recommended immunizations that protect against STIs
- Review current ACIP recommendations for HPV vaccine, as well as availability for those over age 45, including those working in healthcare
- Review other ACIP recommended immunizations for general health for those 65 & older.



Burden of HPV Associated Cancers

Table 1. Number of Human Papillomavirus–Associated and Estimated Number of Human Papillomavirus–Attributable Cancer Cases Per Year*

Cancer Site	Average Number of Cases of Cancer Per Year in Sites Where HPV Often Is Found (HPV-Associated Cancer)	Percentage of Cases of Cancer Probably Caused by Any HPV Type [†]	Estimated Number of Cases of Cancer Probably Caused by Any HPV Type [†]
Cervix	12,015	91%	10,900
Vagina	862	75%	600
Vulva	4,009	69%	2,800
Penis	1,303	63%	800
Anus [‡]	6,810	91%	6,200
Female	4,539	93%	4,200
Male	2,270	89%	2,000
Oropharynx	19,000	70%	13,500
Female	3,460	63%	2,200
Male	15,540	72%	11,300
Total	43,999	79%	34,800
Women	24,886	83%	20,700
Men	19,113	74%	14,100

Abbreviation: HPV, human papillomavirus.

*Estimates were rounded to the nearest 100. Estimated counts might not sum to total because of rounding.

[†]HPV types detected in genotyping study; most were high-risk HPV types known to cause cancer.

[‡]Includes anal and rectal squamous cell carcinomas.

Saraiya M, Unger ER, Thompson TD, Lynch CF, Hernandez BY, Lyu CW, et al. US assessment of HPV types in cancers: implications for current and 9-valent HPV vaccines. HPV Typing of Cancers Workgroup. J Natl Cancer Inst 2015;107:djv086.

HPV 9 vaccine:

Warts

6,11: > 90% genital warts

Cancers

High risk types:

16, 18

31,33,45,52,58

>90% cervical cancers

>90% anal cancers

70% oropharyngeal CA

HPV Vaccine is a prophylactic vaccine

Keep in mind

HPV vaccination prevents new HPV infections but does not treat existing HPV infections or diseases. HPV vaccine works best when given before any exposure to HPV.



<https://www.cdc.gov/vaccines/vpd/hpv/hcp/recommendations.html#:~:text=Keep%20in%20mind%20that%20HPV,HPV%20types%20targeted%20by%20vaccination.>

ACIP recommendations for HPV vaccine

Age 9-26

HPV (HUMAN PAPILLOMAVIRUS) / VACCINE RECOMMENDATIONS

What are the recommendations for use of HPV vaccine in people age 9 through 26 years?

The ACIP recommends that routine HPV vaccination be initiated for all children at age 11 or 12 years. ACIP notes that vaccination may be started at age 9 years, if preferred, and should start at age 9 for any child that the provider at risk of exposure to HPV due to suspected abuse. There is no downside to beginning the series at age 9, and this option is often easier for families and clinics because it gives more time to complete the 2-dose series before the 13th birthday. Vaccination is also recommended for all people age 13 through 26 years who have not been vaccinated previously or who have not completed the vaccination series.

Last reviewed: March 2, 2024

<https://www.immunize.org/ask-experts/topic/hpv/>

ACIP recommendations for HPV Vaccine Age 27-45

HPV (HUMAN PAPILLOMAVIRUS) / VACCINE RECOMMENDATIONS

What are the recommendations for use of HPV vaccine in people age 27 through 45 years?

Catch-up HPV vaccination is not recommended for adults older than 26 years of age. Instead, shared clinical decision-making regarding HPV vaccination is recommended for some adults aged 27 through 45 years who are not adequately vaccinated and want to be protected from ongoing risk of acquiring new HPV infection.

Ideally, HPV vaccine should be administered before potential exposure to HPV through sexual contact.

Last reviewed: March 2, 2024

<https://www.immunize.org/ask-experts/topic/hpv/>



Shared Clinical Decision-Making HPV Vaccination for Adults Aged 27-45 Years



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

05/05/22

Shared clinical decision-making (SCDM) is recommended regarding Human papillomavirus (HPV) vaccination for persons 27-45 year of age. Shared clinical decision-making recommendations are intended to be flexible and should be informed by the characteristics, values, and preferences of the individual patient and the clinical discretion of the healthcare provider.

HPV vaccination does not need to be discussed with most adults in this age group.

If you do decide to discuss HPV vaccination with an adult patient:

Remember:



- Most HPV infections clear on their own within a year or two, but persistent infections can lead to development of precancers or cancers, usually after several decades.
- HPV vaccination is not routinely recommended for adults 27-45 years of age.
- HPV vaccine effectiveness is highest in people who have never had sex.
- HPV vaccination prevents new HPV infection, it does not treat existing HPV infection or disease.
- Most adults who have had sex have been exposed to HPV before.
- HPV vaccine effectiveness might be low among people with more risk factors for HPV, such as having had sex with more than one person or having certain immunocompromising conditions.



Shared Clinical Decision-Making HPV Vaccination for Adults Aged 27-45 Years

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HPV vaccination does not need to be discussed with most adults in this age group.

If you do decide to discuss HPV vaccination with an adult patient:



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

05/05/22

Consider:



- At any age, having a new sex partner is a risk factor for getting a new HPV infection. However, this is only one possible consideration for SCDM.
- Adults with more HPV risk factors (for example, multiple previous sex partners or certain immunocompromising conditions) might have been infected with HPV in the past, so might have a lower chance of getting a new HPV infection in the future.
- Adults with fewer HPV risk factors (for example, few or no previous sex partners) might not have been infected with HPV in the past, so might have a higher chance of getting a new HPV infection from a new sex partner in the future.



UpToDate®

Occupational Exposure

Exposure to surgical “smoke”

There is evidence that upper aerodigestive tract (nasal and oropharyngeal) HPV infection may be acquired in the health care setting through exposure to HPV in aerosols produced during surgical excision or ablation of HPV-associated lesions, although the magnitude of this risk is unknown [204]. HPV DNA has been detected in surgical smoke generated following laser or electrocoagulation treatment of cutaneous and cervical lesions [205,206]. Smoke generated during laser ablation of bovine fibropapillomas caused new cutaneous lesions when injected into calves, suggesting the viability of infectious papillomavirus in surgical smoke [207], but this has not yet been specifically demonstrated for HPV. Clinical evidence also supports the possibility of transmission of HPV through surgical smoke. As an example, in a study of 700

https://www.uptodate.com/contents/human-papillomavirus-infections-epidemiology-and-disease-associations?search=HPV%20there%20is%20evidence%20that%20upper%20aerodigestive%20tractg%20nasal%20andoropharyngela&source=search_result&selectedTitle=5%7E150&usage_type=default&display_rank=5



Shared Clinical Decision-Making HPV Vaccination for Adults Aged 27-45 Years

Shared clinical decision-making (SCDM) is recommended regarding Human papillomavirus (HPV) vaccination for persons 27-45 year of age. Shared clinical decision-making recommendations are intended to be flexible and should be informed by the characteristics, values, and preferences of the individual patient and the clinical discretion of the healthcare provider.

HPV vaccination does not need to be discussed with most adults in this age group.
If you do decide to discuss HPV vaccination with an adult patient:

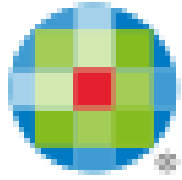
***Question:
Is surgical smoke
a surrogate
for a new sex partner?***

Consider:



- At any age, having a new sex partner is a risk factor for getting a new HPV infection. However, this is only one possible consideration for SCDM.
- Adults with more HPV risk factors (for example, multiple previous sex partners or certain immunocompromising conditions) might have been infected with HPV in the past, so might have a lower chance of getting a new HPV infection in the future.
- Adults with fewer HPV risk factors (for example, few or no previous sex partners) might not have been infected with HPV in the past, so might have a higher chance of getting a new HPV infection from a new sex partner in the future.





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Occupational Exposure

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Supports HPV vaccination for exposed health care workers

Health care workers at risk for occupational exposure — There is evidence that upper aerodigestive (nasal and oropharyngeal) HPV infection may be transmitted through exposure to HPV in vapors generated during surgical excision or ablation of HPV-associated lesions, although the magnitude of this risk is unknown [58]. This evidence is discussed in detail elsewhere. (See "Human papillomavirus infections: Epidemiology and disease associations", section on 'Epidemiology of oropharyngeal infection'.)

We agree with recommendations from the American Society for Colposcopy and Cervical Pathology that health care workers who may be routinely exposed to HPV in this way receive HPV vaccination [59]. This recommendation includes health care providers and operating room and office staff in the fields of gynecology, dermatology, and family practice. Insurance providers or other payers may not cover HPV vaccination for individuals older than 26 years, and this may affect the decision to vaccinate. (See 'Indications and age range' above.)

https://www.uptodate.com/contents/human-papillomavirus-vaccination?search=HPV%20health%20care%20workers%20at%20risk%20for%20occupaiontla%20exposure&source=search_result&selectedTitle=1%7E150&usage_type=default&display_rank=1

ACA = Affordable Care Act



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Immunizations for Adults Covered by the ACA

Published: September 25, 2024

Cancer

Chronic Conditions

Health Promotion

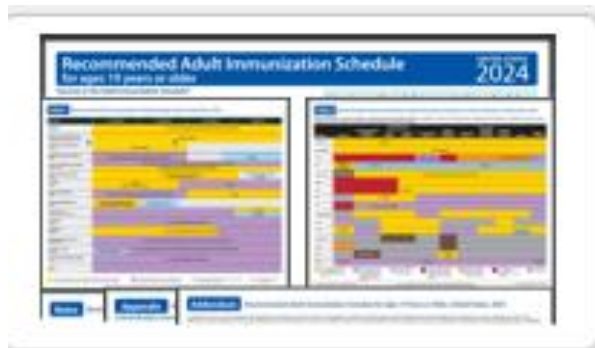
Immunizations

Sexual Health

Pregnancy Related

The Affordable Care Act (ACA) requires most private health insurance plans and Medicaid ACA expansion programs to cover the full cost of recommended immunizations for adults with no cost-sharing. **Vaccine and booster recommendations may vary by age and population. Some of the recommended vaccines that are covered in full are for COVID-19, Human papillomavirus (HPV), measles-mumps-rubella (MMR), and Influenza along with many of the traditional childhood vaccinations.**

The Advisory Committee on Immunization Practices ([ACIP](#)) develops recommendations for vaccine use to prevent the spread of diseases caused by infections and viruses.



<https://www.kff.org/immunizations-covered-by-the-aca/>



Human papillomavirus vaccination



Studies have suggested that HPV vaccination is immunogenic, efficacious, and safe in females older than 25 years [22-25]. However, clinicians and patients should be aware that HPV vaccination of individuals older than 26 years may not be covered by insurance providers or other payers, and this may affect the decision to vaccinate. In the United States, the HPV vaccine is approved through age 45. It is possible that some individuals over the age of 45 years may also benefit from vaccination, but the benefit has not been well studied, and reimbursement for vaccination of such individuals is even less likely.

**> age 45: could receive it “off- label”
But insurance is unlikely to cover it
(since it is not on ACIP Adult Schedule)**

Interim -2024

- **Res 911:**

Adequate Masking and HPV Education for Health Care workers (including those >45)

- Recommended for Reaffirmation
- *Res A 404 A-24 referred for study on surgical smoke*
 - *Evaluate evidence re: healthcare worker exposure to HPV*
 - *Report back at A-25*

- **Res 913:**

STIs are on the Rise in the Senior population

The Importance of Routinely Screening for HIV, STIs, Viral Hepatitis and LTBI

October 17, 2024

Webinar Launch Series

Episode 1: The Importance of Routinely Screening for HIV, STIs, Viral Hepatitis and LTBI

The first episode provides an overview of the toolkit and how the toolkit supports community health centers and emergency departments in the implementation of opt-out screening and care team training.



Episode 3: Connecting Patients to Treatment for HIV, STI, Viral Hepatitis & LTBI

The third episode explores effective routine screening strategies that connect patients to treatment.



Episode 2: Improve Your Screening Process for HIV, STIs, Viral Hepatitis & LTBI

The second episode discusses strategies from AMA's new toolkit, focusing on sex-positive messaging and streamlining the testing cascade.



END

Prevalence of HPV infections in surgical smoke exposed gynecologists

[Xiaoli Hu](#)^{1,#}, [Qingfeng Zhou](#)^{1,#}, [Jian Yu](#)¹, [Jing Wang](#)¹, [Quanmei Tu](#)¹, [Xueqiong Zhu](#)^{1,✉}

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▶ [Int Arch Occup Environ Health](#). 2020 Sep 1;94(1):107–115. doi: [10.1007/s00420-020-01568-9](https://doi.org/10.1007/s00420-020-01568-9) [↗](#)

The HPV infection rate in the nasal epithelial cells of the participants who performed electrosurgery (8.96%, 42/469) or LEEP (10.11%, 36/356) was significantly higher than that in the remaining participants who did not perform electrosurgery (1.73%, 4/231) or LEEP (2.91%, 10/344), respectively. The most prevalent HPV genotype in the electrosurgery group was HPV16 (76.19%, 32/42). The HPV-positive rate was increased in the group that had a longer duration of electrosurgery ($P = 0.016$). Additionally, the HPV detection rate was significantly lower in electrosurgery operators who used surgical mask (7.64%, 33/432) than in those who did not use protective masks (24.32%, 9/37). Furthermore, the N95 mask (0%, 0/196) significantly reduced the risk for HPV infection compared to that with the general mask (13.98%, 33/236, $P < 0.001$). Furthermore, 46 participants infected with HPV

Prevalence of HPV infections in surgical smoke exposed gynecologists

[Xiaoli Hu](#)^{1,#}, [Qingfeng Zhou](#)^{1,#}, [Jian Yu](#)¹, [Jing Wang](#)¹, [Quanmei Tu](#)¹, [Xueqiong Zhu](#)^{1,✉}

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PMCID: PMC7826298 PMID: [32870342](#)

▶ [Int Arch Occup Environ Health](#). 2020 Sep 1;94(1):107–115. doi: [10.1007/s00420-020-01568-9](#) [↗](#)

Gynecologists who performed electrosurgery including LEEP were at risk of acquiring HPV infection. Surgical masks, especially the N95 mask, significantly decreased the hazard of HPV transmission from surgical smoke.