HPV Vaccination: The Dental Professional's Role in Preventing HPV-Related Cancers

Quality Insights

The healthcare improvement experts.

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- All attendee lines are muted
- Please submit your questions to our panelists via the Q&A feature
- Questions will be addressed at the end of the session, as time permits

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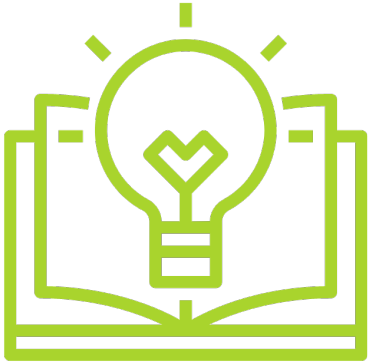

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  - Complete evaluation & post-knowledge checks
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Dentists & Dental Hygienists

- DE & PA Boards of Dentistry accept Continuing Medical Education (ACCME) credits
  - This course has ACCME approval
- Please see your board's statements
  - DE Board of Dentistry
  - PA Board of Dentistry

Meet the Presenters

Danielle Nugent, MS
Practice Transformation Specialist

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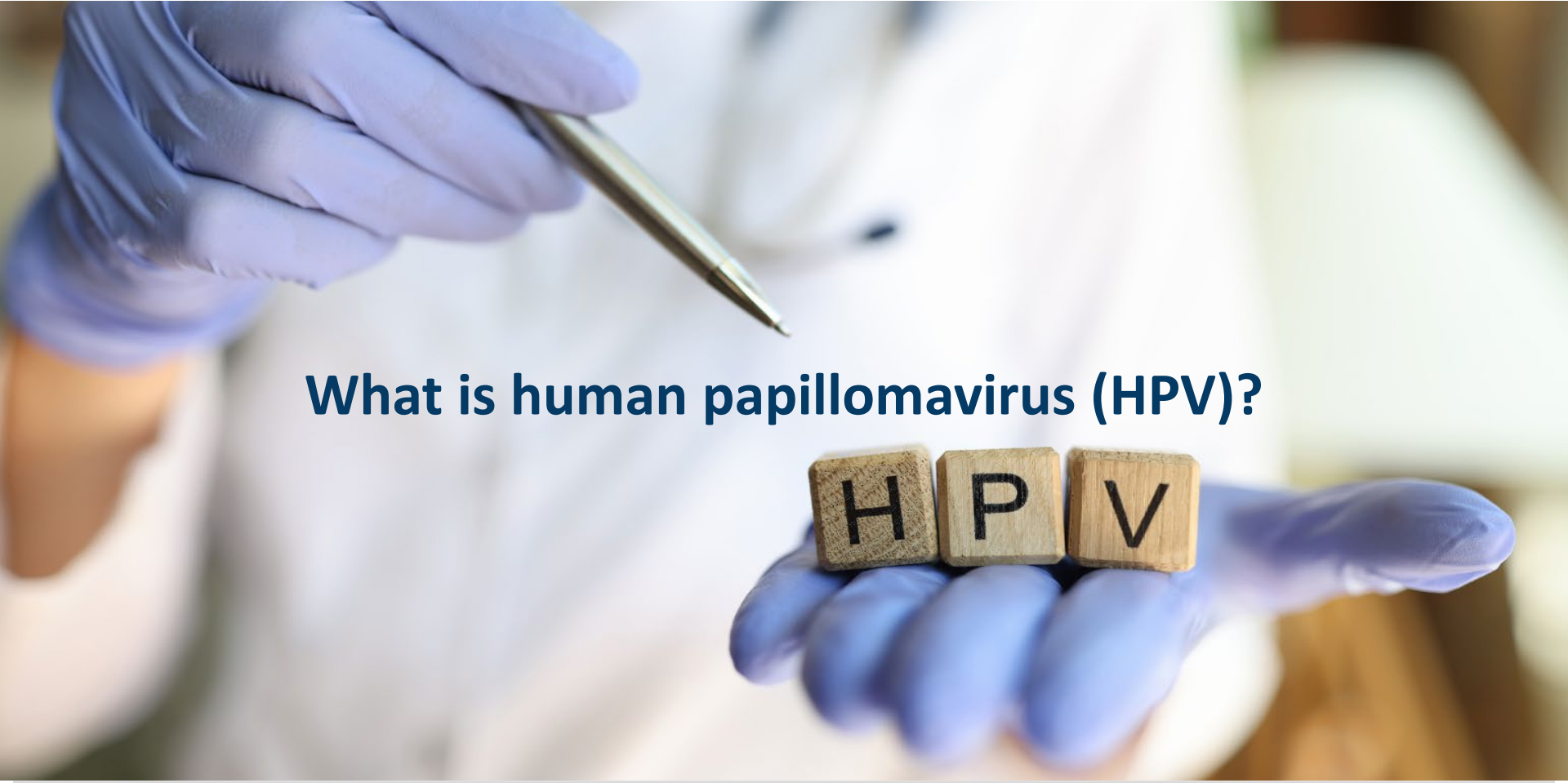
Learning Objectives

- After this course, the learner will:
  - Describe the association between human papillomavirus (HPV) infections and oropharyngeal cancer.
  - Describe the association between HPV vaccination and cancer prevention.
  - Explain the recommended HPV dosing schedules related to a patient's age and timing of previous HPV vaccinations.
  - Identify the dental professional's role in HPV vaccination recommendation and education.

You Have The Power To Protect Children From HPV

What is human papillomavirus (HPV)?



HPV Infection

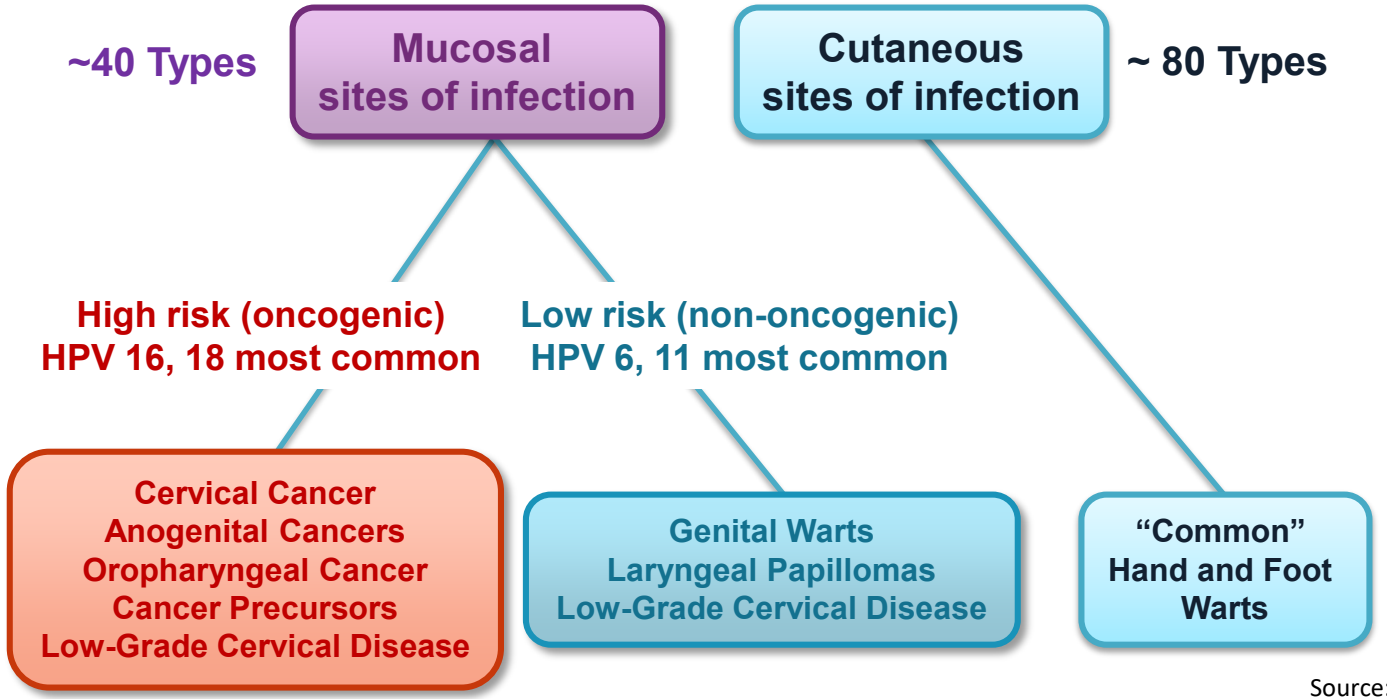
Most females and males will be infected with at least one type of mucosal HPV at some point in their lives.

- An estimated 79 million Americans are currently infected.
- There are 14 million new infections per year in the U.S.
- HPV infection is most common in people in their teens and early 20s.

Most people will never know that they have been infected.

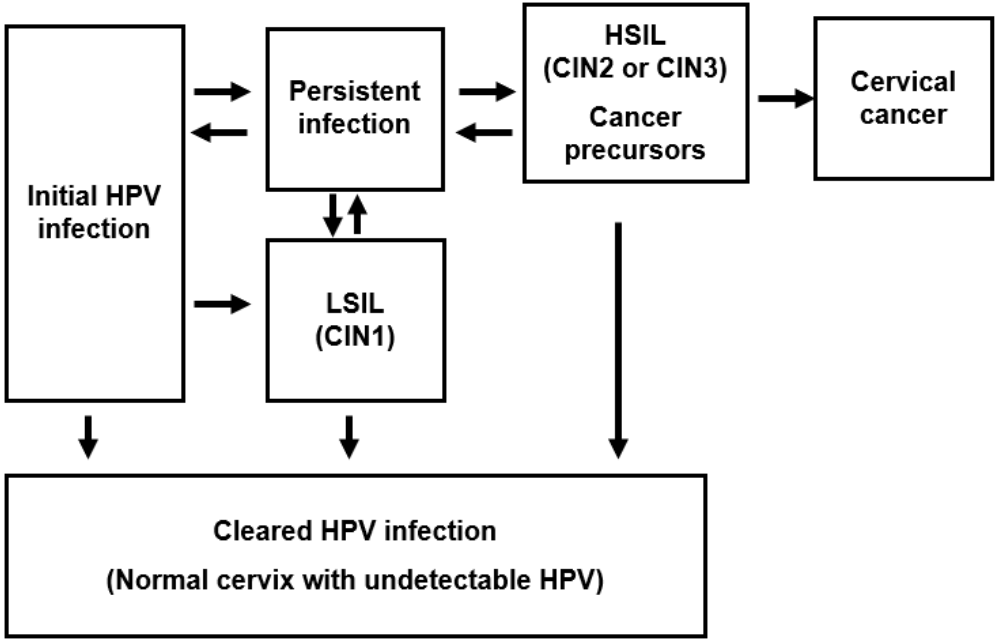
Source: CDC, 2021.

HPV Types



Source: CDC, 2022.

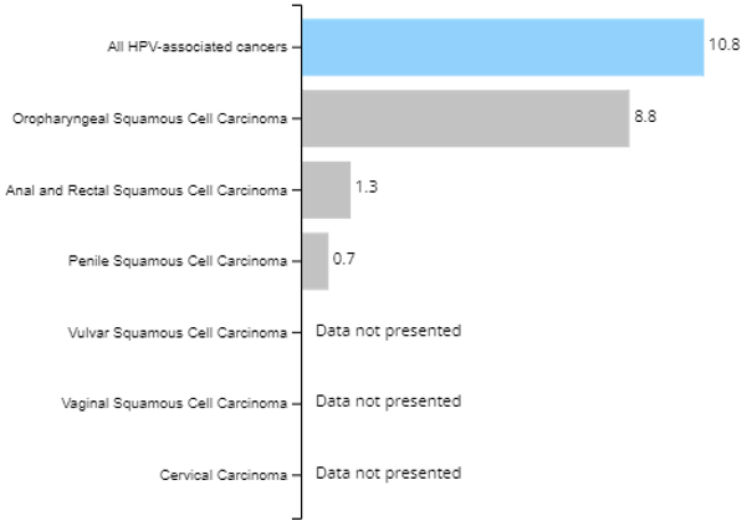
HPV Pathogenesis



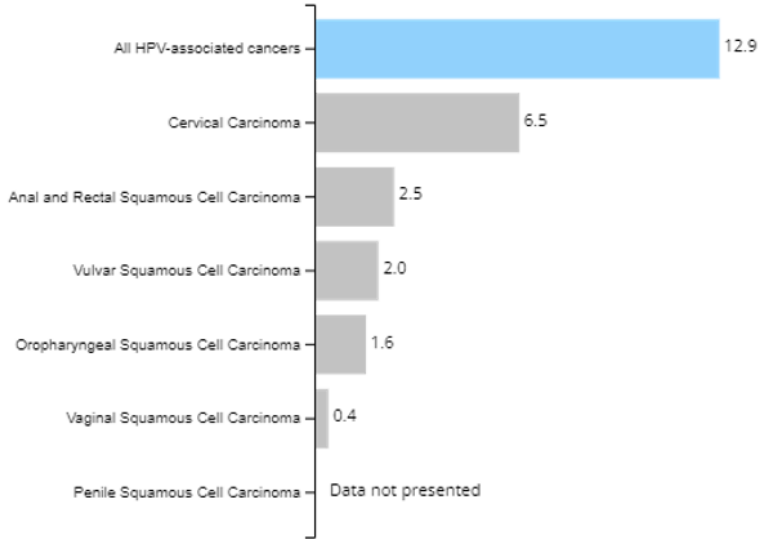
Source: CDC, 2023.

The Impact of HPV

HPV-Associated Cancers by Type, Men



HPV-Associated Cancers by Type, Women

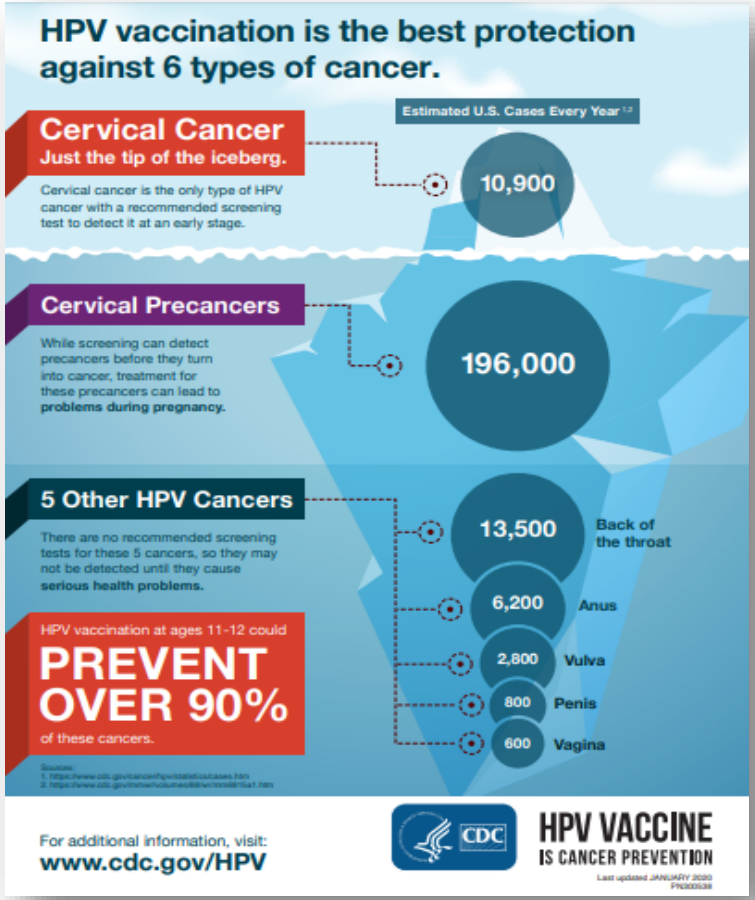


Source: Nang, 2023 *and* *CDC 2023*

Knowledge Check #1

What is the leading type of HPV-related cancer for men in the United States?

A. Cervical
B. Anal
C. Oropharyngeal
D. Penile



Source: CDC, 2022, ACS, 2023

Disease Burden

45,531 new cases of HPV-associated cancer annually

- 24,656 among women
- 20,875 among men

Over 90% are **PREVENTABLE** through vaccination

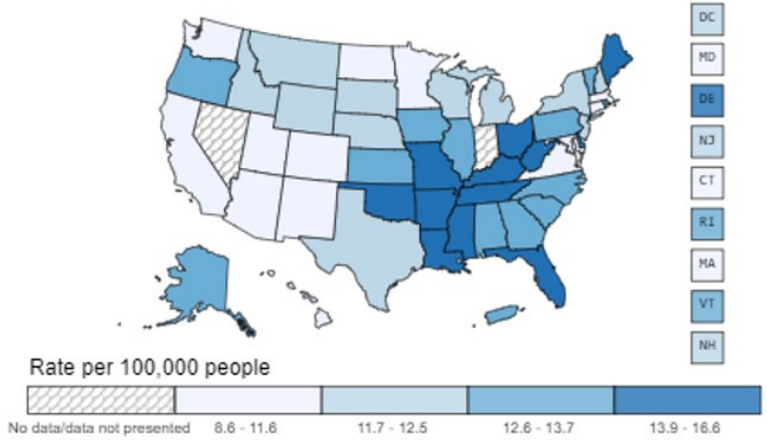
HPV infection may place mothers at increased risk of preterm delivery and miscarriage

Source: U.S. Cancer Statistics: Data Visualizations, CDC, 2023, JAMA, 2020

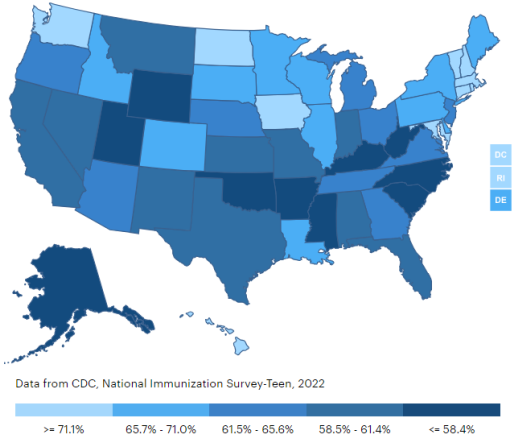
Delaware Statistics

HPV vaccination coverage among adolescents 13-17 years by state, HHS Region, and the United States, National Immunization Survey-Teen (NIS-Teen), 2022

Rate of new HPV cancers, 2022



HPV Vaccination Rate by State, 2022



Source: U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, CDC, 2023.

Oral and Oropharyngeal Cancer

- Oral cancers
  - Cancers that start in the head and the neck
- Oral cavity cancer
  - Cancer that starts in the mouth
- Oropharyngeal cancer
  - Cancer that starts in the throat

Source: NIDCR, 2023.

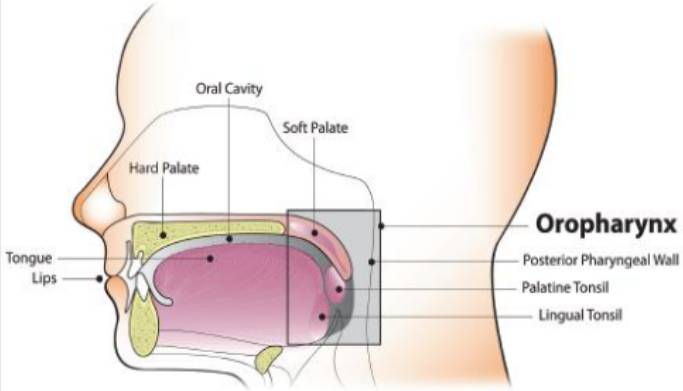


Diagram of the oral cavity and oropharynx. The oral cavity includes the lips, the labial and buccal mucosa, the front two-thirds of the tongue, the retromolar pad, the floor of the mouth, the gingiva, and the hard palate. The oropharynx includes the palatine and lingual tonsils, the back one-third base of the tongue, the soft palate, and the posterior pharyngeal wall.

Source: CDC, 2023.

Oral/Oropharyngeal Cancer Rates

58,450

new cases of oral/oropharyngeal cancer estimated in 2024

Source: ACS, 2024.

Oral cancer rates are higher in White males

Source: NIH, 2023.

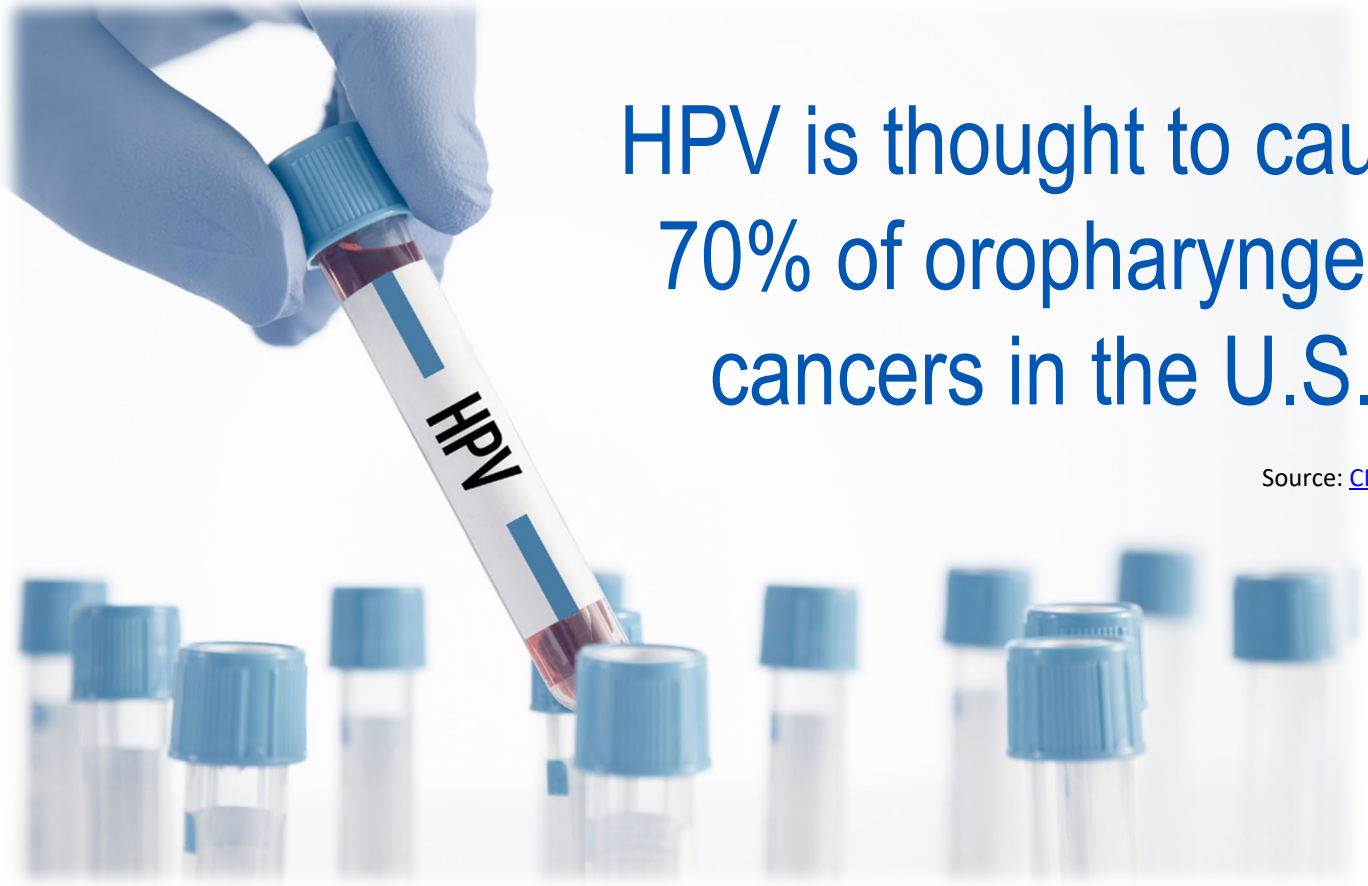
Rates of oropharyngeal cancer 2X higher in men than in women

Source: ACS, 2024.

Risk Factors for Oropharyngeal Cancer

Risk Factors	Symptoms
• Tobacco use • Alcohol use • HPV • Personal history	• Sore throat • Ear pain • Inability to swallow • Mouth pain • Lump in back of mouth, neck, or throat • Coughing up blood • White patch on the tongue

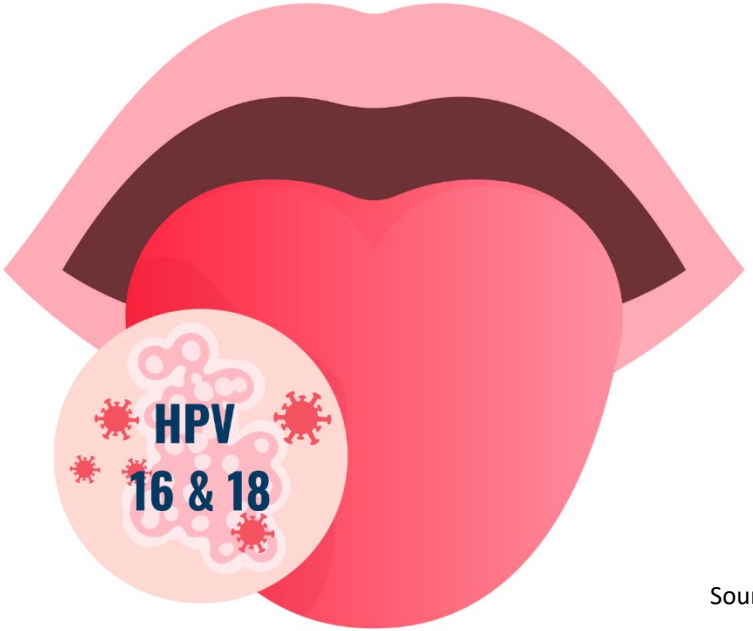
Source: Cancer.gov, 2023.



HPV is thought to cause 70% of oropharyngeal cancers in the U.S.

Source: CDC, 2023

HPV and Oropharyngeal Cancer

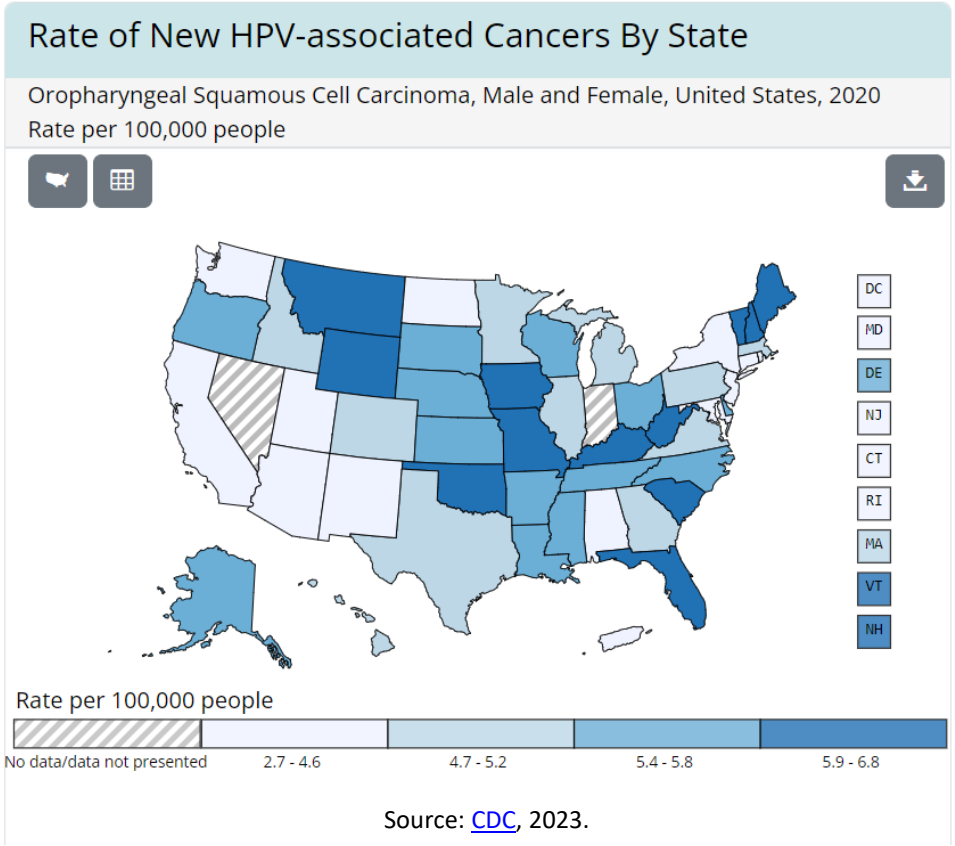


Source: NIH., 2023

Oropharyngeal Cancers Caused by HPV

- Over 14,800 cases annually
- 70% caused by HPV
- Most common HPV-associated cancer in the U.S.
- Indication for HPV vaccination

Source: CDC, 2023.



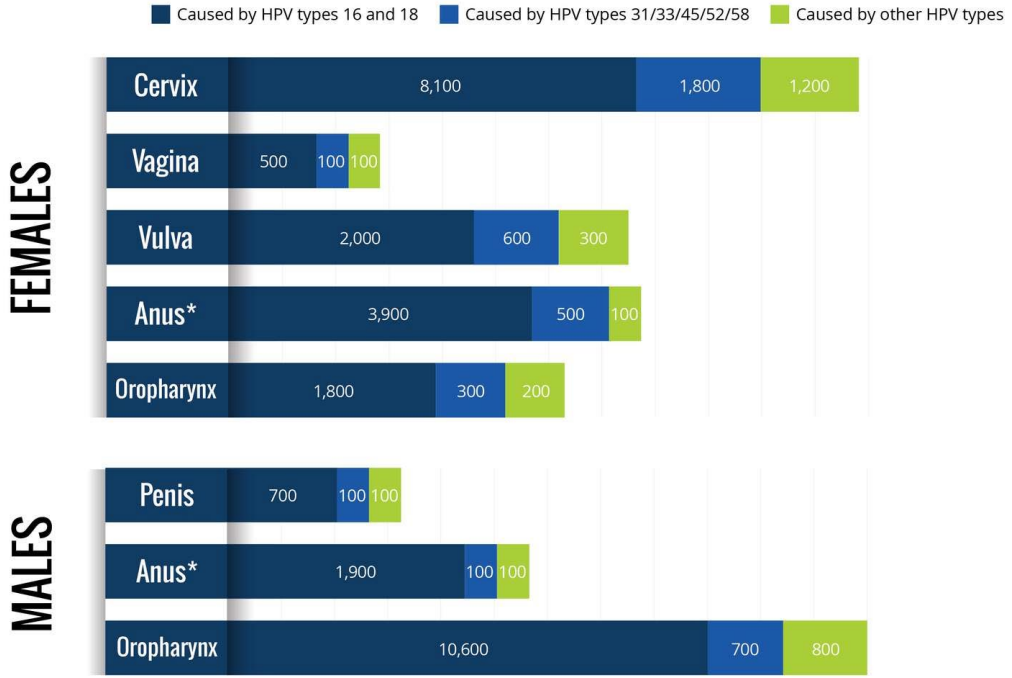
Source: CDC, 2023.

2020 Rates of HPV Associated Oropharyngeal Cancers (per 100,000)

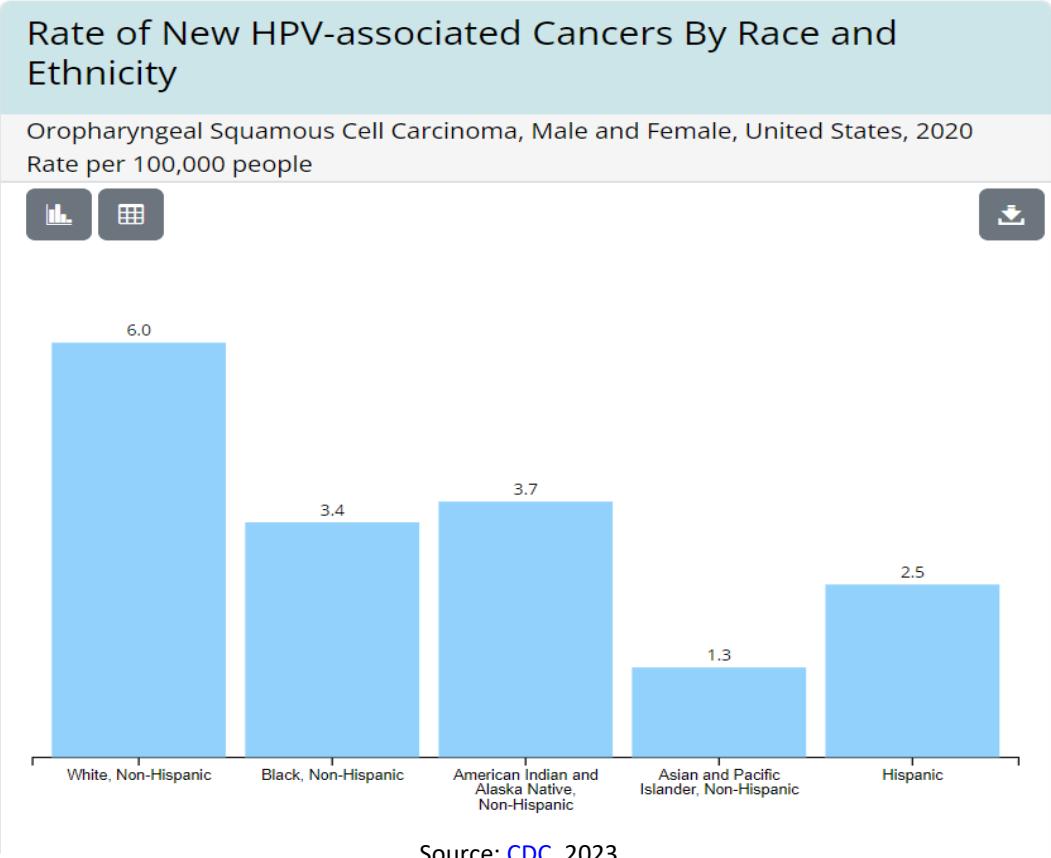
- National: 5.0
- Delaware: 5.7
- Pennsylvania: 5.1
- Maryland: 4.3

Data Source: CDC, 2020.

Estimated Annual Number of Cancer Cases Attributable to HPV by Sex, Cancer Type, and HPV Type



Source: CDC, 2023.



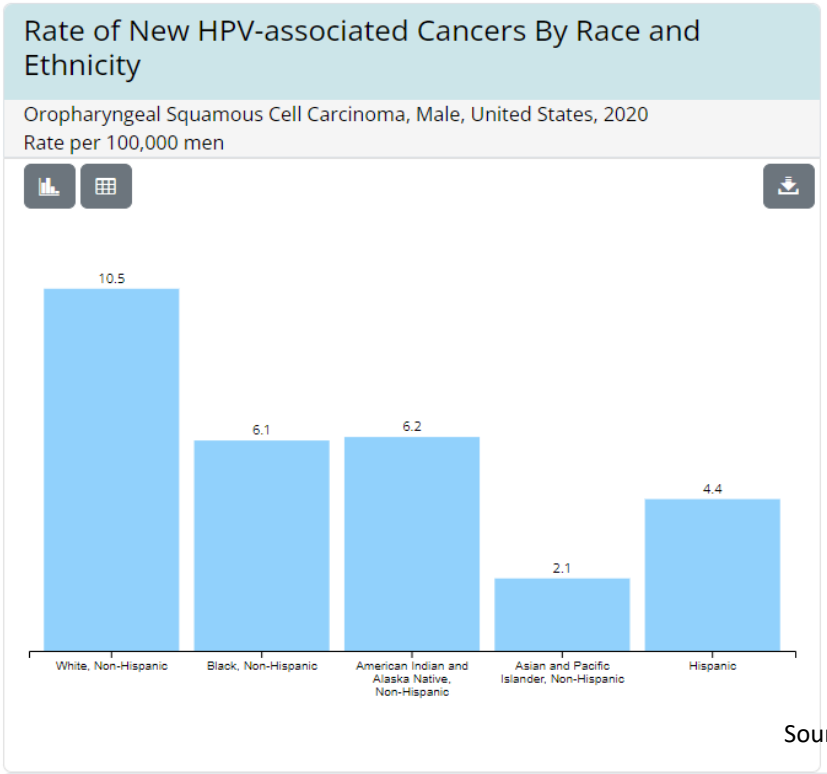
Source: CDC, 2023.

2020 Rates of HPV Associated Oropharyngeal Cancers by Race and Ethnicity (per 100,000)

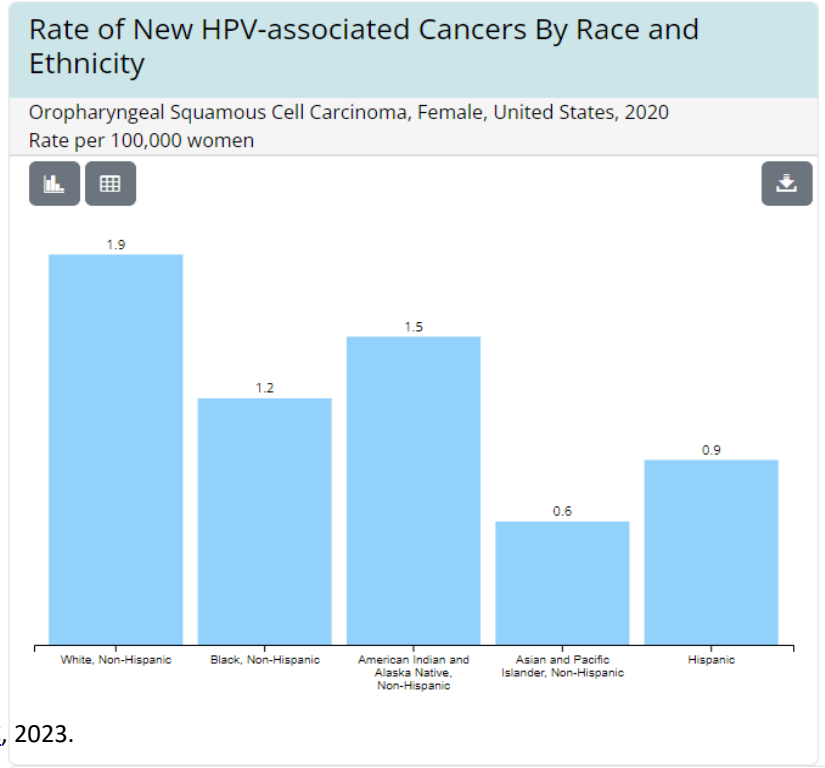
- Rates include men and women
- Rates highest among White Non-Hispanic population
- Lowest among Asian and Pacific Islanders

Data Source: CDC, 2020.

Males Rates of Oropharyngeal Cancer by Race and Ethnicity



Females Rates of Oropharyngeal Cancer by Race and Ethnicity



Source: CDC, 2023.

Testing/Screening

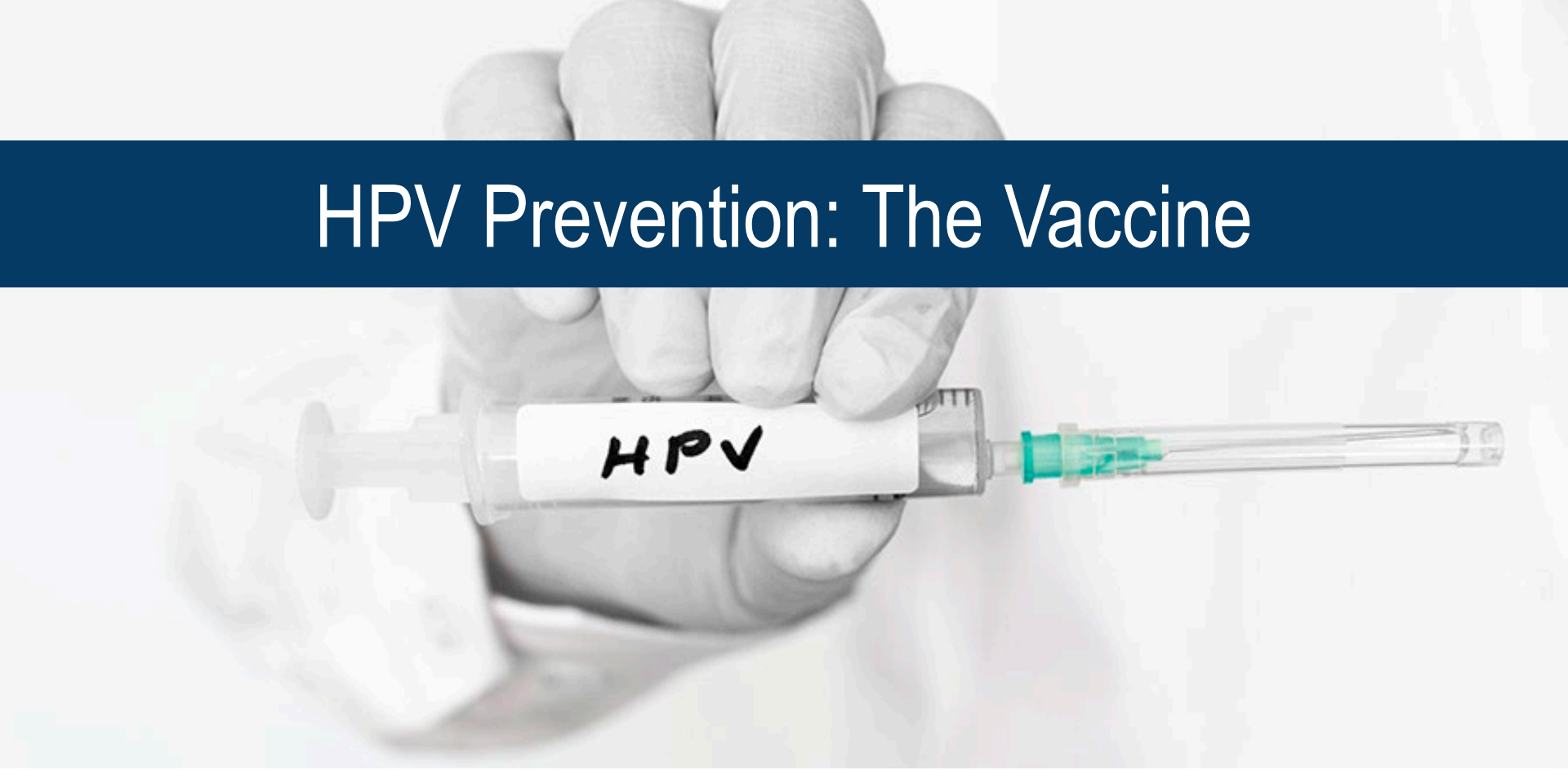
- **There is no preventative screening for oral HPV**
- An oral health provider may find oral lesions during an exam
- Biopsy may be done to test for cancer

Knowledge Check #2

HPV infection is thought to cause what percentage of oropharyngeal cancers?

A. 20%
B. 50%
C. 70%
D. 90%

HPV Prevention: The Vaccine



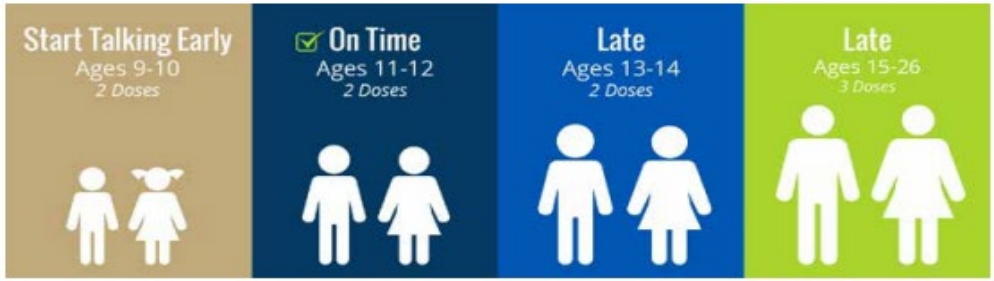
World Health Organization's Call to Action

Goals:

1. 90% of girls are fully vaccinated with the HPV vaccine by the age of 15.
2. 70% of women are screened using a high-performance test by the age of 35 and again by the age of 45.
3. 90% of women with pre-cancer are treated, and 90% of women with invasive cancer are managed.

Source: World Health Organization, 2020.

On-Time Vaccination is Key



2-Dose Schedule

- The second dose should be administered 6–12 months after the first dose (0, 6–12 month schedule).
- The minimum interval between dose 1 and dose 2 in a 2-dose schedule is 5 months.

3-Dose Schedule

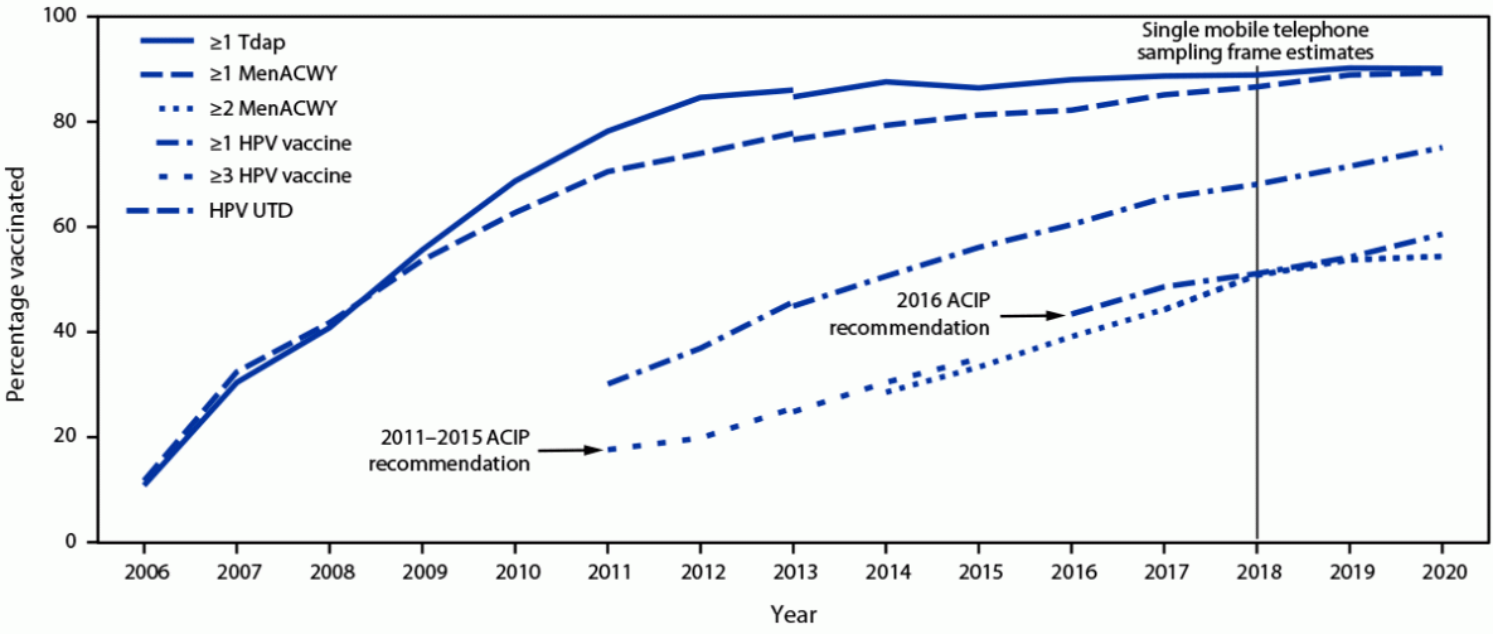
- The second dose should be given 1–2 months after the first dose, and the third dose should be given 6 months after the first dose (0, 1–2, 6-month schedule).
- Minimum intervals are 4 weeks between the first and second doses, 12 weeks between the second and third doses, and 5 months between the first and third doses.

Knowledge Check #3

An 11 year old patient and their parent comes into the office and asks about the HPV vaccine. If they choose to vaccinate, how many doses will they require?

A. 2 doses, 6 months apart
B. 2 doses, 2 years apart
C. 3 doses, 2 months after initial and 6 months after second
D. 3 doses, 6 months after initial vaccine, 6 months additional after that

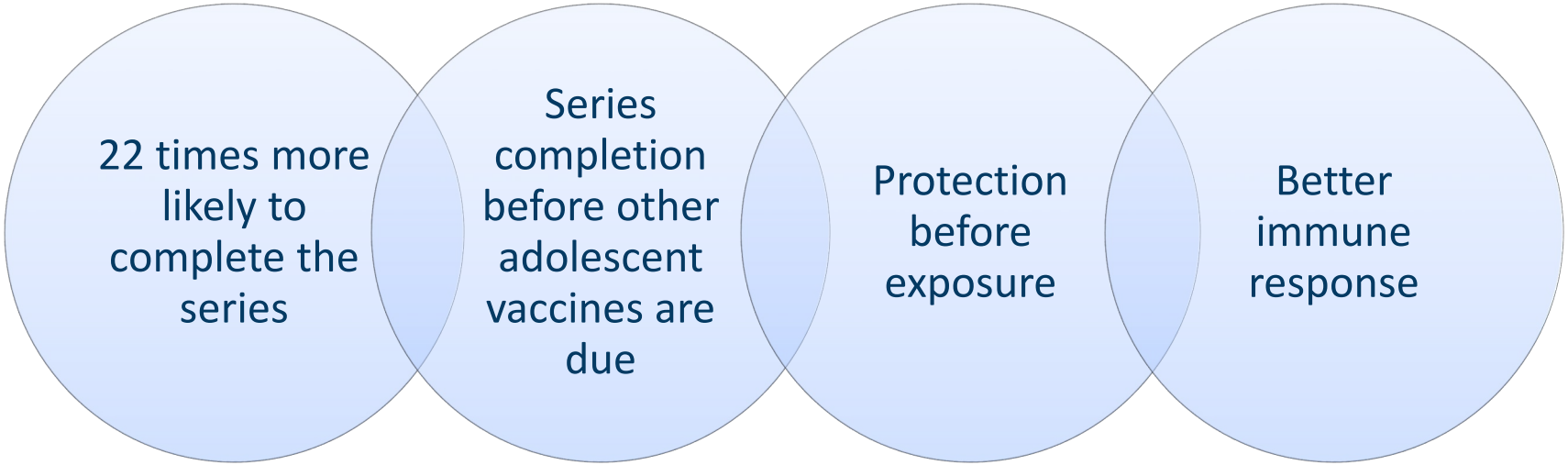
FIGURE. Estimated vaccination coverage with selected vaccines and doses* among adolescents aged 13–17 years, by survey year† — National Immunization Survey–Teen,§,¶ United States, 2006–2020



Abbreviations: HPV = human papillomavirus; MenACWY = quadrivalent meningococcal conjugate vaccine; Tdap = tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis vaccine; UTD = up-to-date.

Source: CDC, 2021.

Early Age Initiation



Source: Saxena, 2023

HPV Vaccine Efficacy

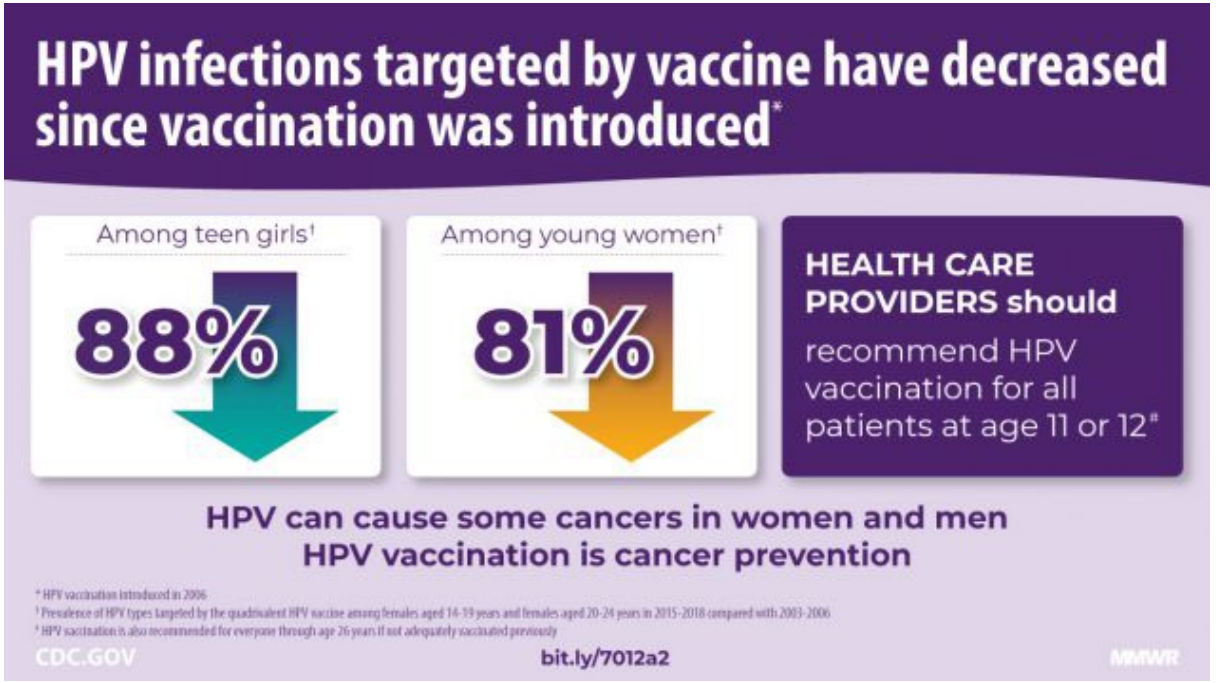
- HPV vaccine is **SAFE.**
  - The benefits far outweigh any potential risks.
  - Safety study findings for HPV vaccination are reassuring and similar to MenACWY and Tdap vaccine safety reviews.
- HPV vaccine **WORKS.**
  - Population impact against early and mid outcomes has been reported in multiple countries.
- HPV vaccine protection **LASTS.**
  - Studies suggest that vaccine protection is long lasting.
  - There is no evidence of waning protection.

Assuring Vaccination Safety

- HPV vaccine safety studies have been very reassuring, and the vaccine has a good safety profile.
- The CDC and FDA continue to monitor and evaluate the safety of HPV vaccines, along with all vaccines.
- Clinicians can reassure parents who may have concerns that HPV vaccination is safe.

Source: Questions About HPV Vaccine Safety, CDC, 2020.

Population-Level Impact of HPV Vaccination



Source: Rosenblum, 2021.

The risk of oral HPV infection is 88% lower in those with at least one dose of the HPV vaccine.

Source: NCI, 2018.

American Academy of Pediatric Dentistry HPV Vaccination Policy

- Developed in 2017 and revised in 2020
- "The AAPD encourages oral health care providers to:
  - Educate patients, parents, and guardians on the serious health consequences of oral and oropharyngeal cancers and their relationship to HPV.
  - Counsel patients, parents, and guardians regarding the HPV vaccination, in accordance with CDC recommendations, as part of anticipatory guidance for adolescent patients.
  - Routinely examine patients for oral signs of and changes consistent with oral/oropharyngeal cancers.
  - Follow current literature and consider incorporating other approaches for HPV prevention in their practices so as to minimize the risk of disease transmission."

Source: AAPD, 2020.

Dental Professionals Can Be a Champion for HPV Vaccination

Dental Providers Role

- **Educate Staff.** Provide staff with resources and training around HPV and HPV vaccination.
- **Educate Patients/Parents.** Provide patients with handouts, put posters in your waiting rooms. Discuss why the HPV vaccine is connected to oral cancer prevention.
- **Refer Patients for Vaccinations.** Refer patients to their primary care for timely vaccination.
- **Screen patients for Oral Cancer.** Routinely examine patients for oral signs of and changes consistent with oral/oropharyngeal cancers.

Source: National HPV Vaccination Roundtable, 2019

Tips for Talking with Parents/Patients

- **Make a Strong Recommendation.** A provider's recommendation is powerful and is the number one reason parents choose to vaccinate their children.
- **Make the Case for Vaccination.** Make the case that HPV infection is connected to a higher risk for oral cancers. HPV vaccination is cancer prevention.
- **Be Prepared to Answer Questions.** Know the facts and be ready to address patients' concerns and questions.
  - Tip sheet for talking with parents from the American Academy of Pediatrics
- **Have Handouts/Flyers Available.** Use handouts and other resources to help patients make an informed decision.

Source: AAP, 2018.

Provider Resources

- Cancer Prevention Through HPV Vaccination: *An Action Guide for Dental Healthcare Providers from the National HPV Vaccination Roundtable*

- Oropharyngeal Cancer and HPV Prevention in Children: *Handout for dental providers*
- Answering Questions About HPV Vaccine; A Guide for Dental Professionals: *A flyer that provides dental professionals with best practices for interacting with patients*

Patient Facing Resources

- Team Maureen Dental Toolkit: Includes patient handouts, posters, and vaccine reminder stickers
- CDC flyers and posters for HPV vaccination: Some are offered in multiple languages
  - Flyers and posters
  - HPV infographic

Knowledge Check #4

How can dental professionals have an impact on HPV vaccination?

A. Educate themselves and their staff
B. Be a HPV vaccine champion
C. Provide patients with resources on why they should choose to vaccinate.
D. All of the above

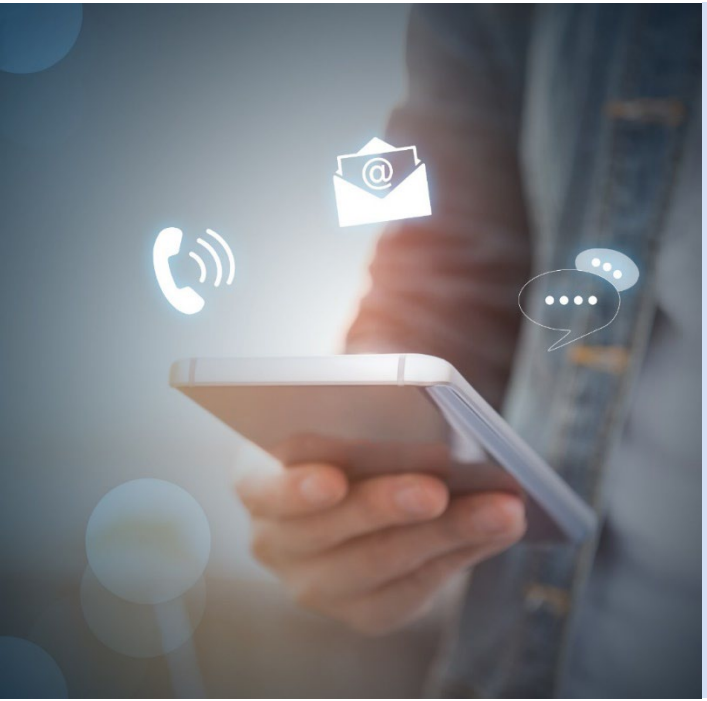
HPV Vaccination is Oropharyngeal Cancer Prevention!

Evaluation and Post-Knowledge Check

Access the evaluation and post-knowledge check via this link or by scanning the QR code

- Link: https://www.surveymonkey.com/r/F3PL9YX
- QR code:

Contact Quality Insights



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THANK YOU!

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