

# Promoting the HPV Vaccine: An Opportunity For Medical-Dental Collaboration

Christina A. Demopoulos, DDS, MPH

Diplomate, American Board of Dental Public Health

Associate Professor, UNLV School of Dental Medicine

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# Learning Objectives

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1. Describe the relationship between HPV and oropharyngeal cancers (OPC) and the role of the HPV vaccine and disease prevention within an appropriate clinical context.
2. Understand how community/clinical linkages can increase health promotion efforts regarding the HPV vaccine in order to increase the use of the HPV vaccine and to raise public awareness about signs, symptoms, risk factors and changing demographics of HPV-related OPC in comparison to non-HPV related OPC.
3. Discuss the rates of Oral-HPV and HPV vaccination trends in the U.S.

# THE PROBLEM

Cancers of the head and neck occur in a number of anatomical areas, including the oral cavity, pharynx, larynx, the paranasal sinuses, nasal cavity, and salivary glands.

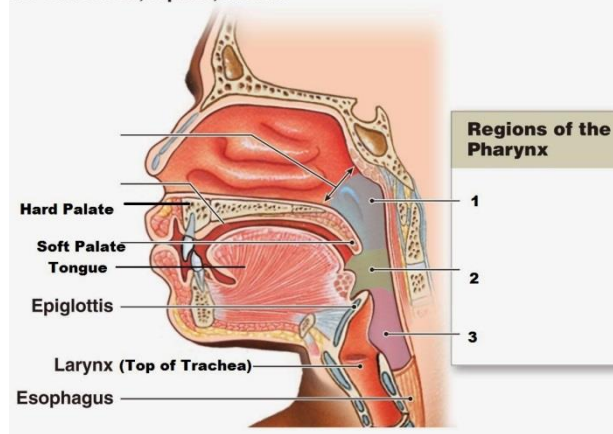
OPC

HPV

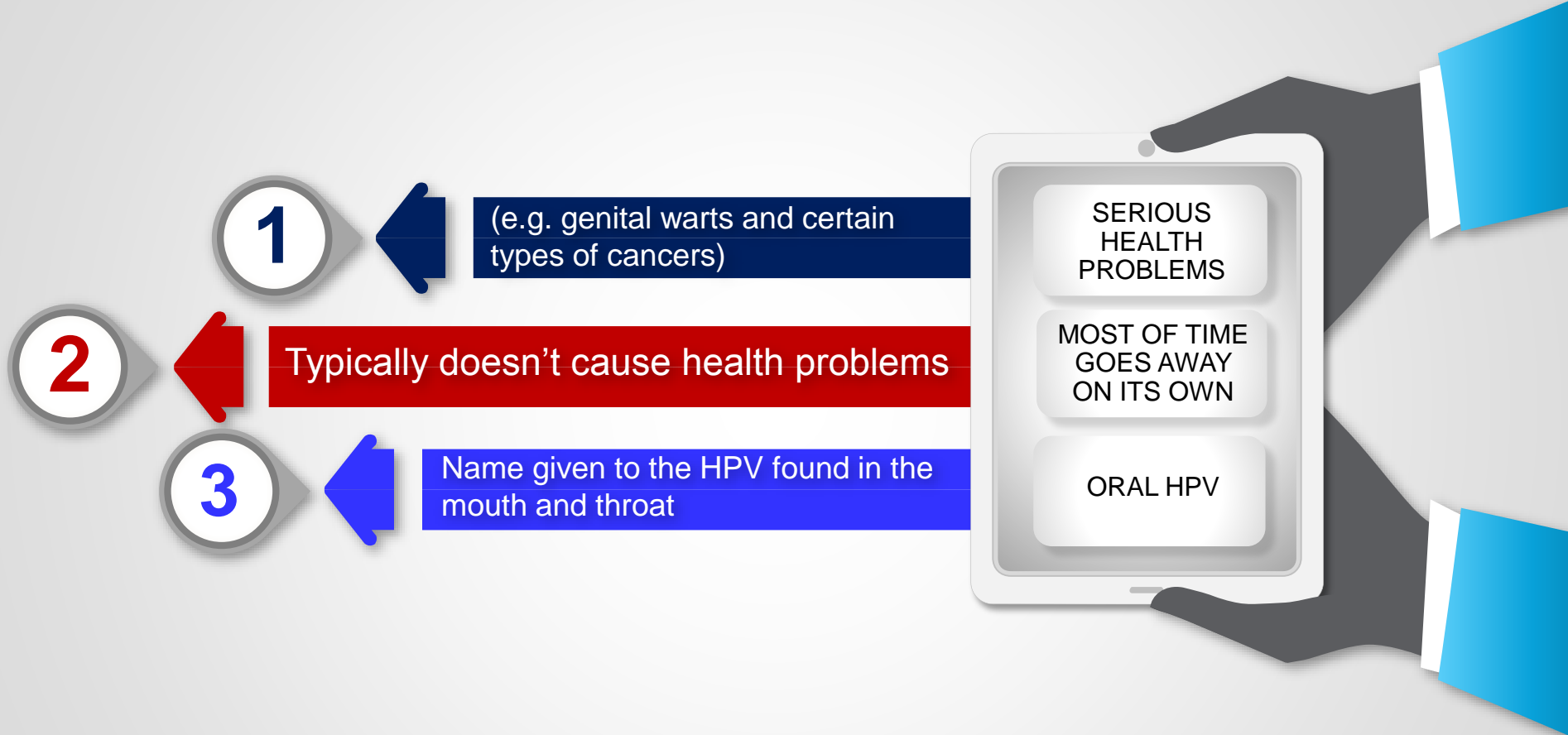
CANCER RATES

ACIP

The pharynx, a common passageway for solid food, liquids, and air



# Natural History of HPV Infection



- ~80-85% of people acquire any HPV infection at some point in their lives
- ~90% of infections clear in 1-2 years in healthy individuals
- Almost all cervical cancers are caused by HPV infections that persist more than 2 years.

# Oral HPV

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- HPV in mouth and throat
- “High Risk”: head and neck cancers
- “Low Risk”: warts in the mouth and throat
- 7% of people have Oral HPV
- Only 1% have HPV type 16 (type causes oropharyngeal cancer)



# HPV and Oral Cancer

HPV is one of the most common sexually transmitted infections (STI) and the leading cause of oral cavity cancer (OCC) and oropharyngeal cancer (OPC).

1

~12,000 people ages 15-24 are affected by HPV everyday.

2

Resulting in ~23 million people with oral HPV on any given day.

3

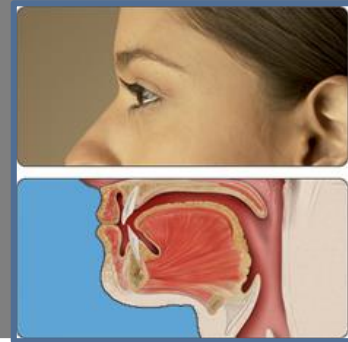
~230,000 are HPV 16 and 18.

4

9vHPV because it has the potential to increase overall cancer prevention from 70% to 90%; it is approved for use in both boys and girls.

Source:

<http://oralcancerfoundation.org/understanding/hpv/hpv-oral-cancer-facts/>



Cancer probably caused by HPV type

HPV types 16/18

HPV types 31/33/45/52/58

Other HPV types

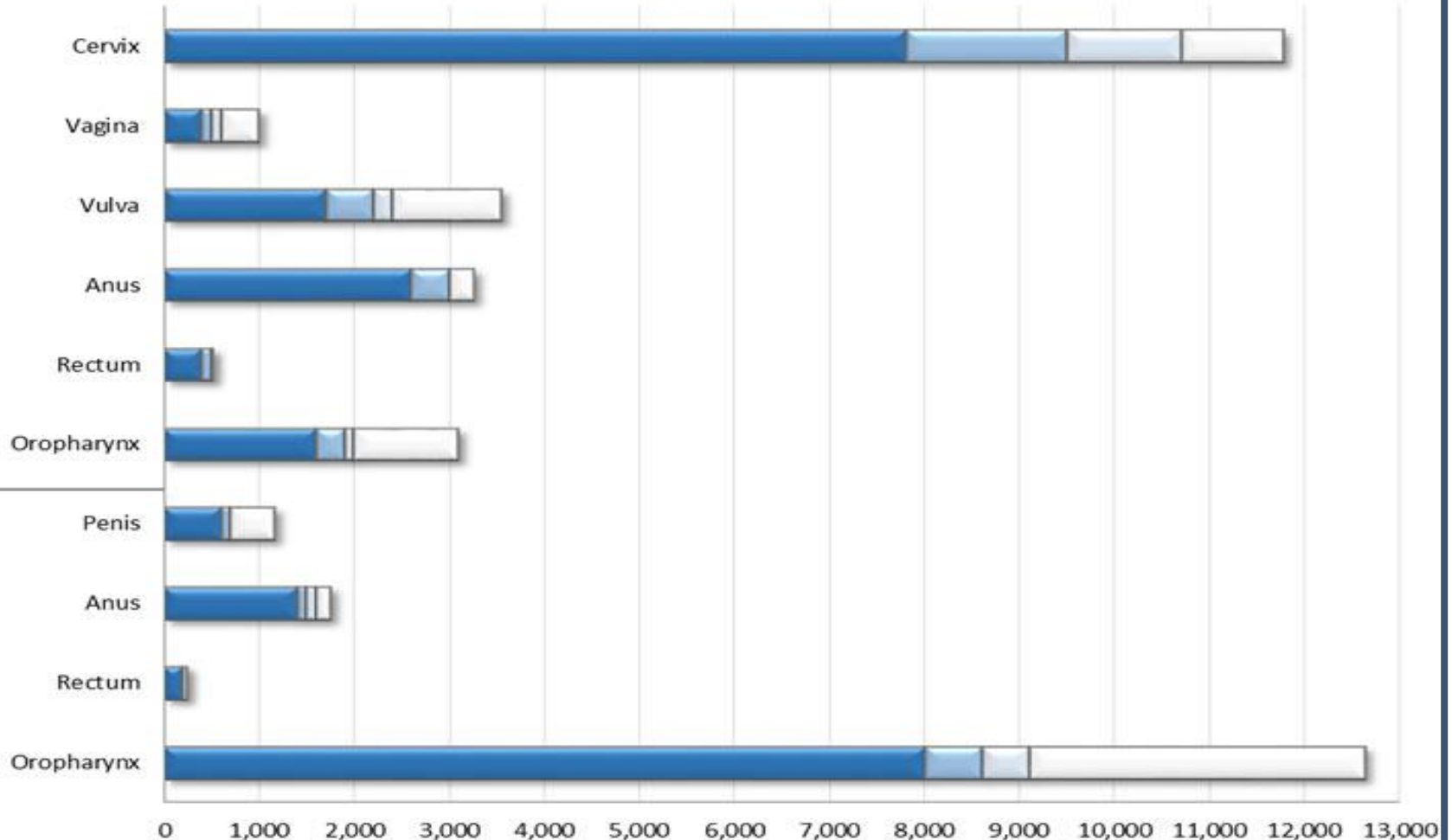
HPV-negative\*

targeted by bivalent and quadrivalent vaccines

targeted by 9-valent vaccine

Sex / Cancer Site

Women



Average number of cases per year

# HPV Vaccine

- HPV vaccine safely and effectively prevents infection by the major cancer-causing HPV types
- More than 80 million doses have been given in the US and it has been studied for more than 10 years by medical and scientific experts
- Since becoming available in 2006, this vaccine has decreased HPV infection, genital warts, and precancers of the cervix in young people (71% drop in HPV infections among teen girls)
- Source: AAP Fact Sheet: Answering Questions about HPV Vaccine: A Guide for Dental Professionals; National HPV Vaccination Roundtable Cancer Prevention through HPV Vaccination



# HPV Associated Cancers

- HPV-positive oropharyngeal cancer has surpassed cervical cancer as the most prevalent HPV cancer
- Oropharyngeal cancer is the 8<sup>th</sup> most common cancer among males and the 13<sup>th</sup> most common among females in the US, with a 5-year survival rate of 66%
- Source: National HPV Vaccination Roundtable Cancer Prevention Through HPV Vaccination; Siegel RL Cancer Statistics, 2015.

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# HPV and Oropharyngeal Cancer

# HPV-Associated Oropharyngeal Cancer Prevalence

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- Some cancers of the oropharynx (back of the throat, tongue and tonsils) have been linked with HPV
- Recent studies report that about 70% of oropharyngeal cancers probably caused by HPV (previously tobacco and alcohol alone)
- Approximately 60% of oropharyngeal cancers probably caused by HPV-16/HPV-18

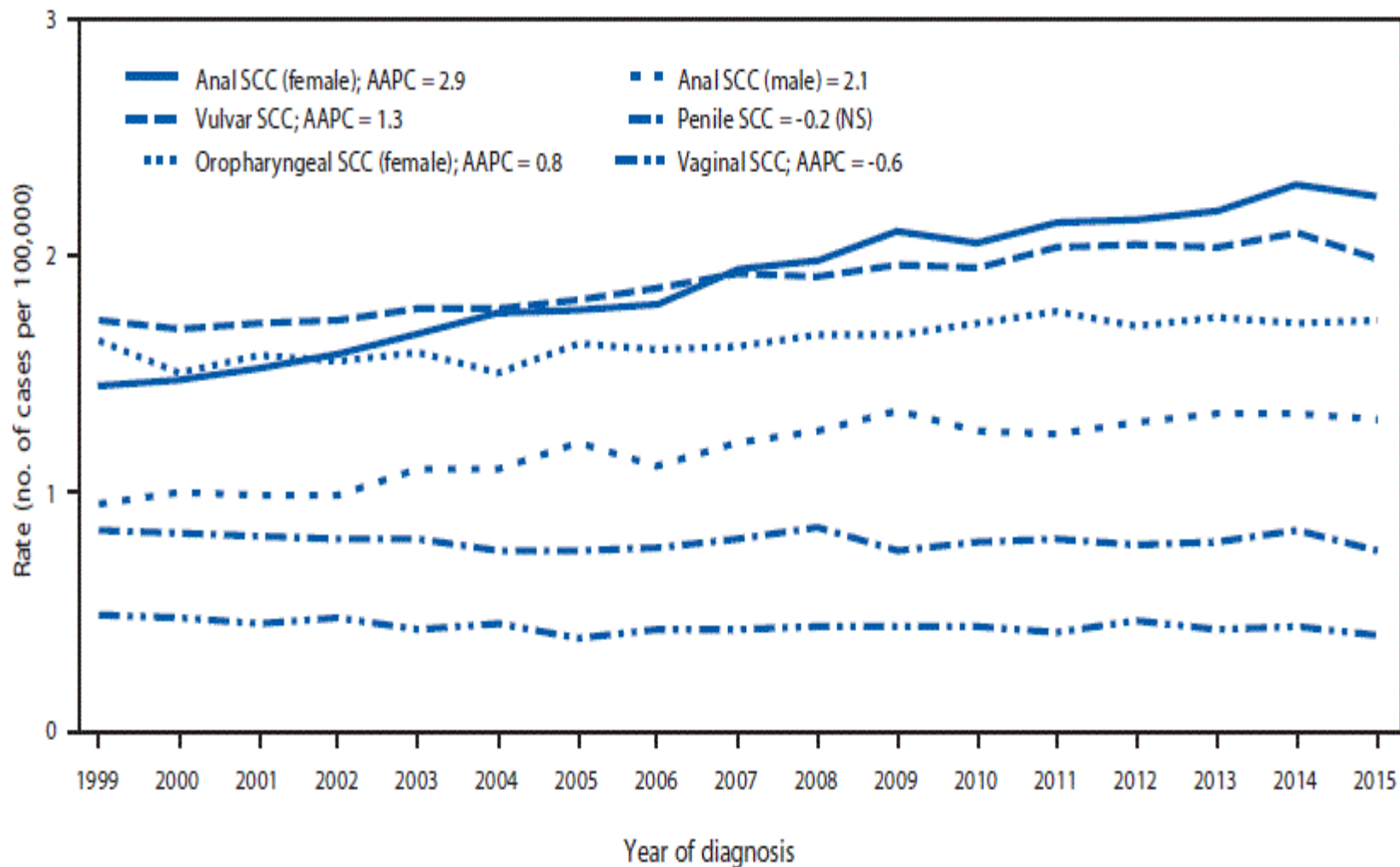
# HPV-Associated Oropharyngeal Cancer Prevalence

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- Oropharyngeal squamous cell carcinoma (SCC) is now the most common HPV-associated cancer in the United States (CDC, 1999-2015)
- The transition happened because cervical carcinoma incidence rates decreased 1.6% per year, and oropharyngeal SCC incidence rates increased 2.7% per year among men and 0.8% per year among women.

**Table. Annual Change in Type of Cancer From 1999 to 2015**

Cancer Type	Average Annual Change (%)
Cervical	-1.6
Vaginal	-0.6
Oropharyngeal in men	2.7
Oropharyngeal in women	0.8
Anal in men	2.1
Anal in women	2.9
Vulvar	1.3



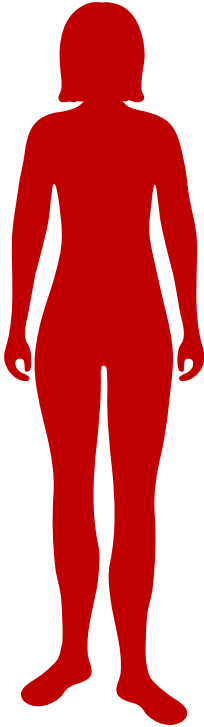
**Trends\* in age-adjusted HPV-associated cancer incidence,<sup>†</sup> by cancer type and sex — United States,<sup>§</sup> 1999–2015**

Source: [https://www.cdc.gov/mmwr/volumes/67wr/mm6733a2.htm?s\\_cid=mm6733a2\\_w](https://www.cdc.gov/mmwr/volumes/67wr/mm6733a2.htm?s_cid=mm6733a2_w)



# HPV-Associated Cancers - Oropharynx

**FEMALES**

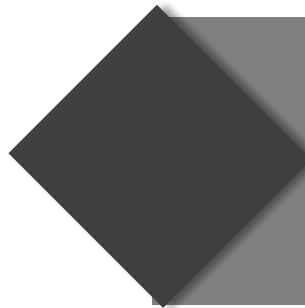


~3,200 new cases/year among women



**16,479**  
**100%**

Average number of OPC per year in sites where HPV is often found



**11,600**  
**70%**

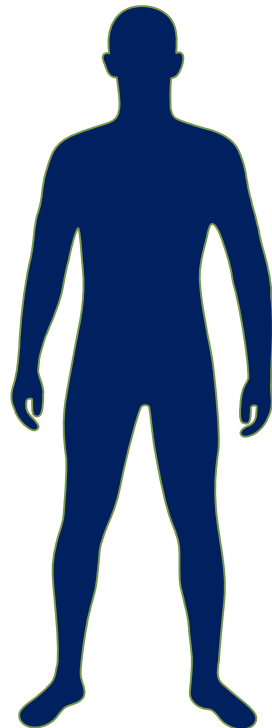
Percentage OPC probably caused by any HPV type



**9,900**  
**60%**

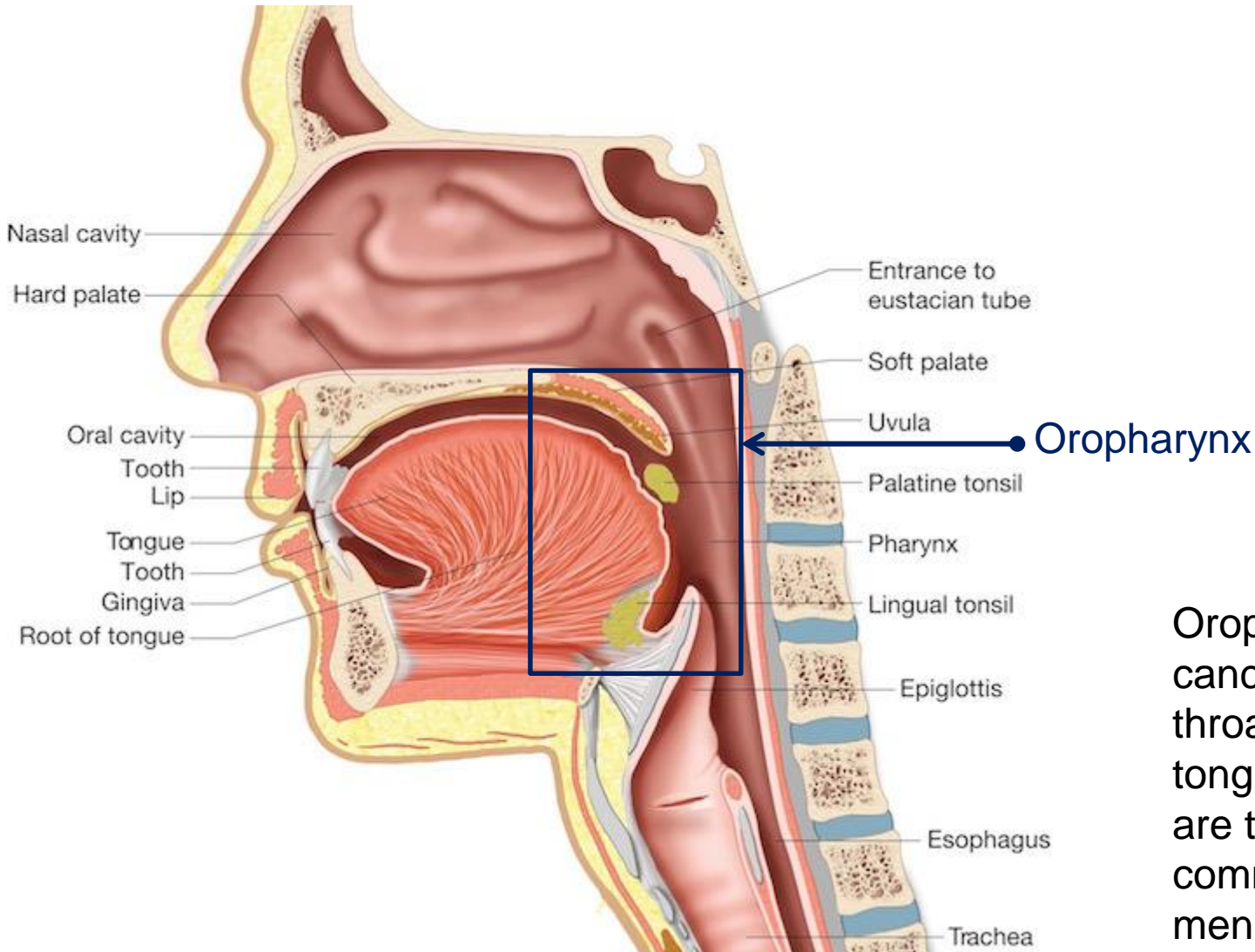
Percentage OPC probably caused by HPV types 16/18<sup>b</sup>

~13,200 new cases/year among men



**MALES**

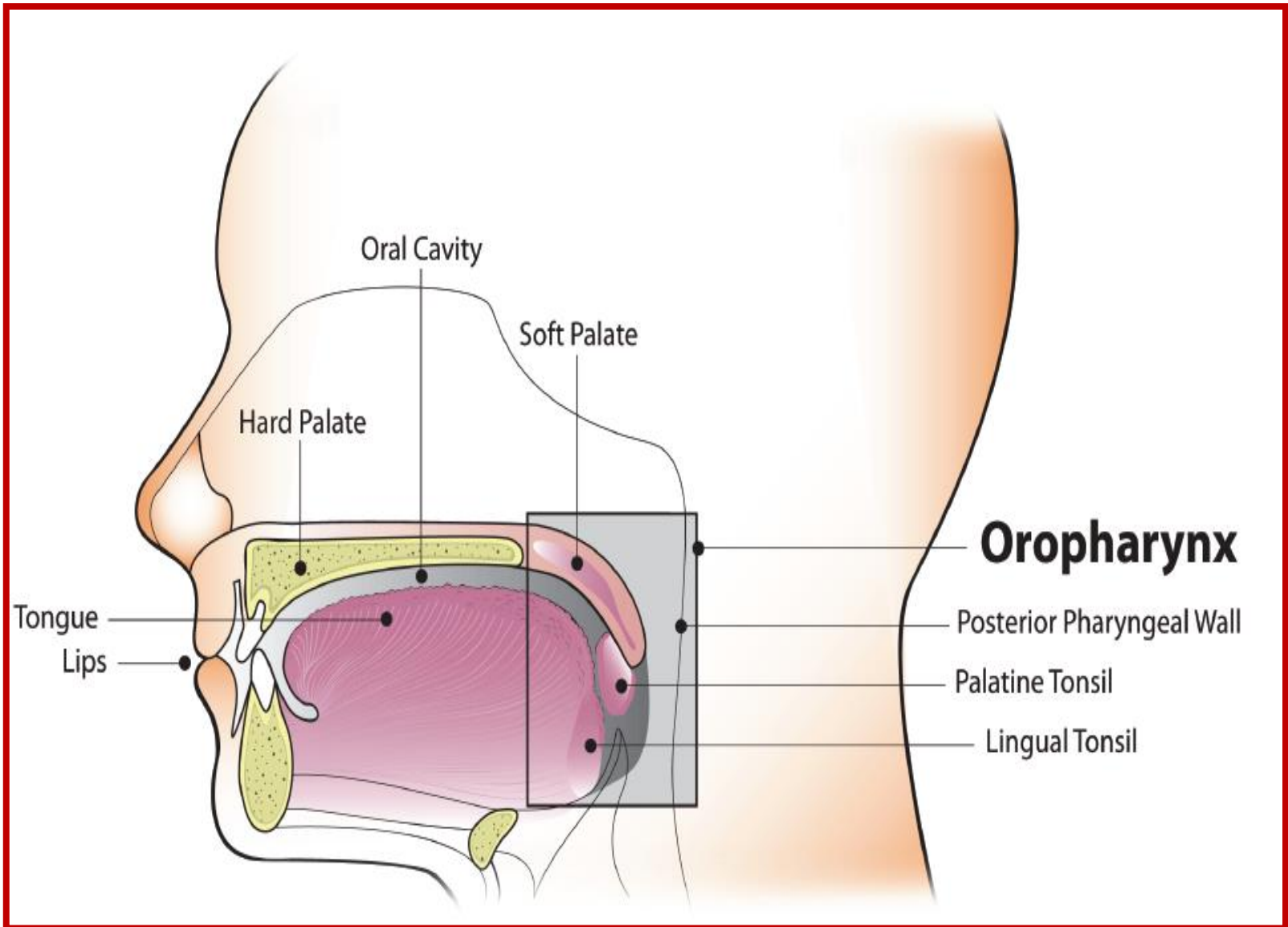
# Oral Cavity and Oropharynx



Oropharyngeal cancers (back of the throat, base of the tongue, and tonsils) are the most common among men.



# Oral Cavity and Oropharynx



# Oropharyngeal Cancer

## SIGNS/SYMPTOMS

1

Persistent soar throat

2

Earaches (usually unilateral and last for a few days)

3

Hoarseness/persistent sore throat

4

Enlarged lymph nodes

Pain when swallowing/chewing

5

Unexplained weight loss

6

An ulcer or sore that does not heal within 2-3 weeks

7

A red, white, or black discoloration on the soft tissues in the mouth

8

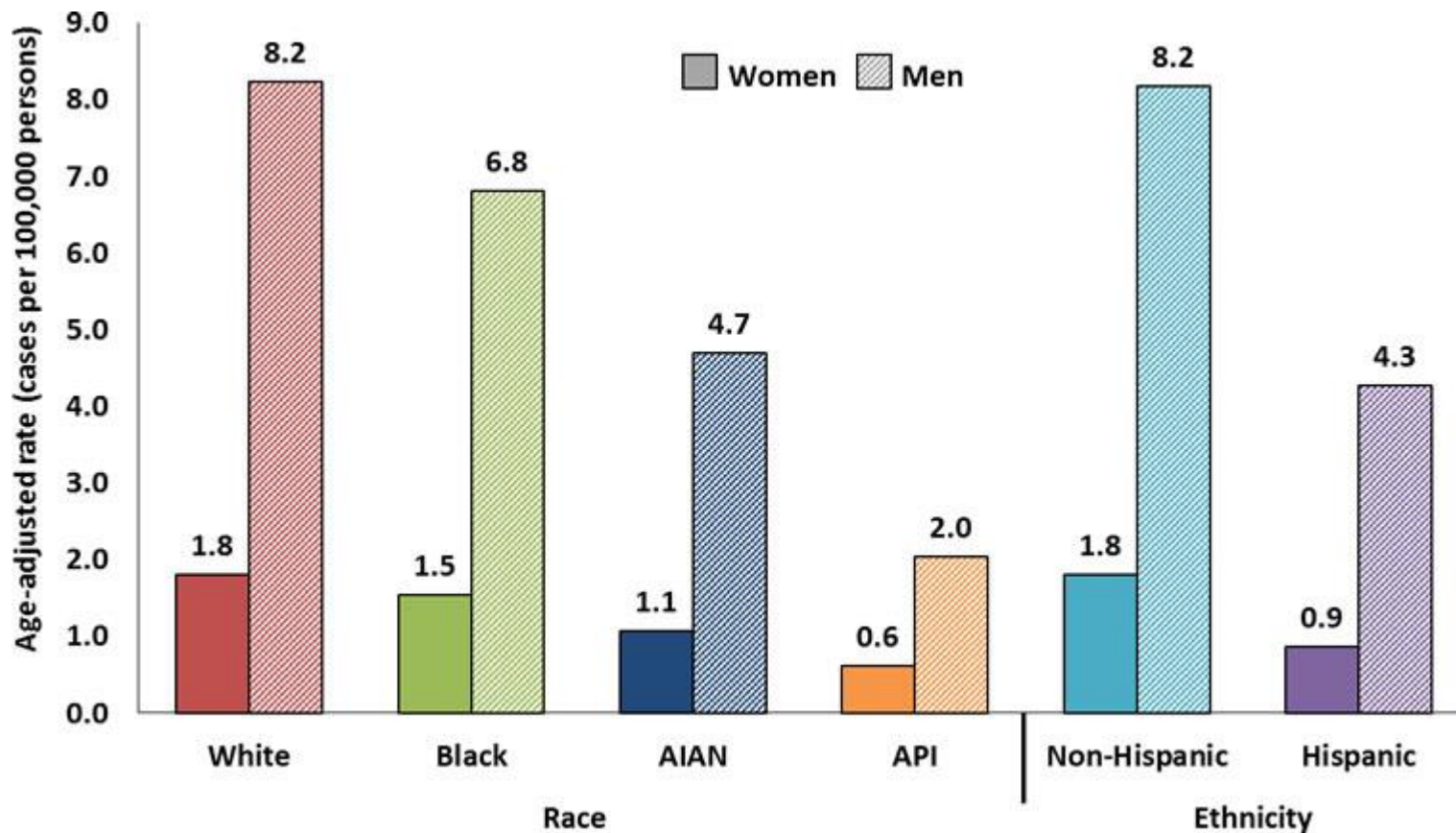
**Some people may have no signs or symptoms!**



## Non-traditional Risk Factors HPV-related OPCs

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- Delayed diagnosis due to array of non-traditional risk factors.
- May be more difficult to detect than tobacco-related cancers because the symptoms are not always obvious.
- As with most head and neck cancers, the symptoms may be subtle and painless.
- Affected areas are approximate to the back of the throat and generally more difficult to detect and diagnose early.



## HPV-Associated Oropharyngeal Cancer Rates by Race, Ethnicity, and Sex, United States, 2009–2013

# Racial/Ethnic Disparities HPV-associated OC

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1

Among whites, about 1.8 women and 8.2 men per 100,000

2

Among blacks, about 1.5 women and 6.8 men per 100,000

3

Among American Indian/Alaska Natives, about 1.1 women and 4.7 men per 100,000

4

Among Asian/Pacific Islanders, about 0.6 women and 2.0 men per 100,000

5

Among Hispanics, about 0.9 women and 4.3 men per 100,000

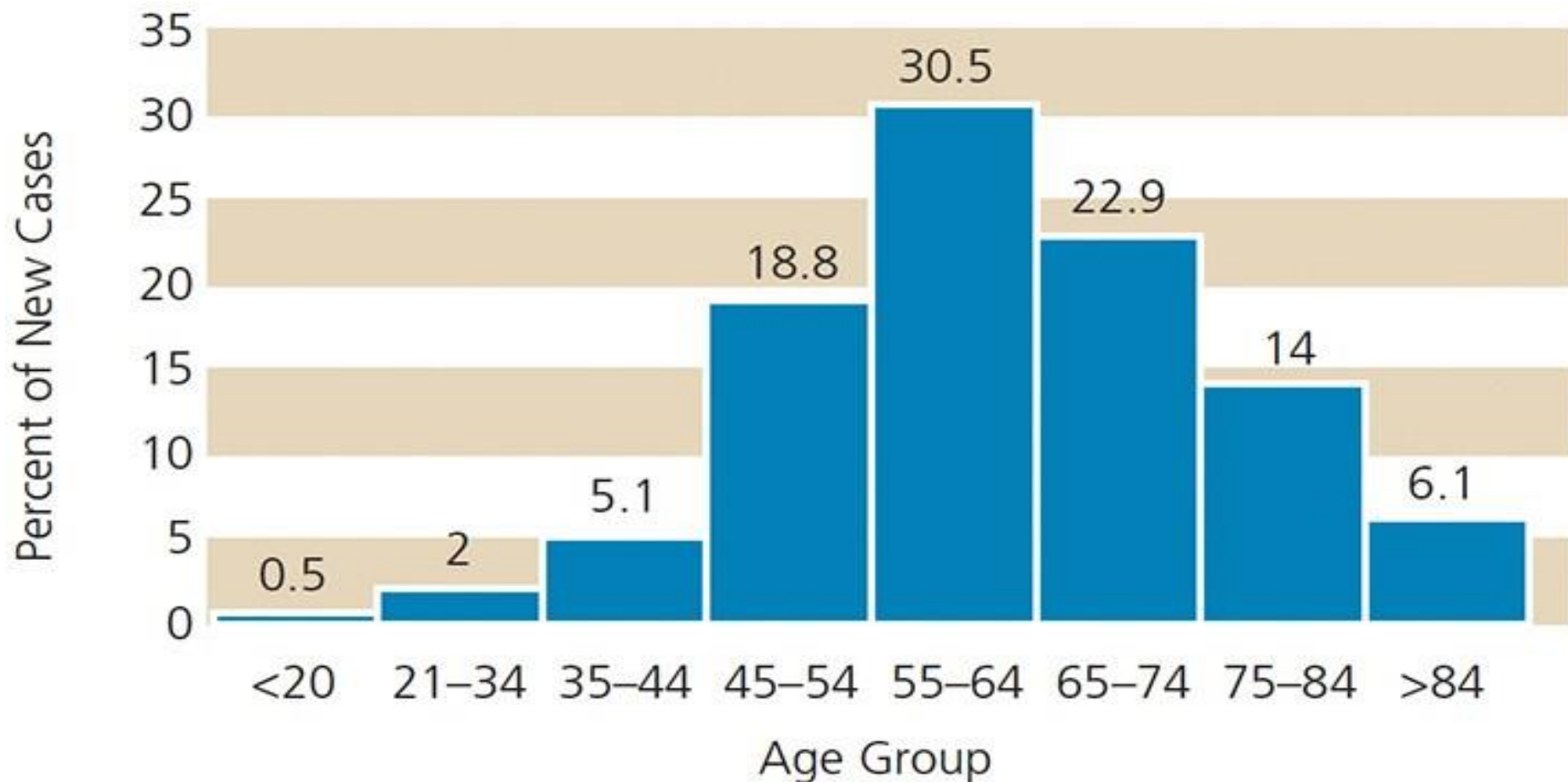
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Among non-Hispanics, about 1.8 women and 8.2 men per 100,000

# HPV Attributable Cancer Cases Each Year

Cancer site	Average number of cancers per year in sites where HPV is often found (HPV-associated cancers)			Percentage probably caused by HPV	Probably Caused by HPV 16, 18	
	Male	Female	Both Sexes			Number
Anus	1,750	3,260	5,010	91%	79%	4,000
Cervix	0	11,771	11,771	91%	66%	7,800
Oropharynx	12,638	3,100	15,738	70%	60%	9,500
Penis	1,168	0	1,168	63%	48%	600
Vagina	0	802	802	75%	55%	400
Vulva	0	3,554	3,554	69%	49%	1,700
Rectum	237	513	750	91%	79%	600
<b>TOTAL</b>	<b>15,793</b>	<b>23,000</b>	<b>38,793</b>			<b>24,600</b>

# Percentage of New Cases by Age Group: Oral Cavity and Pharynx Cancer



Source: SEER 8 2009-2013, all races, both sexes

# Overview

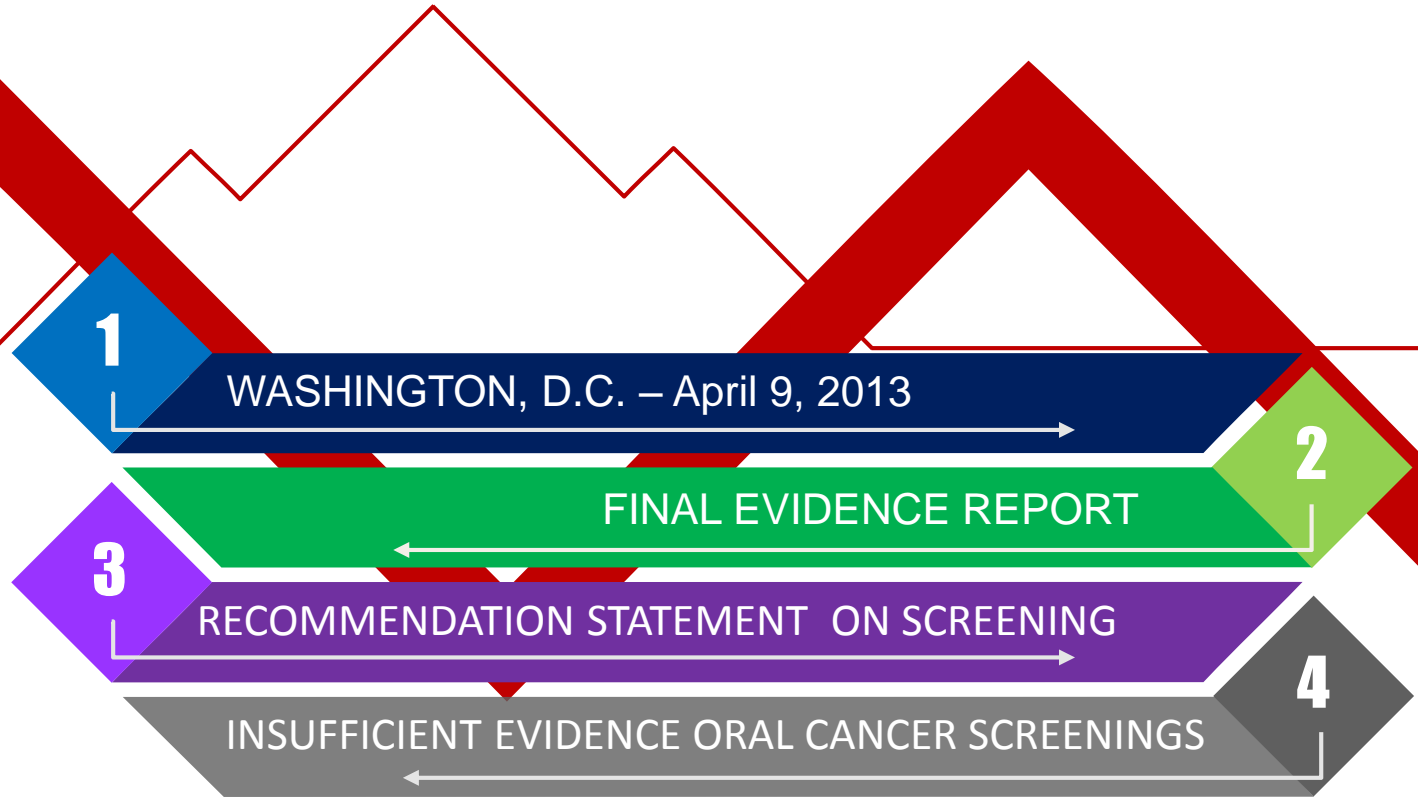
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- Approximately 70% of oropharyngeal cancers may be linked to HPV
- 3,200 new cases in females
- 13,200 new cases in males
- Approximately 60% probably caused by HPV 16, HPV 18
- Median age at diagnosis for women: 62 years old
- Median age at diagnosis for men: 59 years old
- White, non-smoking males age 35 to 55 are most at risk, 4-to-1 over females



The background features a white central area with horizontal grey stripes. On the left side, there are two dark grey gears. A large red rounded rectangle with a white dashed border is positioned in the center, containing the title text.

# Prevention of HPV-related Oropharyngeal Cancer



# ORAL CANCER SCREENINGS FOR ADULTS

# Screening for Oropharyngeal Cancers

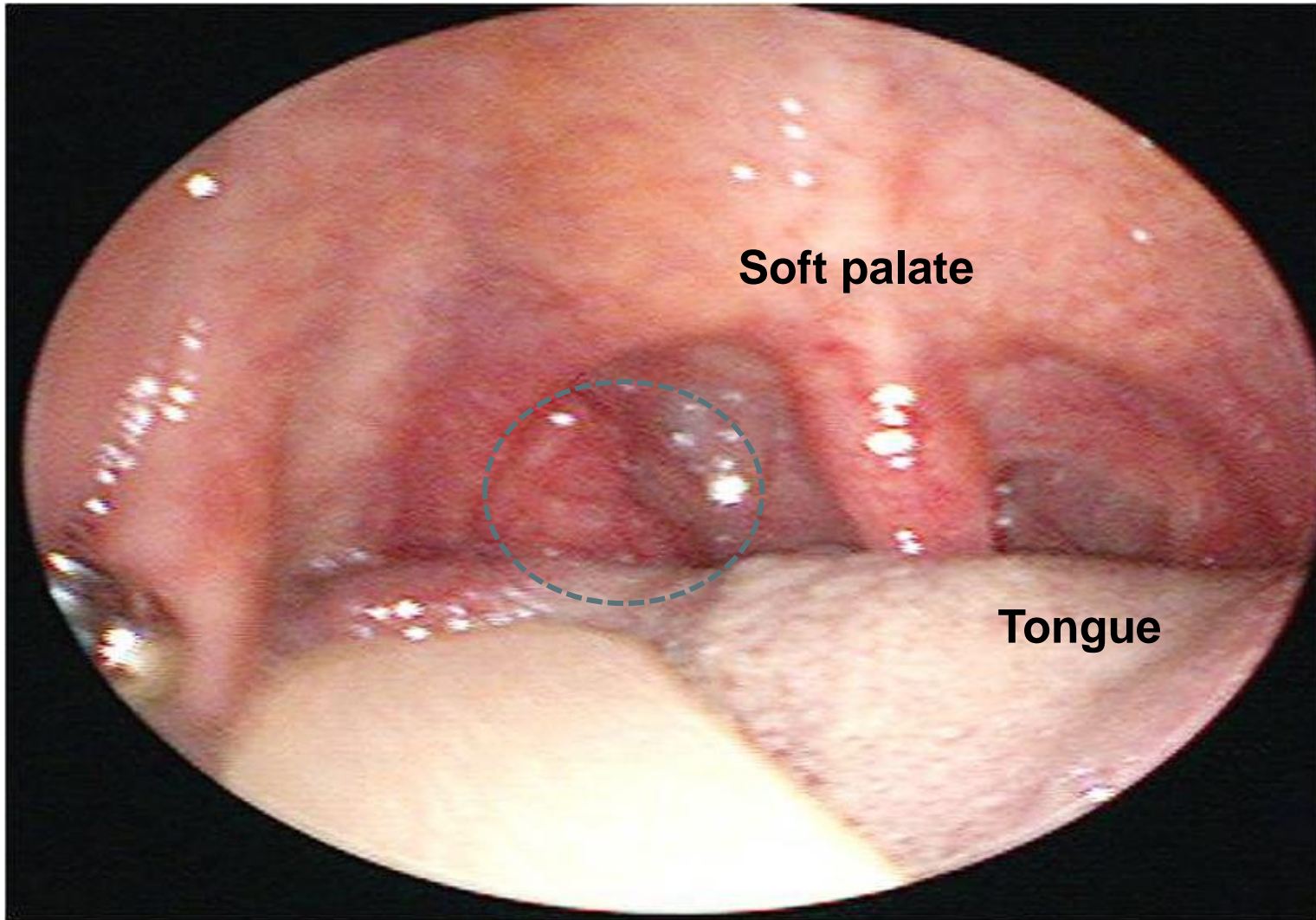
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- Difficult to detect at early stage (5 yr survival, <50%)
- No standardized screening test
- No FDA approved test for oral HPV infection
- No evidence that detection of oral HPV could be used to predict development of oropharyngeal cancer



# HPV-Related Oropharyngeal Cancer

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## Screening for HPV-related OPCs

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- Screen through visual and tactile exam.
- Exam should be accompanied by a thorough medical history, include possible exposure specific to HPV.
- If pathology is suspected...
  - Indirect pharyngoscopy exam follow-up using mirrors
  - Direct pharyngoscopy exam follow-up special fiber-optic scopes
- Any symptoms that persist for two or more weeks should be evaluated (e.g., sore in the mouth that does not heal, pain that doesn't go away, a white or red patch, persistent sore throat or lump/swelling of unknown origin).

# Nasopharyngeal Cancer (NPC)

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- 0.6% of all cancers worldwide
- Highest prevalence in Southeast Asia, Southern China, and Northern Africa
- Epstein-Barr Virus (EBV)
- Recent reports attribute NPC with HPV
- Oncogenic HPV is associated with a subgroup of NPC patients, predominantly whites (HPV 16)
- No significant difference in survival between patients with HPV + and HPV – NPC

The graphic features a central red rounded rectangle with a white dashed border. This rectangle is set against a background of horizontal grey and white stripes. On the left side, two dark grey gears are partially visible, overlapping the red rectangle. Two horizontal red lines run across the width of the image, one above and one below the red rectangle.

# HPV Vaccine



# ADVISORY COMMITTEE RECOMMENDATIONS

Routine HPV  
Vaccination  
be initiated at  
age 11 or 12  
for girls and  
boys



For females  
age 13 to 26  
and males  
age 13 to 21  
who have not  
been  
vaccinated  
previously.



Two-dose  
schedule for  
girls and boys  
who initiate the  
vaccination  
series between  
the ages of 9-  
14 were  
published.



Three-dose  
schedule for  
those who  
initiate the  
vaccination  
series at age  
15-26 and for  
immuno-  
compromised.





# NEXT STEPS



IDENTIFY VACCINE  
INFORMATION GAPS

PROACTIVE  
APPROACHES

COMMUNICATION  
STRATEGIES

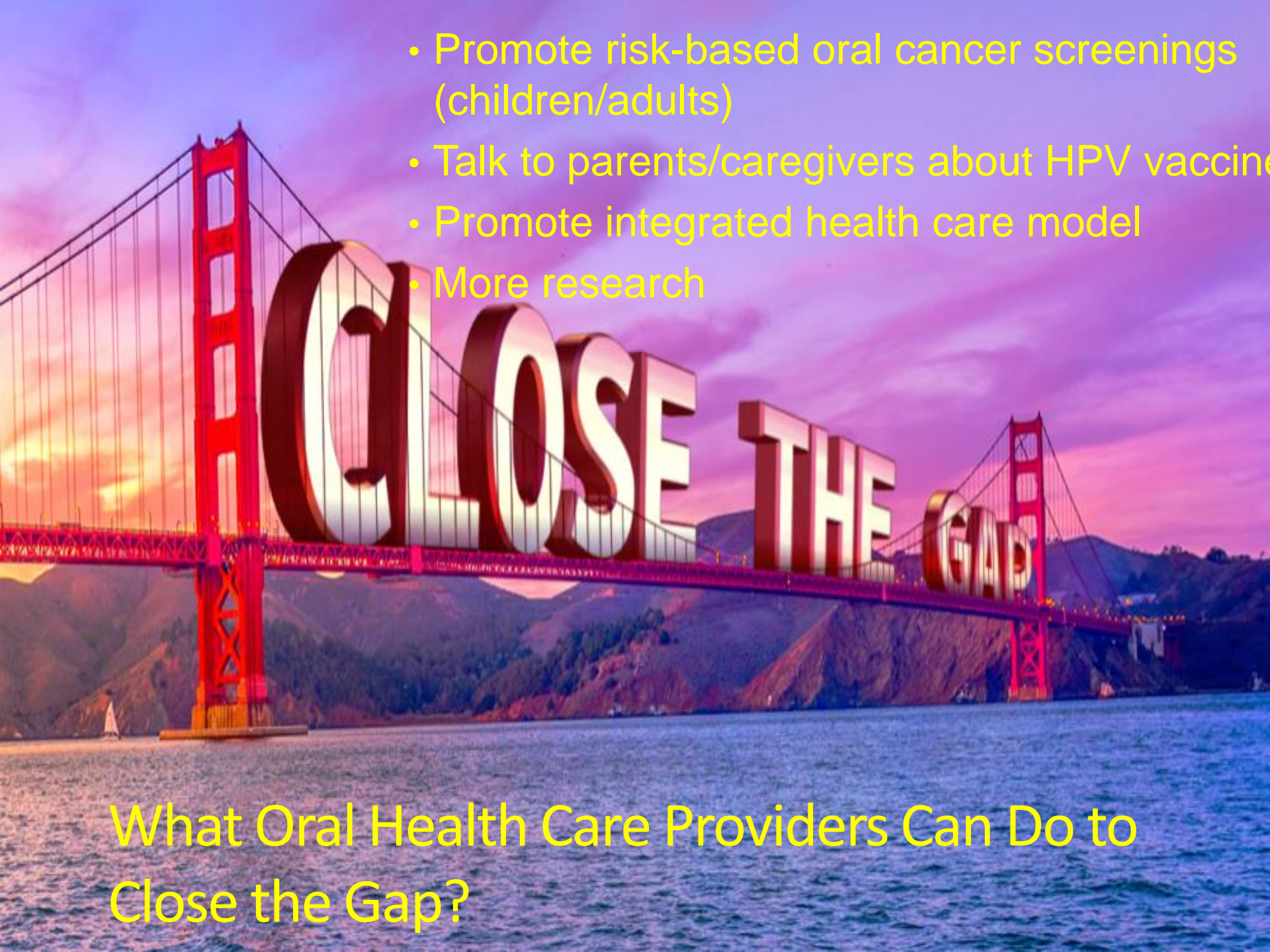
CONTRAINDICATIONS

INTERDISCIPLINARY  
COLLABORATIONS

EDUCATION FOR  
PROVIDERS AND  
PATIENTS

EARLY DETECTION

# STRATEGIES

- 
- A photograph of the Golden Gate Bridge in San Francisco, California, taken during sunset or sunrise. The bridge's iconic orange-red towers and suspension cables are silhouetted against a vibrant sky of purple, pink, and orange. The water of the bay is a deep blue. Overlaid on the bridge is the text 'CLOSE THE GAP' in large, 3D, metallic letters. The word 'CLOSE' is the largest and most prominent, followed by 'THE' and 'GAP' in descending order of size.
- Promote risk-based oral cancer screenings (children/adults)
  - Talk to parents/caregivers about HPV vaccination
  - Promote integrated health care model
  - More research

What Oral Health Care Providers Can Do to Close the Gap?

# Oral Health Care Educators

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- There is no current practice behavior to counsel patients on the benefits of HPV vaccine.
- Dental health care providers are now being encouraged to become more familiar with HPV and its connection with oropharyngeal cancer.
- Dental health care providers play a very important role in the prevention of oral HPV.
- Dental providers must have reliable foundation knowledge of basic clinical medicine to safely and effectively treat individuals with chronic and other diseases (health care educators).

# Public/Private Partnerships

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- Health Professions school curriculum (Higher Education)
- Interprofessional Education and Collaborative Practice
- Health care providers (dentists, dental hygienists, physicians, pediatricians, physician assistants, nurses, etc.)
- Allied health care providers (Community Health Workers, Community Health Nurses)
- Community clinics/immunization clinics
- Community-based immunization clinics associated with health fairs/back to school fairs
- Organized dental/medical organizations
- American Cancer Society/AHEC/Intermountain West HPV Coalition

1

2

3

4

5

# HPV Statements/Material

- The American Dental Association (ADA) and the American Academy of Pediatric Dentistry (AAPD) have published documents on HPV and how oral health care providers can play a role in increasing the HPV vaccination rates.
- The American Academy of Pediatrics (AAP) published guides to help dentists and pediatricians start the conversation in a clinical setting.
- The Centers for Disease Control and Prevention (CDC) published material for clinicians to use in discussing the HPV vaccine.



# Collaboration with AAP

## What Dental Professionals Need to Know about HPV Vaccination



**Make a strong recommendation.**  
Usually, letting parents know that HPV causes oropharyngeal cancer (a form of throat cancer) is enough. If a parent needs more information be ready to address their questions and help them understand why you recommend the HPV vaccine. Suggest families contact their pediatrician for more information and print out Centers for Disease Control and Prevention (CDC) immunization fact sheets to help you with the conversation: [www.cdc.gov/vaccines/parents/diseases/teen/tpv-indepth-color.pdf](http://www.cdc.gov/vaccines/parents/diseases/teen/tpv-indepth-color.pdf)

**Be ready to accurately answer parents' questions.**  
Usually, letting parents know that HPV causes oropharyngeal cancer (a form of throat cancer) is enough. If a parent needs more information be ready to address their questions and help them understand why you recommend the HPV vaccine. Suggest families contact their pediatrician for more information and print out Centers for Disease Control and Prevention (CDC) immunization fact sheets to help you with the conversation: [www.cdc.gov/vaccines/parents/diseases/teen/tpv-indepth-color.pdf](http://www.cdc.gov/vaccines/parents/diseases/teen/tpv-indepth-color.pdf)

**Below are some things that parents might say and tips on how to respond.**

**HPV VACCINE IS IMPORTANT**  
My child's not at risk for HPV.  
• Almost everyone will be infected at some time in their lives.  
• Your pediatrician can help protect your child from the cancers caused by the virus by completing the HPV vaccine series before age 13.

**Why is HPV vaccination recommended at ages 11 or 12?**  
• The immune system of a young adolescent responds better than an older adolescent.

**Would you give HPV vaccine to your kids?**  
• Advise parents that you would do everything you could to protect your children and grandchildren from HPV cancers.

**HPV VACCINE IS EFFECTIVE**  
How do you know if the vaccine works?  
• Ongoing studies show that HPV vaccination works very well. Since becoming available in 2006, this vaccine already has decreased HPV infection, genital warts, and precancers of the cervix in young people.

**Why do boys need HPV vaccine?**  
• In men, HPV infection can cause cancers of the throat as well as the penis and anus. By vaccinating your son as recommended, he will be better protected against the HPV types that can cause these diseases.

**HPV VACCINE IS SAFE**  
Is HPV vaccination safe?  
• The HPV vaccine is very safe. More than 80 million doses have been given in the US and it has been studied for more than ten years by medical and scientific experts.

**What are the possible vaccine side effects?**  
• HPV vaccine, like any vaccine, can cause injection site pain, swelling, or redness. Some adolescents may have a headache or even faint after they get shots. Fainting may lead to injury if the child falls, so offices typically have patients stay seated for a while after receiving the shot.

**By ensuring that patients 11 or 12 years old get the HPV vaccine, we can give them a chance at a future free from HPV-associated cancers.**

**YOU ARE THE KEY TO CANCER PREVENTION**

American Academy of Pediatrics  
DEDICATED TO THE HEALTH OF ALL CHILDREN

For More Information: [aap.org/oralhealth](http://aap.org/oralhealth) • [aap.org/hpvtoolkit](http://aap.org/hpvtoolkit)  
email: [HPV@aap.org](mailto:HPV@aap.org)

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## Oropharyngeal Cancer (OPC) and HPV Prevention in Children

### 5 Key Points that Dental Professionals Need to Know

- 1** OPC is also known as squamous cell carcinoma of the pharynx, including the base of the tongue and tonsils.
- 2** OPC incidence is rapidly increasing. This cancer is hard to detect before it spreads.
- 3** 9 out of 10 people will contract the Human Papillomavirus (HPV) at some point in their lives and some will develop cancer. Everyone is at risk.
- 4** HPV causes 70% of OPCs in the US. HPV type 16 (which is covered by HPV vaccine) causes 60% of all OPCs.
- 5** You are the key to cancer prevention.

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**5** You are the key to cancer prevention.

**YOU ARE THE KEY TO CANCER PREVENTION**

**Dental professionals should recommend the HPV vaccine and refer patients to their pediatrician to get vaccinated.**

For More Information: [aap.org/oralhealth](http://aap.org/oralhealth) • [aap.org/hpvtoolkit](http://aap.org/hpvtoolkit) • email: [HPV@aap.org](mailto:HPV@aap.org)

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[https://www.aap.org/en-us/Documents/AAP\\_OPCHPV\\_WhatDentalProsNeedToKnow\\_final.pdf](https://www.aap.org/en-us/Documents/AAP_OPCHPV_WhatDentalProsNeedToKnow_final.pdf)  
[https://www.aap.org/en-us/Documents/AAP OPC HPV 5KeyPoints Pediatrician\\_final.pdf](https://www.aap.org/en-us/Documents/AAP OPC HPV 5KeyPoints Pediatrician_final.pdf)

# How State Oral Health Programs can Help

- Facilitate partnerships, including referral relationships among stakeholders
- Work with private and public medical and dental clinical professionals and their professional associations to craft messages that clinicians can use in discussing HPV and promoting the HPV vaccine
- Importance of referrals to primary care medical and dental providers for HPV vaccinations
- Work with chronic disease and prevention to discuss HPV related oral cancers
- Dissemination plan on how to best promote the use of HPV vaccination in preventing OPC

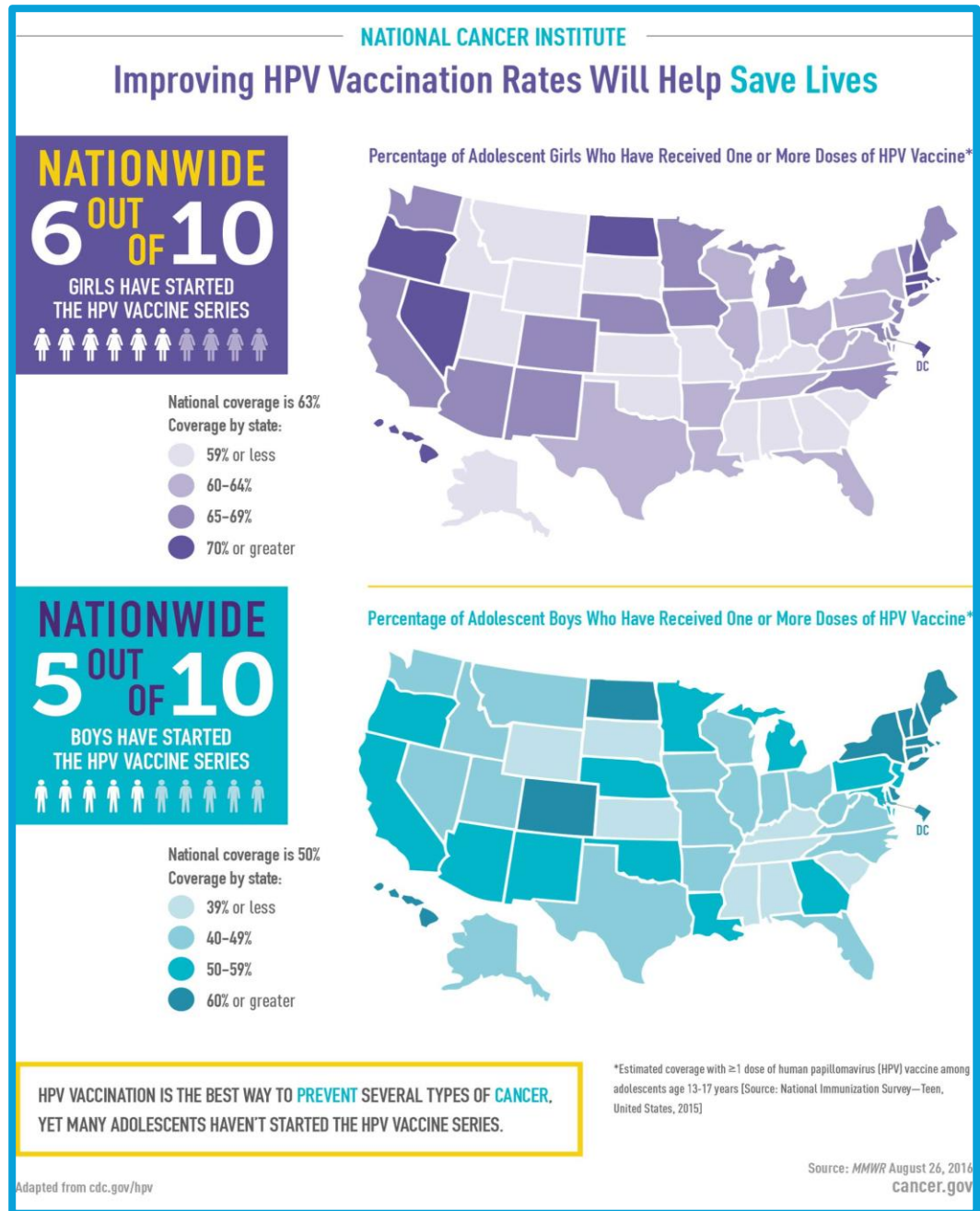
The graphic features a central red rounded rectangle with a white dashed border. This rectangle is set against a background of horizontal stripes in white, light gray, and dark gray. On the left side, two dark gray gears are partially visible, overlapping the red rectangle. The text 'HPV IMMUNIZATION RATES' is centered within the red rectangle in a white, bold, sans-serif font.


# HPV IMMUNIZATION RATES



- 60% of girls received at least one HPV dose (2016)

- 50% of boys received at least one HPV dose (2016)





# Nevada Rates (2015) Immunize Nevada Report

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## *GIRLS*

- 72% of girls received at least one HPV dose (US: 60%)
- 42% of girls received the 3 doses of HPV

## *BOYS*

- 44% of boys received at least one HPV dose (US: 42%; 2015 figure)
- 24% of boys received the 3 doses of HPV
- Healthy People 2020: 80% of 13-15 year olds complete the 3 dose series

# HPV Cancer and Prevention Profiles 2017

- George Washington University School of Medicine and Health Sciences/GW Cancer Center
- <https://smhs.gwu.edu/cancercontroltap/resources/hpv-cancer-and-prevention-profiles-2017>

# HPV Cancer & Prevention Profile

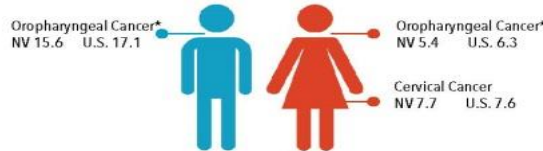
## Nevada

### Percentage of Cancers Probably Caused by HPV<sup>1</sup>

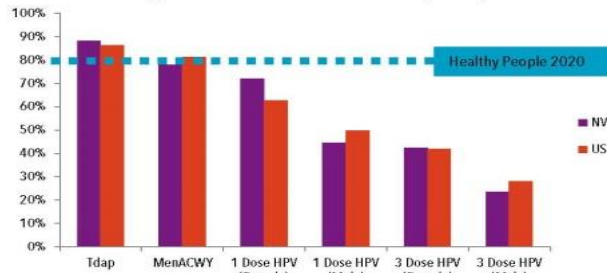


HPV causes nearly all cervical cancers and many cancers of the vagina, vulva, penis, anus, rectum, and oropharynx.<sup>1</sup>

### State vs. U.S. HPV-Associated Cancer Incidence per 100,000 Population (2009-2013)<sup>2</sup>



### HPV, Tdap and MenACWY Vaccination Coverage among Adolescents 13-17 Years (2015)<sup>3</sup>



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1. Saraiya M., Unger E.R., Thompson T.D., Lynch C.F., Steina M., Watson M., Goodman M.I. (2015) US Assessment of HPV types in cancers: Implications for current and 9-valent HPV vaccines. *Journal of the National Cancer Institute*, 107(6):dp086. 2. United States Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute. (2014). United States Cancer Statistics: 2009-2013 cancer incidence. *HPV Data Online Database*. Retrieved from <http://oncostat.cdc.gov/cancer/2013-111111>. 3. Reagan-Steiner, S., Yankey, D., Jayarajah, J., Han-Evans, L.D., Curtis, D., MacNeil, J., Singleton, J.A. (2016). National, regional, state and selected local area vaccination coverage among adolescents aged 13-17 years - United States, 2015. *Morbidity and Mortality Weekly Report*, 65(32), 850-858. Retrieved from <http://www.cdc.gov/mmwr/volumes/65/wr/mm6532a4.htm>

\*Oropharyngeal cancer data reflect the incidence rates of cancers of the oral cavity and pharynx.

**Take Action!** 81% of new HPV-associated cancer cases diagnosed each year could be prevented by HPV vaccination<sup>1</sup>

Gaps in HPV vaccination coverage compared to other recommended vaccines for adolescents (Tdap and MenACWY), reveal **missed opportunities**. Use local data to inform efforts to reduce missed opportunities in HPV vaccination.

A strong **provider recommendation** is the most effective method for increasing HPV vaccination. Recommend the HPV vaccine the same way you recommend the other adolescent vaccines. Try saying, "Your child is due for vaccinations today to help protect against meningitis, HPV cancers and pertussis. We'll give those shots at the end of the visit." Review the back of this document for tips on addressing parents' top questions about the HPV vaccine.

Visit [bit.ly/HPVvaxRecs](http://bit.ly/HPVvaxRecs) for the most up-to-date HPV vaccination schedules from CDC including new 2-dose HPV vaccine schedule recommendation for young adolescents.

Consider conducting quality improvement activities around HPV vaccination, including utilizing Immunization Information Systems (IIS) and implementing reminder/recall interventions to increase HPV vaccination coverage.

**For more information, contact:**

## Talking to Parents about HPV Vaccine

Recommend HPV vaccination in the **same way** and on the **same day** as all adolescent vaccines. You can say, *“Now that your son is 11, he is due for vaccinations today to help protect him from meningitis, HPV cancers, and pertussis.”* Remind parents of the follow-up shots their child will need and ask them to make appointments before they leave.

**Why does my child need HPV vaccine?**

HPV vaccine is important because it prevents infections that can cause cancer. That's why we need to start the shot series today.

**Is my child really at risk for HPV?**

HPV is a very common infection in women and men that can cause cancer. Starting the vaccine series today will help protect your child from the cancers and diseases caused by HPV.

**Why do they need HPV vaccine at such a young age?**

Like all vaccines, we want to give HPV vaccine earlier rather than later. If you wait, your child may need three shots instead of two.

**I'm worried about the safety of HPV vaccine. Do you think it's safe?**

Yes, HPV vaccination is very safe. Like any medication, vaccines can cause side effects, including pain, swelling, or redness where the shot was given. That's normal for HPV vaccine too and should go away in a day or two.

Sometimes kids faint after they get shots and they could be injured if they fall from fainting. We'll protect your child by having them stay seated after the shot.

**Would you get HPV vaccine for your kids?**

Yes, I gave HPV vaccine to my child (or grandchild, etc.) when he was 11, because it's important for preventing cancer.

**Why do boys need HPV vaccine?**

HPV vaccination can help prevent future infection that can lead to cancers of the penis, anus, and back of the throat in men.

**What diseases are caused by HPV?**

Some HPV infections can cause cancer—like cancer of the cervix or in the back of the throat—but we can protect your child from these cancers in the future by getting the first HPV shot today.

**How do you know the vaccine works?**

Studies continue to prove HPV vaccination works extremely well, decreasing the number of infections and HPV precancers in young people since it has been available.

**I'm worried my child will think that getting this vaccine makes it OK to have sex.**

Studies tell us that getting HPV vaccine doesn't make kids more likely to start having sex. I recommend we give your child her first HPV shot today.

**Can HPV vaccine cause infertility in my child?**

There is no known link between HPV vaccination and the inability to have children in the future. However, women who develop an HPV precancer or cancer could require treatment that would limit their ability to have children.

**What vaccines are actually required?**

I strongly recommend each of these vaccines and so do experts at the CDC and major medical organizations. School entry requirements are developed for public health and safety, but don't always reflect the most current medical recommendations for your child's health.



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

**HPV VACCINE**  
**IS CANCER PREVENTION**

***Why does my child need  
HPV vaccine?***



HPV vaccine is important because  
it prevents infections that can  
cause cancer.

That's why we need to start the  
shot series today.





*What diseases are caused  
by HPV?*





Some HPV infections can cause cancer –  
like cancer of the cervix or in the back of  
the throat.

We can protect your child from these  
cancers in the future by getting the first  
HPV shot today.



*Is my child really at risk  
for HPV?*



HPV is a very common infection in women and men that can cause cancer. Starting the vaccine series today will help protect your child from the cancers and diseases caused by HPV.



A stylized illustration of a hand holding a tablet. The hand is dark grey with a blue sleeve cuff. The tablet is light grey with a white rounded rectangle in the center containing the text 'BEST PRACTICE'. The background is a light grey gradient.

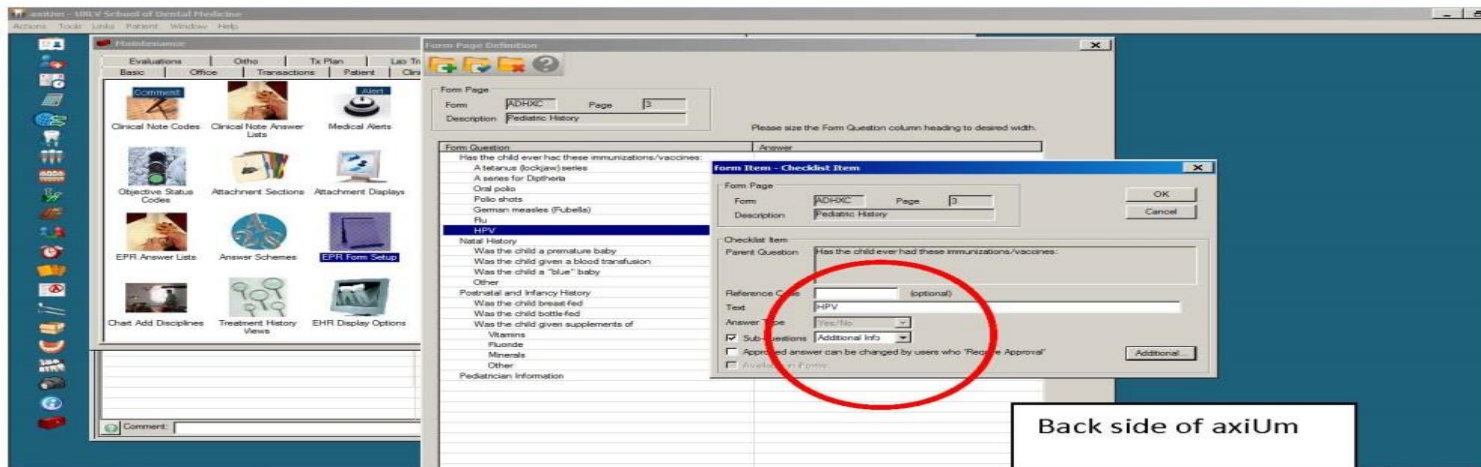
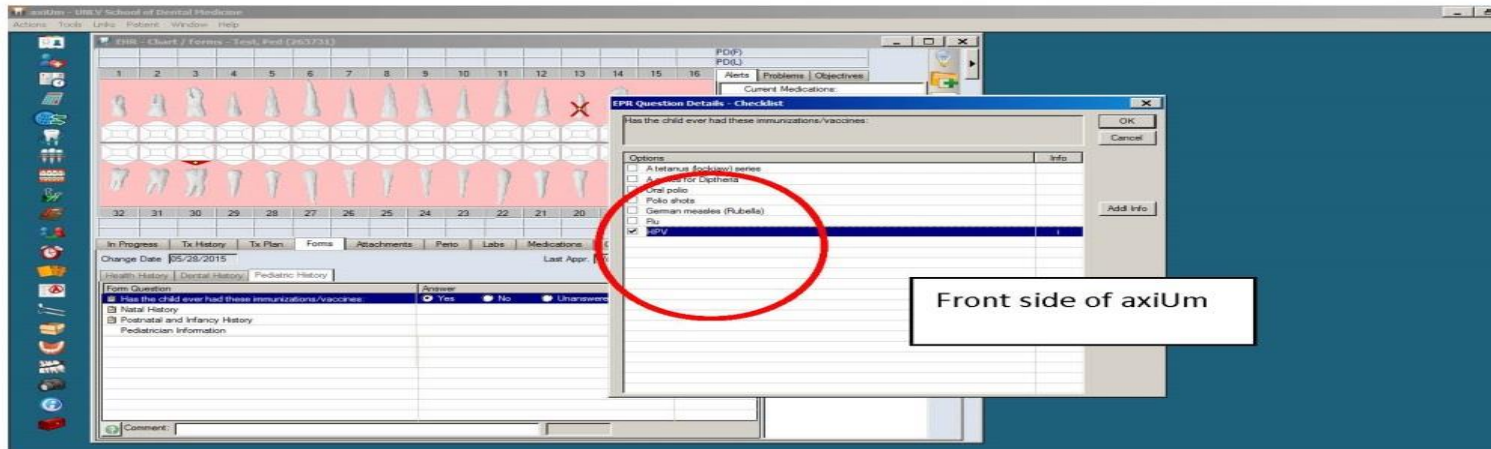
**BEST PRACTICE**

# Medical History

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- Ask about HPV vaccinations in the medical history (reminders to ask about completion of required doses)
- Conduct a thorough oral cancer screening frequently
- Discuss HPV and oropharyngeal cancer with patients

# HPV Vaccination (children)



# If the Answer is NO!

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If the answer to this question is “no”, then please print the following on the walkout statement:

Your child has not yet been vaccinated for HPV. Here are some facts you should know regarding HPV and its vaccine:

- Lifetime risk of acquiring HPV infection is 75-80% and can occur with various forms of contact, not just sexual activity.
- Each year, an estimated 26,000 cancers are linked to HPV with an approximate 10,000 deaths from these cancers.
- HPV can cause cervical, mouth, throat and anal cancers, thus, the HPV vaccine is a safe and effective cancer prevention strategy for boys and girls if given at the recommended age of 11-12 years.

For more information, contact [info@immunizenevada.org](mailto:info@immunizenevada.org) or call 775-624-7117. You can also find additional information at [ImmunizeNevada.org/HPVfreeNV](http://ImmunizeNevada.org/HPVfreeNV). (ADD QR CODE)



## SUMMARY

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- Increased awareness should focus on the prevention of HPV-related OPC.
- Public health programs can begin by establishing collaborative partnerships
- Help raise public awareness about signs, symptoms, risk factors and changes in the demographics of head and neck cancer, including OPC.
- An integrated workforce can counsel patients about the HPV vaccine and how it can help reduce the risk of HPV-related OPCs.
- Offer head and neck cancer screenings for targeted, high risk populations
- Integrate HPV and OPC education into dental, dental hygiene, and other health professions curricula.



# HPV Publications

- <http://decisionsindentistry.com/article/association-between-human-papillomavirus-and-oral-health/>
- <https://dimensionsofdentalhygiene.com/article/human-papillomavirus-knowledge/>

# ASTDD White Paper

- White Paper: Human Papilloma Virus (HPV) and Oropharyngeal Cancer Association of State and Territorial Dental Directors (ASTDD) Adopted July 10, 2017
- <https://www.astdd.org/docs/human-papilloma-virus-and-oropharyngeal-cancer-white-paper.pdf>



**White Paper: Human Papilloma Virus (HPV) and Oropharyngeal Cancer**  
**Association of State and Territorial Dental Directors (ASTDD)**  
**Adopted July 10, 2017**

**Problem**

Cancers of the head and neck occur in a number of anatomical areas including the oral cavity, pharynx, larynx, the paranasal sinuses, nasal cavity, and salivary glands.<sup>1</sup> The main causes of head and neck cancers are from one or more of an array of behavioral, environmental, cultural, and viral factors with the majority (approximately 75%) of these attributed to tobacco and alcohol use.<sup>1</sup>

Recent studies show that an increasing proportion (approximately 60% to 70%) of oropharyngeal cancers (OPC) may be linked to the Human Papilloma Virus (HPV).<sup>1,2,3,4,5</sup> Cancers of the oropharynx, the middle part of three anatomical areas comprising the pharynx, impact the back of the throat, which includes the soft palate, base of the tongue, and tonsils;<sup>1</sup> HPV-related OPC mainly affect the base of the tongue and tonsils.<sup>1</sup> However, it remains unclear whether HPV is linked to other head and neck cancer areas including the oral cavity.<sup>6,7</sup>

HPV is the most common sexually transmitted virus and infection in the U.S.<sup>5</sup> A person can have HPV for many years, even decades, before it is detected or develops into cancer.<sup>2</sup> The vast majority of infected people, even those with a high risk strain of HPV, will not develop cancer.<sup>8</sup> In the US, estimates show an average of 15,738 new cases of HPV-associated OPC are diagnosed each year in sites where HPV is found, with 3,100 new cases in women and 12,638 in men.<sup>4,5,6,9</sup> Findings from the National Health and Nutrition Examination Survey (NHANES) indicate that on any given day, approximately 26 million Americans have an oral HPV infection, with approximately 2,600 of these individuals infected with a high-risk cancer-causing strain.<sup>9</sup> According to the CDC, the highest prevalence of HPV-associated OPC is found in non-Hispanic males.<sup>10</sup> The fastest growing segment of the HPV-related OPC population is healthy, non-smokers in the 25-50 age range.<sup>1</sup> White, non-smoking males age 35 to 55 are most at risk, four to one over females.<sup>2</sup>

Because of an array of non-traditional risk factors associated with HPV-related OPC, including a younger age cohort and no history of significant tobacco and alcohol use, diagnosis may be delayed since both patients and practitioners may not readily be considering and looking for such oral pathology. HPV-related OPCs may also be more difficult to detect than tobacco-related cancers because the symptoms are not always obvious to the individual or to the professionals.<sup>2</sup> As with most head and neck cancers, the symptoms may be subtle and painless. Because the affected areas for OPC are approximate to the back of the throat, OPC, including those caused by HPV, are generally more difficult to detect and diagnose early when compared to other oral cavity cancers.<sup>3</sup>

According to the Oral Cancer Foundation, the best way to screen for head and neck cancers, including HPV-related OPC, is through a visual and tactile exam given by a medical or dental professional.<sup>2</sup> However, traditional screening techniques may not always be effective for OPC since the oropharynx is located deep inside the neck and cannot be easily visualized or palpated. The exam should be accompanied by a thorough medical history asking about signs and symptoms of OPC along with possible exposure specific to HPV. If the practitioner suspects possible pathology based on the history, a follow-up exam using mirrors (indirect pharyngoscopy) or special fiber-optic scopes (direct pharyngoscopy) will likely be needed to thoroughly examine the oropharynx.<sup>11</sup> An oral health professional or physician should

evaluate any symptoms that persist for two or more weeks including a sore in the mouth that does not heal, pain that doesn't go away, a white or red patch, persistent sore throat or lump/swelling of unknown origin. Persistent problems should be assessed for a definitive diagnosis.

According to the Oral Cancer Foundation, about 12,000 people between the ages of 15 to 24 are infected with HPV every day in the U.S.<sup>2</sup> Yet despite the availability of a vaccine for young boys and girls, HPV OPC rates have increased in recent years. Many factors may pose barriers to receiving the vaccine in healthcare settings including the hesitancy of healthcare providers to discuss HPV in a clinical setting. It is likely that dental professionals, while routinely screening for oral cancer, may not be recommending the HPV vaccine to their patients because: (1) they may be unaware of HPV-related OPC; (2) they may be aware of HPV-related OPC but not about the vaccine and its purported use and effectiveness; and (3) perhaps the most likely reason, dental professionals may feel uncomfortable discussing HPV since it is a sexually transmitted disease.

### **Method**

The Advisory Committee on Immunization Practices (ACIP) recommends routine HPV vaccination for girls and boys ages 11 and 12.<sup>12</sup> Vaccination is also recommended for females ages 13 through 26 and for males ages 13 through 21 who have not been vaccinated previously or who have not completed the recommended series.<sup>13</sup> Vaccination is also recommended through age 26 for men who have sex with men and for immunocompromised persons (including those with HIV infection) if not vaccinated previously.<sup>13</sup> These vaccines are most effective if given to children before they become sexually active.

Given the intricacies in effectively diagnosing HPV-related OPC in a timely manner, receiving the HPV vaccine at a young age by both boys and girls becomes ever more critical. Integrating effective communication strategies to discuss HPV and the HPV vaccine in a clinical setting can build awareness for the possible risk of HPV-related OPC. Healthcare professionals must feel comfortable discussing HPV and the HPV vaccine in their practices. At times it is difficult discussing sexual concerns in a healthcare setting, but rephrasing the message as a cancer prevention strategy can help encourage conversations with patients. If healthcare providers, particularly dentists and dental hygienists, are uncomfortable discussing the subject of sexually transmitted diseases, emphasizing how the HPV vaccine can reduce the risk of OPC and other cancers may be the most prudent tactic to encourage more providers to discuss this topic. Webinars and continuing education courses can help healthcare providers learn the most effective communication tools to implement in their practice.

State oral health programs (SOHP) can play an important role in communicating information regarding HPV and the HPV vaccine. SOHPs can facilitate partnerships, including referral relationships among stakeholders. Because of their positioning with external as well as internal partners, SOHPs have the opportunity to work with private and public health medical and dental clinical professionals and their professional associations to craft messages that clinicians can use in discussing HPV and promoting the HPV vaccine. Such messages can include the importance of referrals to primary care medical and dental providers for HPV vaccination, depending on what individual state practice acts allow. These messages might also form the basis of broader, community-based campaigns employing public health approaches, using risk communications techniques and framing appropriate to the intended audiences. Similarly, SOHPs' relationships with state health department colleagues in programs such as Chronic Disease and Cancer Prevention enable them to discuss HPV-related oral cancers and for the programs to make their own networks aware of the OPC risk due to HPV. In both situations, the SOHP can help develop messages for dissemination on how best to promote use of HPV vaccination in preventing OPC.



The primary focus of HPV vaccines has been on reducing cervical cancer. However, increased awareness should focus on the prevention of OPC in males and females as well.<sup>14</sup> The SOHP and other public health programs can address HPV-related OPC through the establishment of collaborative partnerships resulting in an interprofessional workforce that encompasses healthcare professionals and includes immunization staff. Together, they can help raise public awareness about signs, symptoms, risk factors and changes in the demographics of head and neck cancer, including OPC. Further, this integrated workforce can counsel patients about the HPV vaccine and how it can help reduce the risk of HPV-related OPCs. Offering head and neck cancer screenings for targeted, high risk populations during an immunization clinic also might create an important opportunity to discuss the increasing trends of OPC and HPV.

Finally, and perhaps most important, integrating HPV and OPC education into dental, dental hygiene and other health professions curricula can increase the comfort level of healthcare providers in addressing HPV and the HPV vaccine in a clinical setting. The next generation of healthcare professionals needs to be well versed in the emerging evidence as it relates to HPV and OPC.

#### **Concluding Statement:**

The Association of State and Territorial Dental Directors (ASTDD) endorses promotion of the HPV vaccine to reduce the risk of HPV-related oropharyngeal cancer. State oral health programs (SOHPs) can play a critical role in facilitating evidence-based state and community practice interventions and messaging campaigns aimed at effectively promoting the HPV vaccine. Through external and internal partners, SOHPs can help develop collaborative partnerships and referral networks that can empower an interprofessional workforce of dental and medical practitioners to promote use of the HPV vaccine for their patients and increase the rates of completion of the HPV vaccination series. A cost-effective approach to promoting overall health in evidence-based state and community practice interventions is to incorporate HPV-related oropharyngeal cancer awareness strategies into oral health promotion efforts and healthcare professional academic curricula.

The ASTDD Dental Public Health Resources Committee is pleased to acknowledge  
Christina Demopoulos, DDS, MPH, for her assistance in preparing this paper.

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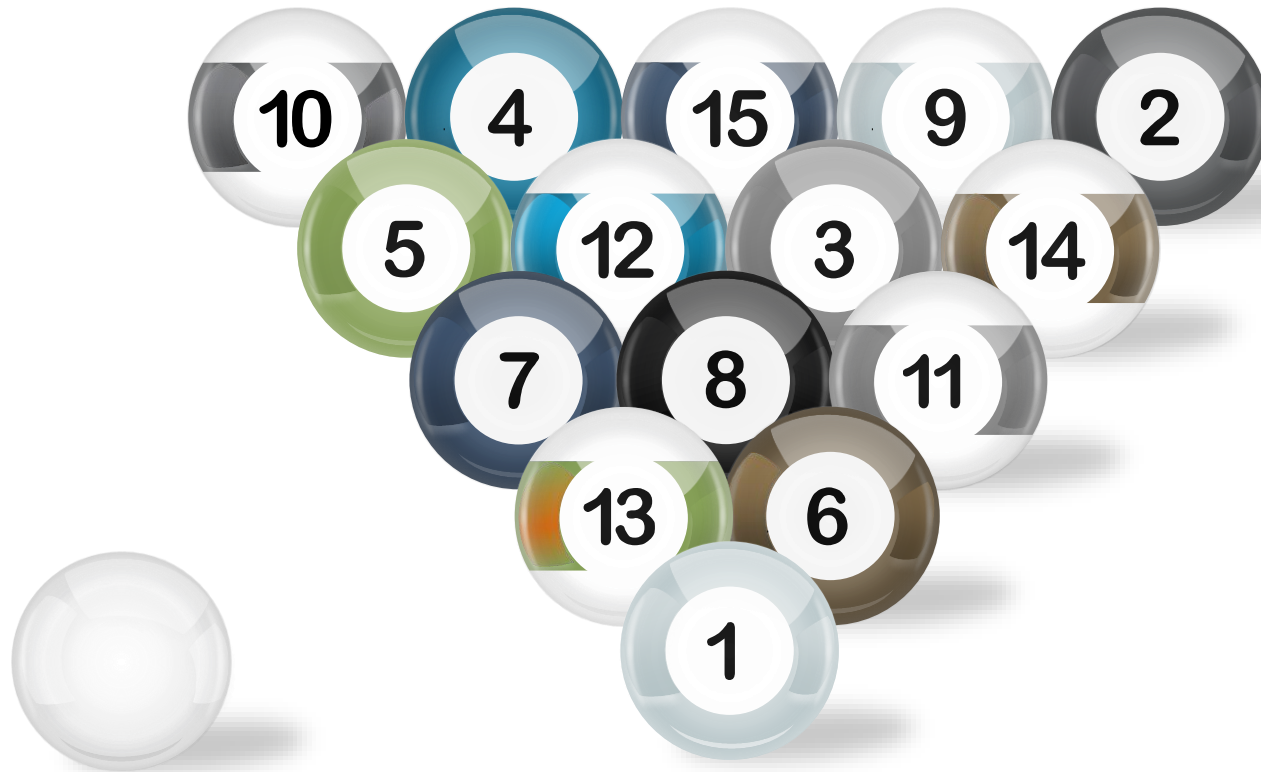
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## Contact Information:

Dr. Christina A. Demopoulos  
UNLV School of Dental Medicine  
1001 Shadow Lane, MS 7425  
Las Vegas, NV 89106  
[Christina.Demopoulos@unlv.edu](mailto:Christina.Demopoulos@unlv.edu)



**THANK YOU!**



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