HPV: The Role of the Dental Team

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Disclosure

I have no actual or potential conflict of interest in relation to this presentation.
HPV Background and Epidemiology
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.
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

• 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)

Source: http://www.cdc.gov/std/hpv/stdfact-hpvandoropharyngealcancer.htm
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 ~26 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: targeted by bivalent and quadrivalent vaccines
- HPV types 31/33/45/52/58: targeted by 9-valent vaccine
- Other HPV types
- HPV-negative*

**Sex / Cancer Site**

- **Women**
  - Cervix
  - Vagina
  - Vulva
  - Anus
  - Rectum
  - Oropharynx

- **Men**
  - Penis
  - Anus
  - Rectum
  - Oropharynx

**Average number of cases per year**

0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 8,000 9,000 10,000 11,000 12,000 13,000
HPV and Oropharyngeal Cancer
HPV Associated Cancers

• HPV-positive oropharyngeal cancer has surpassed cervical cancer as the most prevalent HPV cancer

• Oropharyngeal/oral cancer is the 8th most common cancer among males and the 13th most common among females in the US, with an overall 5-year survival rate of 65% (48% for African Americans and 67% for Whites)

• Early diagnosis can increase the 5 year survival rate to 84% for all people (about 29% of oral and oropharyngeal cancers are diagnosed at this stage)

• American Cancer Society's (ACS) publication, Cancer Facts & Figures 2020, and the ACS website (January 2020)
HPV-Associated Cancers - Oropharynx

FEMALES

~3,500 new cases/year among women

19,000
100%
Average number of OPC per year in sites where HPV is often found

13,500
70%
Percentage OPC probably caused by any HPV type

11,400
60%
Percentage OPC probably caused by HPV types 16/18

MALES

~15,500 new cases/year among men

19,000
100%
Average number of OPC per year in sites where HPV is often found

13,500
70%
Percentage OPC probably caused by any HPV type

11,400
60%
Percentage OPC probably caused by HPV types 16/18

CDC, August 2, 2019
Oral Cavity and Oropharynx

Oropharyngeal cancers (back of the throat, base of the tongue, and tonsils) are the most common among men.
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
5. Pain when swallowing/chewing
6. Unexplained weight loss
7. An ulcer or sore that does not heal within 2-3 weeks
8. A red, white, or black discoloration on the soft tissues in the mouth

Some people may have no signs or symptoms!
HPV-Associated Oropharyngeal Cancer Rates by Race, Ethnicity, and Sex, United States, 2009–2013

Viens et al, MMWR, 2016
### HPV Attributable Cancer Cases Each Year

<table>
<thead>
<tr>
<th>Cancer site</th>
<th>Average number of cancers per year in sites where HPV is often found (HPV-associated cancers)</th>
<th>Percentage probably caused by any HPV type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Both Sexes</td>
</tr>
<tr>
<td>Anus</td>
<td>2,270</td>
<td>4,539</td>
<td>6,810</td>
</tr>
<tr>
<td>Cervix</td>
<td>0</td>
<td>12,015</td>
<td>12,015</td>
</tr>
<tr>
<td>Oropharynx</td>
<td>15,540</td>
<td>3,460</td>
<td>19,000</td>
</tr>
<tr>
<td>Penis</td>
<td>1,303</td>
<td>0</td>
<td>1,303</td>
</tr>
<tr>
<td>Vagina</td>
<td>0</td>
<td>862</td>
<td>862</td>
</tr>
<tr>
<td>Vulva</td>
<td>0</td>
<td>4,009</td>
<td>4,009</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td>43,399</td>
</tr>
</tbody>
</table>

Source: [http://www.cdc.gov/cancer/hpv/statistics/cases.htm](http://www.cdc.gov/cancer/hpv/statistics/cases.htm) 2019
Overview

• Approximately 70% of oropharyngeal cancers may be linked to HPV
• 3,500 new cases in females
• 15,500 new cases in males
• Approximately 60% probably caused by HPV 16, HPV 18
• Median age at diagnosis for women: 63 years old
• Median age at diagnosis for men: 61 years old
• White, non-smoking males age 35 to 55 are most at risk, 4-to-1 over females
HPV Vaccine
According to the Centers for Disease Control and Prevention (CDC), the HPV vaccine has been demonstrated to be safe, effective and offers long lasting protection against HPV-associated cancers.

Safety of Gardasil 9 was evaluated in approximately 13,000 males and females.

Most commonly reported adverse reactions were injection site pain, swelling, redness and headaches.

Most benefit is to complete series before initial exposure to HPV infection.

The number of doses and the time period are dependent upon the age of the recipient when the process begins.
HPV Vaccine Schedule

- Adolescents between 9 through 14 that have received 2 doses of HPV vaccine less than 6 months apart will still require a third dose.

- The vaccines are most effective when given to children before they become sexually active and are not recommended for anyone with a history of severe allergic reactions to any of the HPV vaccine components or women who are pregnant.

- Studies suggest that vaccine protection is long-lasting; no evidence of waning immunity
  - Available evidence indicates protection for at least 10 years
  - Multiple cohort studies are in progress to monitor the duration of immunity
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
What Oral Health Care Providers Can Do to Close the Gap?

- Promote risk-based oral cancer screenings (children/adults)
- Talk to parents/caregivers about HPV vaccine
- Promote integrated health care model
- More research
Oral Health Care Educators

• 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).
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.
Oropharyngeal Cancer (OPC) and HPV Prevention in Children: 5 Key Points that Dental Professionals Need to Know

Answering Questions About HPV Vaccine: A Guide for Dental Professionals

Oropharyngeal Cancer (OPC) and HPV Prevention in Children: 5 Key Points that Pediatricians Need to Know
ADA Collaboration with the HPV Roundtable

Developed with representation from:
• American Academy of Family Physicians
• American Association of Public Health Dentistry
• American Cancer Society
• Head and Neck Cancer Alliance

The main message of the Action Guide: Oral health professionals play a critical role in combating growing rates of HPV-positive oropharyngeal cancers. Oral health professionals should strongly and clearly recommend HPV vaccination to all age-eligible patients.

ADA Policy 2018

• American Dental Association has adopted a policy that urges dentists to support the use and administration of the HPV vaccine (10/25/2018 new release)

• According to the ADA Council on Scientific Affairs, the single best predictor of whether a young person or adolescent receives the vaccine is a recommendation from a trusted health care professional.
HPV VACCINE Evidence-Based HPV Disease Prevention

HPV vaccine is cancer prevention.

#UCanStopHPV

Talk to the doctor about vaccinating your 11-12 year old sons and daughters against HPV.
New Legislation

• Oregon passed the legislation to administer the HPV vaccine and flu vaccine in dental offices.

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

• 50% of boys received at least one HPV dose (2016)
CDC Data (2017)

- HPV vaccination rates are rising

- Nearly half of adolescents ages 13 to 17 had received all the recommended doses

- 2/3 had received the first dose

- 5% increase from the 2016 reported data
GIRLS (13-17 yo)
• 53% of girls were up-to-date on HPV vaccine (US: 53%)

BOYS
• 45% of boys were up-to-date on HPV vaccine (US: 44%)

• Healthy People 2020: 80% of 13-15 year olds complete the 3 dose series
• *For 2016 and 2017 data, up-to-date indicates number of doses (2 or 3) received, depending on age
HPV Cancer and Prevention Profiles 2017

- George Washington University School of Medicine and Health Sciences/GW Cancer Center
Talking to Parents about HPV Vaccine

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—but 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.

How do you know the vaccine works?

Studies confirm that getting HPV vaccination works extremely well, decreasing the number of infections and HPV precancers in young people since it has been available.

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

I 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 other vaccines, 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.

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.

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.

Can HPV vaccine cause infertility in my child?

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.

Why do boys need HPV vaccine?

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

• 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
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.
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THANK YOU!
HPV
Dental Screening Protocol

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Akshay Kaushal, DDS
Community Healthcare Center is a primary care medical, dental and counseling clinic welcoming all ages from newborns to seniors located in Wichita Falls and McKinney, Texas.

A variety of patient services are offered, including Pediatrics, Women’s Health Services, Family Medicine, Children & Adult Dentistry, Behavioral Health Counseling for Children & Adults and TodayCare.

Our support services include lab and x-ray.
Our medical clinic provides care to approximately 12,000 patients annually.

Our dental clinic, Phyllis Hiraki Dental, provides care to approximately 1200 patients annually.
The idea to screen patients for the HPV vaccine was initiated by our CMO, Dr. Ellaheh Ebrahim, during our CPI meeting. She was very concerned about the growing research that linked HPV to various cancers. Due to the link of HPV and oral cancer, Dr. Ebrahim felt that this was a great opportunity to further integrate our medical and dental team.
Our CMO and Dental Director, Dr. Akshay Kaushal, collaborated on the process to develop our screening tool and our workflow process.

To develop the workflow process, our billing department, dental front desk, immunizations and dental staff were all questioned in regards to what would be most efficient for their departments.
Patient Intake Form
Given at each exam appointment

Have you received the HPV vaccine?  [ ] Yes  [ ] No

Would you like to receive the HPV vaccine?  [ ] Yes  [ ] No

*pregnant women are not eligible to receive this vaccine*
Each exam patient is given an informational sheet at the front desk upon check-in. The information sheet is available in English and Spanish.
Patient Education
Done by Hygienists, Assistants and Dentist

• Ask patient if information sheet was received
• Ask patient if they have questions or concerns regarding the HPV vaccine
• Answer patient questions regarding vaccine
• Emphasize importance of vaccine as it relates to oral health and prevention of associated cancers
Does patient want vaccine?

- **YES**
  - Message front desk to Obtain cost

- **NO**
  - Let patient know that vaccine is available at any time if they change their mind

  Alert immunizations of future patient
HPV Vaccine Flow Chart
Offer to patients aged 9-45

Private Insurance/MCD/MCR
- Assistants send slack message to billing & front desk to verify insurance coverage for vaccines.
- Laura will let front desk know of coverage/cost

Self-Pay
- 19+ years old
- 18 yrs old and under
- Eligible for ASN
  - $10 co-pay (administration fee)
- Eligible for VFC
  - $10 co-pay (administration fee)

FRONT DESK:
1. If patient marks that they would like information on receiving the vaccine, please follow the flow-chart above so that they are aware of the cost.
2. If they would like to receive the vaccine, patient must go to the main clinic after their visit to receive it.
3. After the visit send a slack message to “Immunizations” so that they are aware the patient is coming.

ASSISTANTS:
1. If patient would like information on receiving the vaccine, make sure they ask the front desk about cost after their visit.
2. Make sure you mark the intake form in Intergy on each patient, regardless of wanting the vaccine.
Additional Information

- A standing order from our CMO is in place for the HPV vaccine
- Patient can walk to immunizations immediately after dental treatment is complete to receive the vaccination with little to no waiting time
- All CHC dental patients are able to receive the vaccine from immunizations even if they are not a current CHC medical patient
RESULTS

• Currently we do not have a method to track the success rate of the program, but we are working on a system to determine the number of HPV vaccines that come from our dental department.

• All patients have happily accepted the education regarding the vaccine.

• We have noticed a trend that parents of children/teenagers have a higher acceptance frequency than our adult patients.

• Providers and staff have easily adapted to screening patients and answering questions as they arise.
Thank you for your time

QUESTIONS?
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