Good Afternoon!

NC2 Nebraska Cancer Coalition

PERSPECTIVES ON HPV-RELATED OROPHARYNGEAL CANCER: PERSONAL EXPERIENCE & CLINICAL EXPERTISE

- Scott Wieskamp
  Director of Operations – Lincoln Public Schools
  - Bachelor of Science and Masters Degrees in Architecture at University of Nebraska – Lincoln
  - Lincoln Public Schools – 23 Years
  - Husband, Father
  - Cancer Survivor

Acknowledgements

Lincoln Chapter of S.P.O.H.N.C.

(Support for People with Oral, Head, and Neck Cancer)

- William
- Blaine
- Bill
- Angie
- Jan
- Lewis
- Regina
- Les
- Ken
- Scott
- George
- Glenna
- Mark
- Thomas

Acknowledgements

- Dr. Mark Vanicek, DDS
- Dr. Tim Tesmer, ENT Nebraska
- Cancer Partners of Nebraska
- Polly Ubben, MA
  Speech Language Pathologist
- Friends / Neighbors
- Co-Workers & Colleagues
- Church Community
- Prayer Warriors
- Family

My Story

HPV

Human Papilloma Virus

HPV Statistics (CDC, ACS)

- 45,000 Cases Annually in US, and Growing
- HPV Vaccine For Ages 11 – 12 Can Protect From Certain Cancers Later In Life
- Now Vaccinations are Available up to Age 45
- Common Virus Infects Teens & Adults
- 80% Of Adults Will Get An HPV Infection In Their Lifetime
- 30,000+ Cases Of Cancer Could Be Prevented With HPV Vaccinations Each Year
- HPV Is Thought to Be Responsible For:
  - 90% of Cervical Cancer
  - 70% of Oral Cancer

3142

1:40
RUNNING
1028

HALFSY
THE HALFSY

FOUR
PARK 40

PATAGONIA

LUMBIA
AYS OUTSIDE
SINCE 1938

First Day of Treatment

Stacey K. Knox, MD · Steven G. Dunder, MD
201 S 68th St Pl, Ste 200 | Lincoln, NE 68510
p 402.420.7000 | f 402.420.6969
p 402.481.6090 | f 402.481.6089

SOUTHEAST NEBRASKA CANCER CENTER
LEADING CANCER CARE

LEADINGCANCERCARE.COM

Radiation Therapy Simulation Set-up Photos

Patient Name: Scott Wieskamp [redacted]	Doctor: JOSEPH KAM CHIU

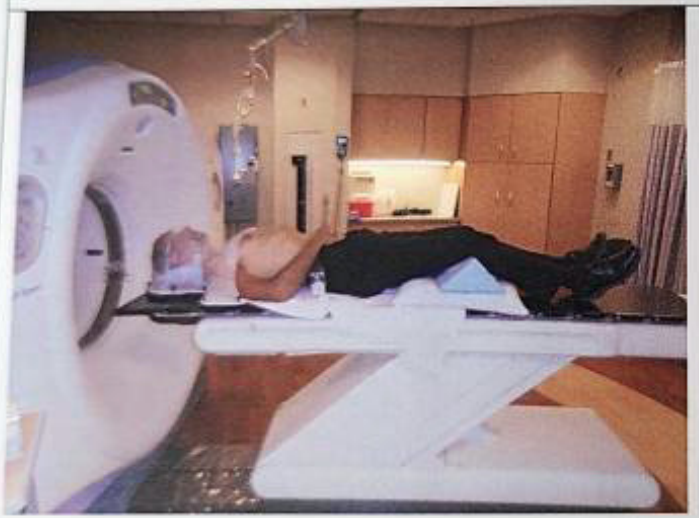



Image Info: TONSIL	Date: 6-5-17
Image Info:	Date:

Last Day of Treatment!

MAJOR PROJECT

Thank You!

HPV-associated Oropharyngeal Squamous Cell Carcinoma

Aru Panwar, MD FACS

Head and Neck Surgical Oncology, Methodist Estabrook Cancer Center, Nebraska Methodist Hospital

Associate Professor of Surgery, Creighton University School of Medicine

Nebraska Cancer Coalition Webinar

Tuesday, April 19, 2022

Disclosures: No relevant financial disclosures

METHODIST ESTABROOK CANCER CENTER

Objectives

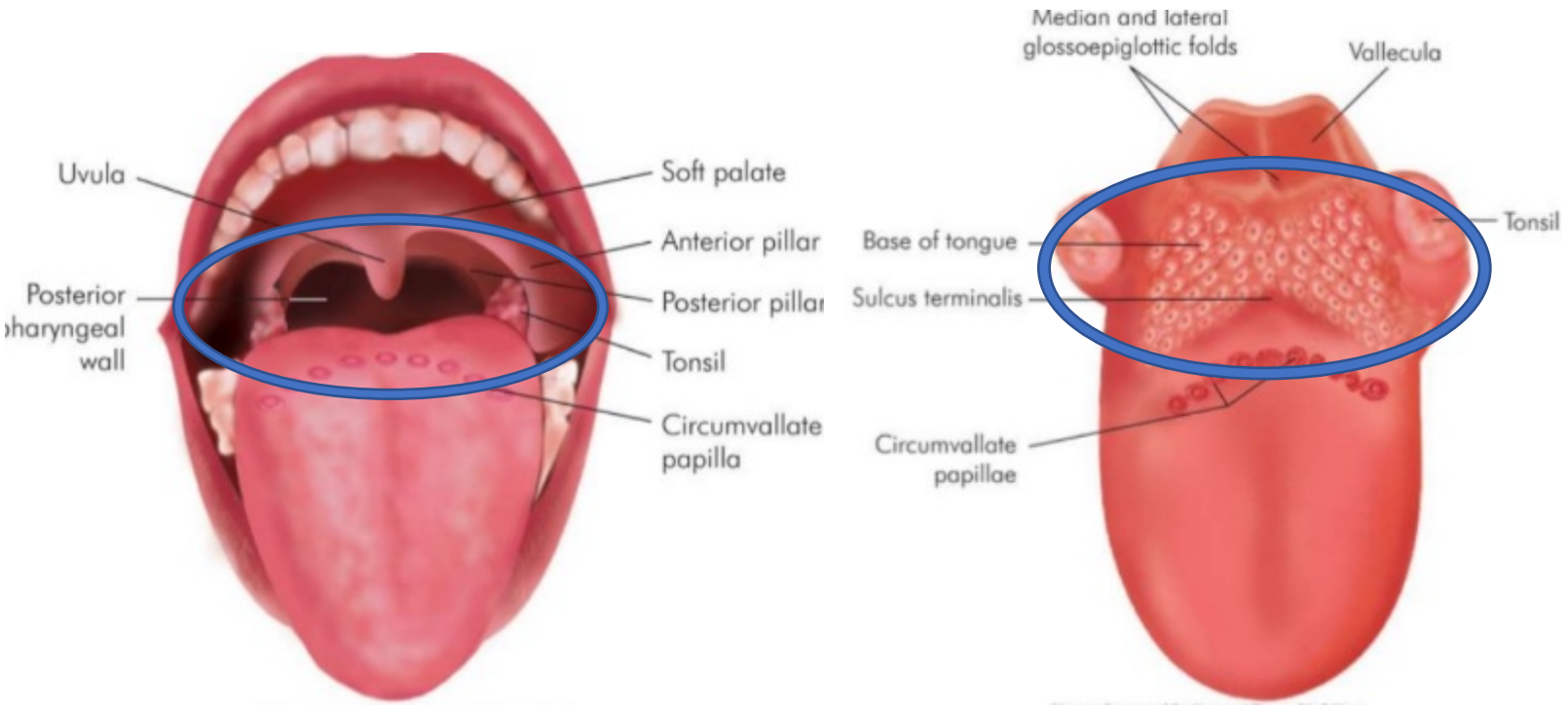
- Recognize the rising incidence of Human Papilloma Virus (HPV)-associated oropharyngeal squamous cell carcinoma (OPSCC) as a public health concern

- Identify key risk factors related to development of HPV-associated OPSCC

- Identify role of primary prevention for HPV-associated OPSCC and examine evidence related to HPV vaccination

METHODIST
ESTABROOK CANCER CENTER

The Oropharynx

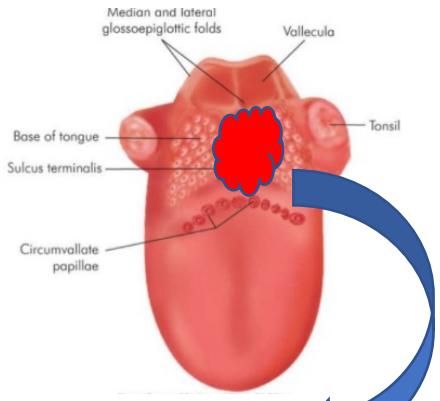


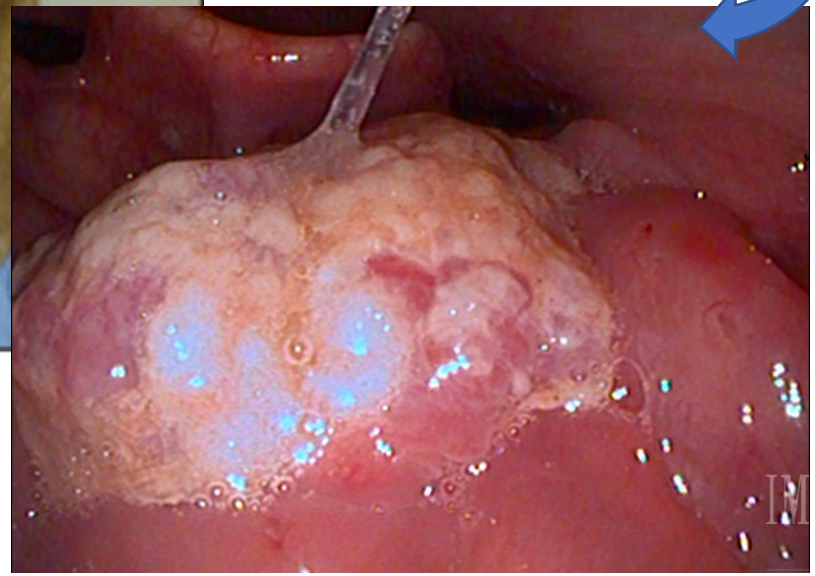
http://www.slideshare.net/keerthisisupalan/anatomy-of-pharynx-15968680

METHODIST
ESTABROOK CANCER CENTER

Cancer of Oropharynx: Signs and Symptoms

- Traditional
  - Dysphagia
  - Sore throat
  - Otalgia
  - Weight loss
  - Voice changes
  - Hemoptysis/Bleeding





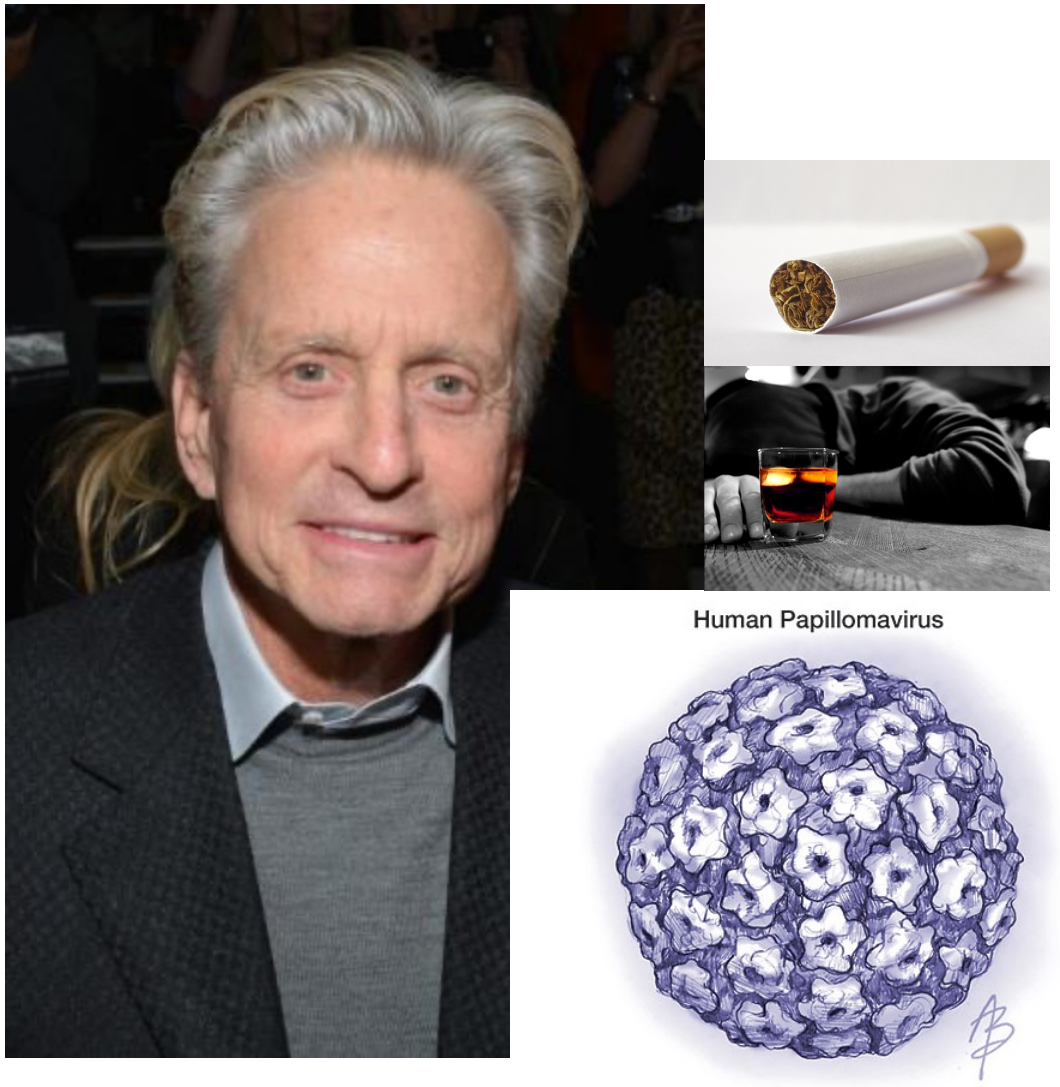
Most common → "Painless neck mass"

Image source: University of Iowa, Iowa Protocols

METHODIST ESTABROOK CANCER CENTER

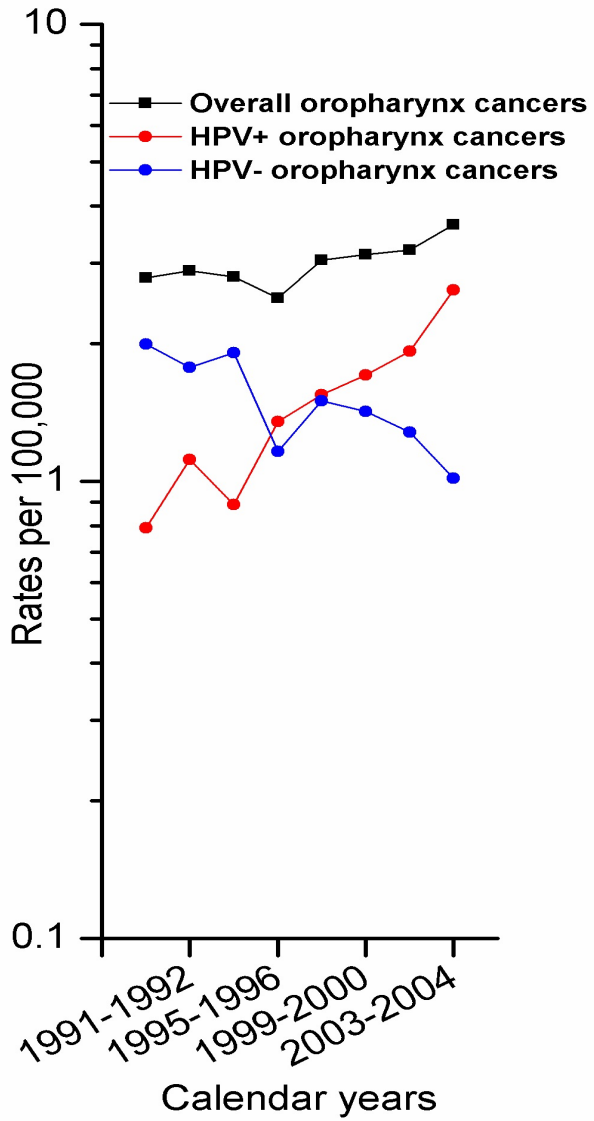
THEN

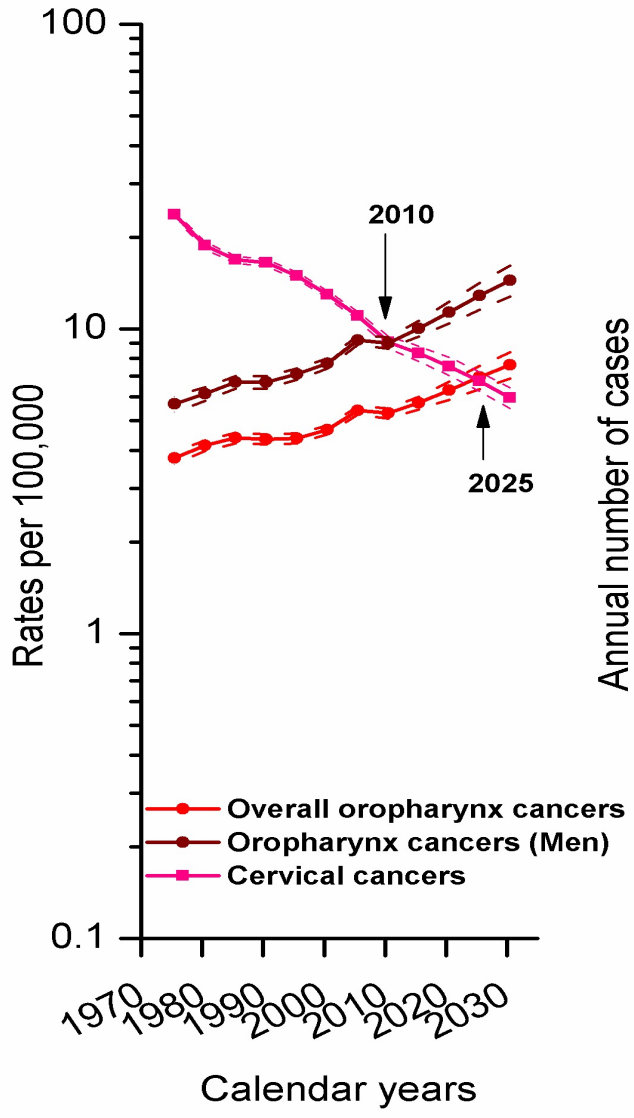
NOW

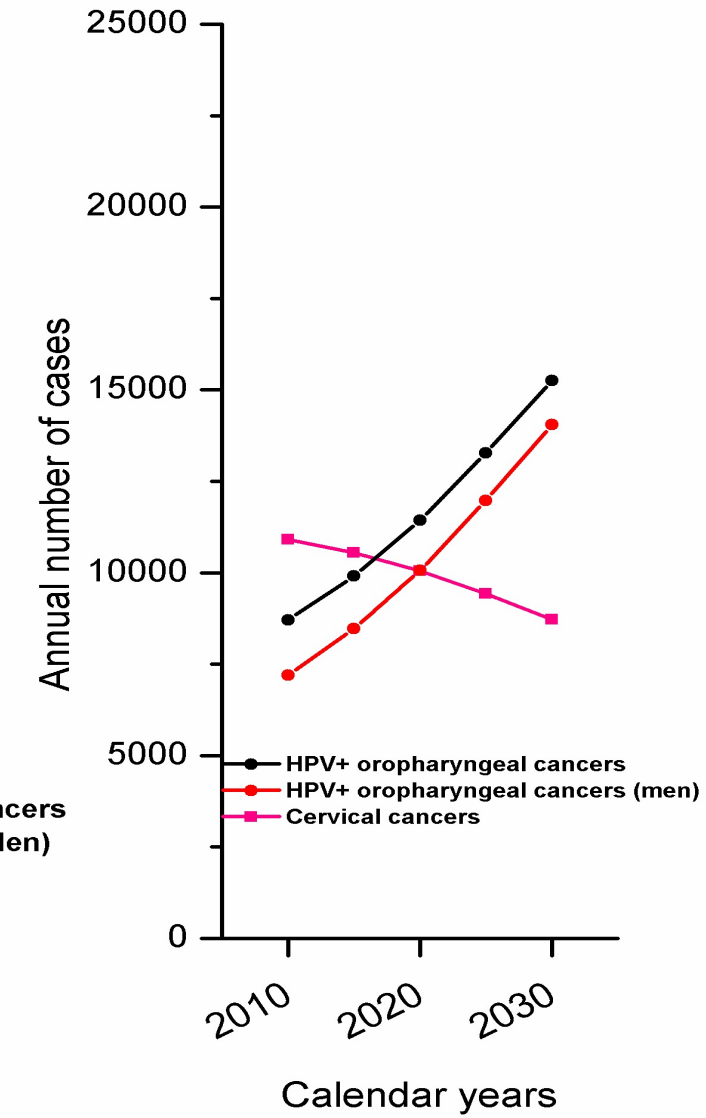


Currently, more than 75% of OPSCC in Western Countries: HPV-associated

Trends: Oropharyngeal and cervical cancer incidence in US







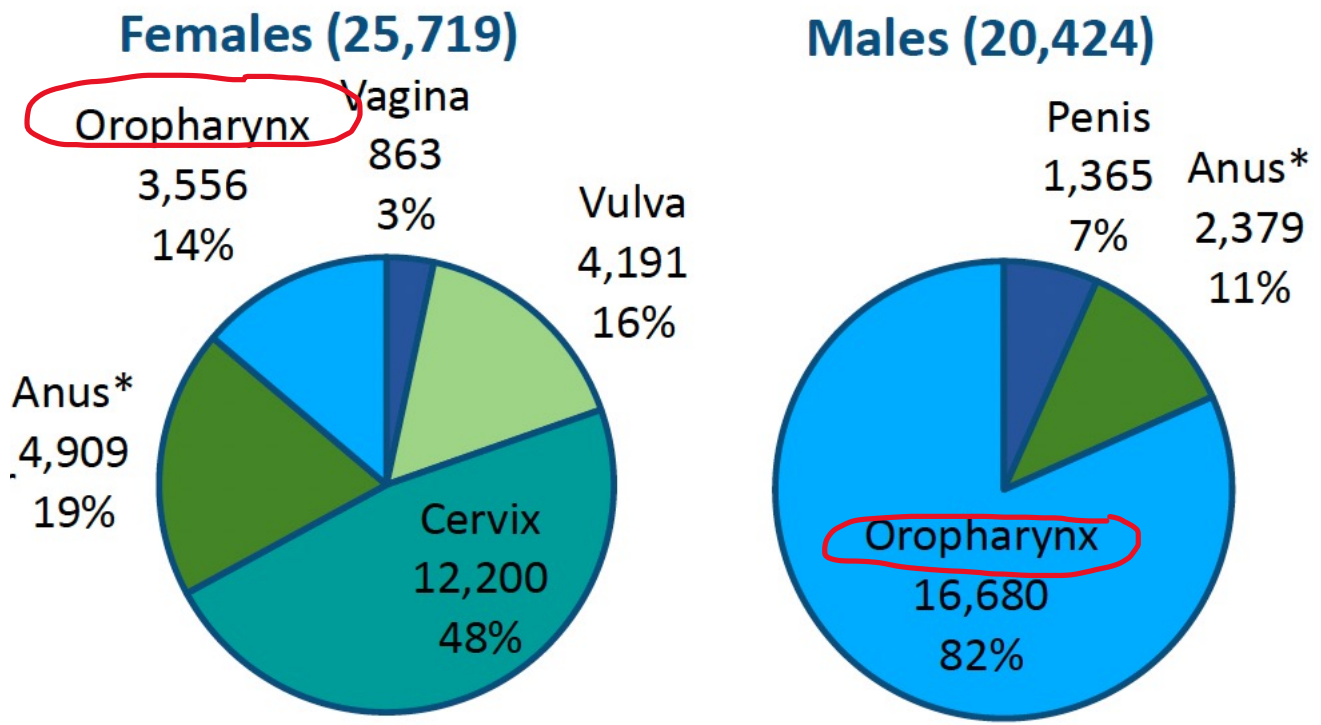
Chaturvedi A. JCO 2010

METHODIST
ESTABROOK CANCER CENTER

U.S. Cancer Statistics
Data Brief

December 2021 | No. 26

Cancers Associated with Human Papillomavirus, United States—2014–2018

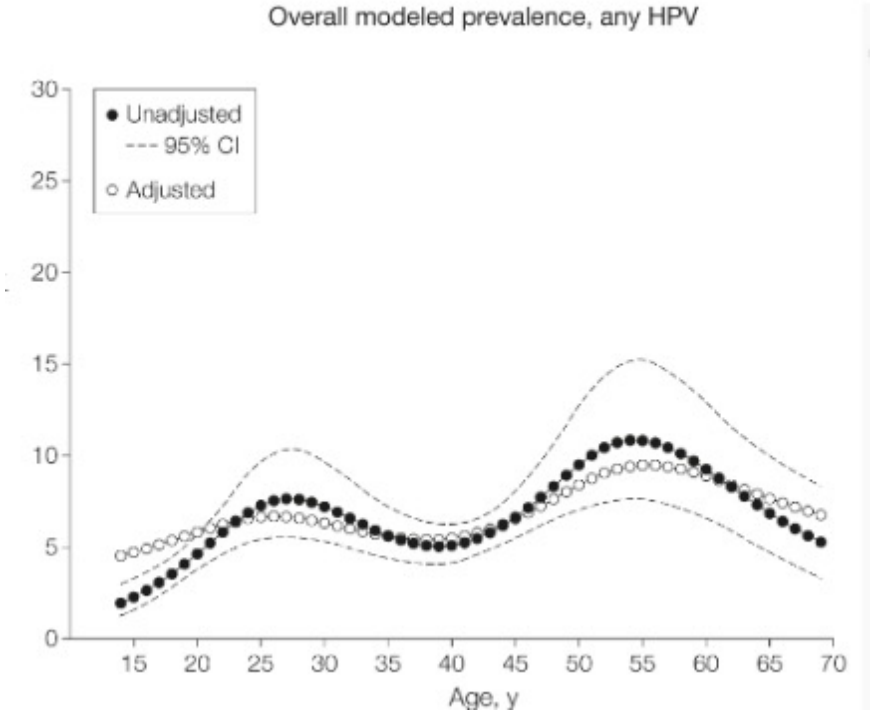


METHODIST
ESTABROOK CANCER CENTER

HPV Transmission is Common

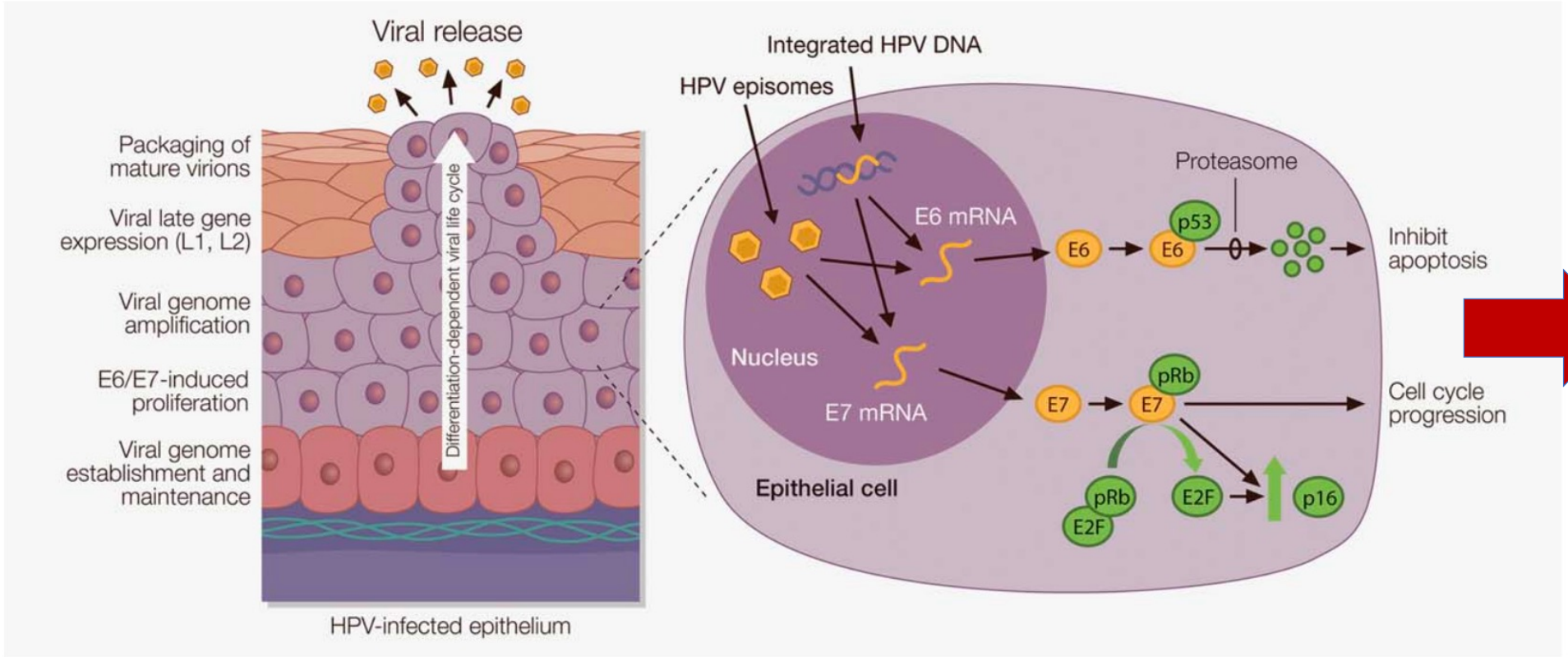
- Most common Sexually transmitted infection
  - Oral/ Anal/ Vaginal Intercourse
  - Open mouth kissing: Unclear role
- **Not transmitted by routine contact**

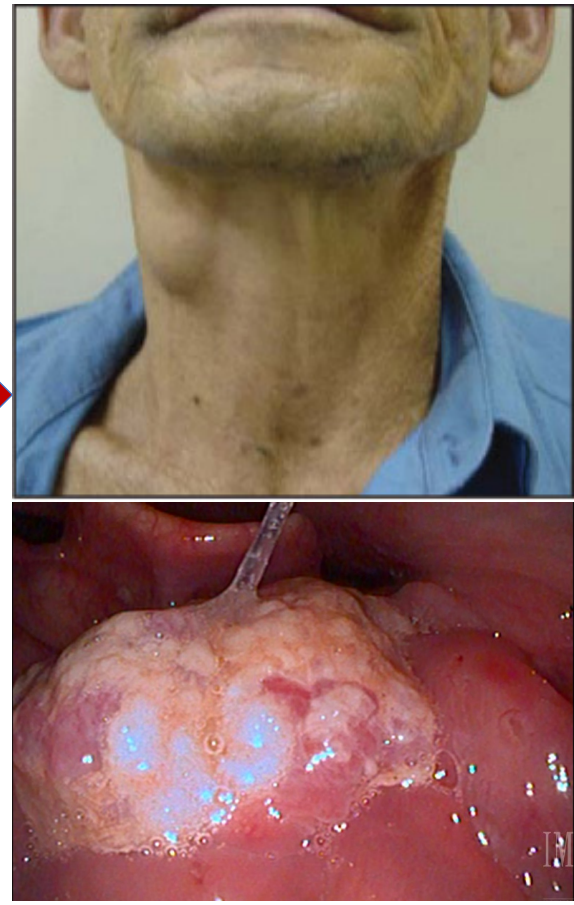
- **8 in 10 adults: Asymptomatic** infection at some point
- Most infections resolve
- Prevalence: 4% women, 7-10% men



Maura L. Gillison, Tatevik Broutian, Robert K. L. Pickard, et al. Prevalence of Oral HPV Infection in the United States, 2009-2010 *JAMA.* 2012;307(7):693-703

METHODIST ESTABROOK CANCER CENTER





Andersen SA, et al. The Interplay Between HPV and Host Immunity in Head and Neck Squamous Cell Carcinoma. *Int J Cancer*. 134, 2755-2763 (2014)

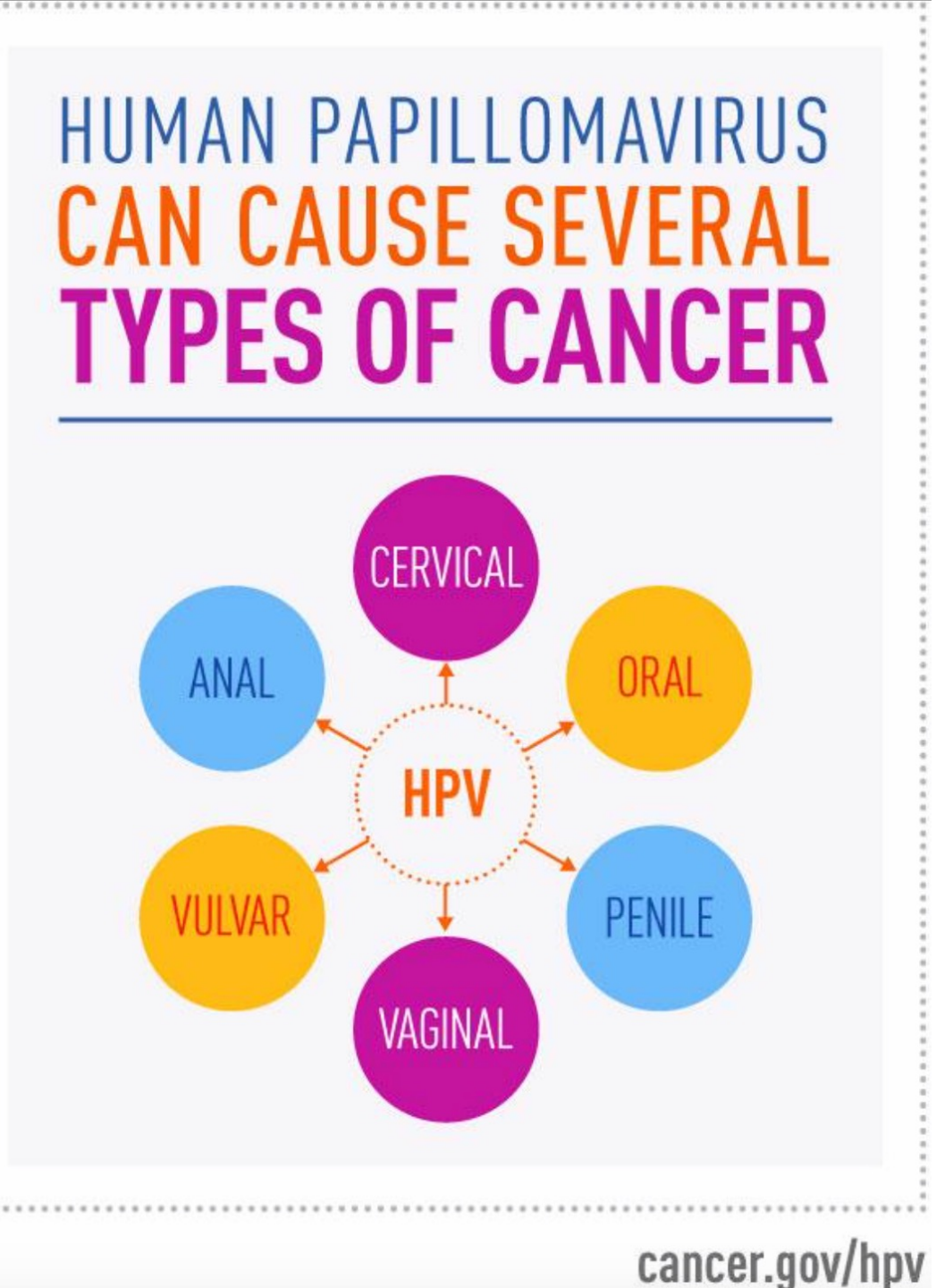
METHODIST ESTABROOK CANCER CENTER

HPV Infection: Signs and Symptoms

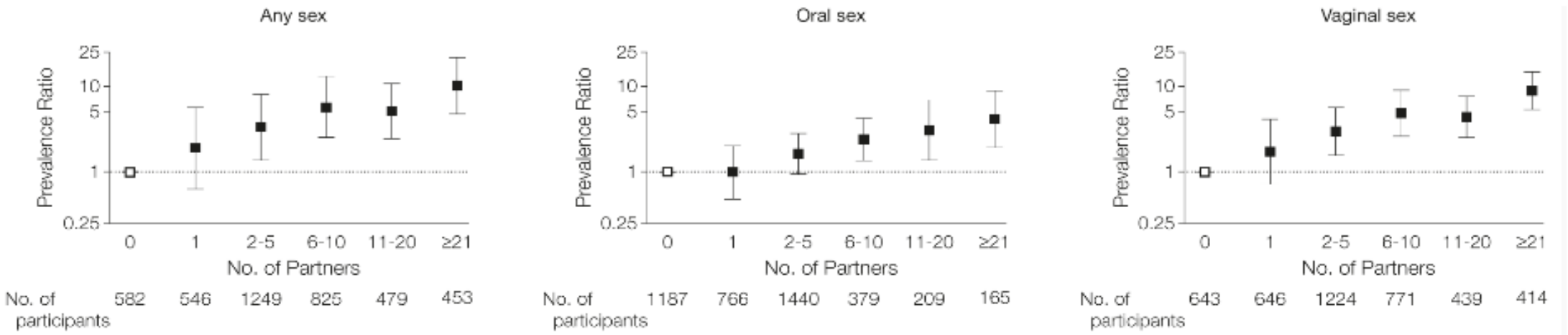
- Majority asymptomatic

- When the infection persists patients develop either
  - Warts or Papilloma (low-risk HPV type 6/11)
  - Cancers (high-risk HPV type 16/18)

- Lag time between exposure and diagnosis: probably decades



Prevalence of Oral HPV Infection



Maura L. Gillison, Tatevik Broutian, Robert K. L. Pickard, et al. Prevalence of Oral HPV Infection in the United States, 2009-2010 *JAMA.* 2012;307(7):693-703

METHODIST
ESTABROOK CANCER CENTER

Risk Factors for HPV-associated OPSCC

- Oral sex: ≥6 lifetime partners
- Vaginal Sex: ≥ 6 lifetime partners
- Self reported
  - Casual sex
  - Lack of condom use
  - Previous STD
  - Early age at first intercourse

D'Souza G, Kreimer AR, Viscidi R, et al. Case-control study of human papillomavirus and oropharyngeal cancer. *N Engl J Med*. 2007;356(19):1944-1956

Risk Factors for HPV Oropharyngeal Malignancies

- Gillison et al. (2007)
  - Younger age ($p < 0.002$)
  - White ($p < 0.001$)
  - Married ($p < 0.001$)
  - College Educated ($p < 0.003$)
  - Annual income >$50,000 ($p < 0.001$)
  - Marijuana use in joints/month ($p = 0.007$)

METHODIST
ESTABROOK CANCER CENTER

Opportunity for Primary Prevention of Cancer

Safe Sex Practices

HPV Vaccination

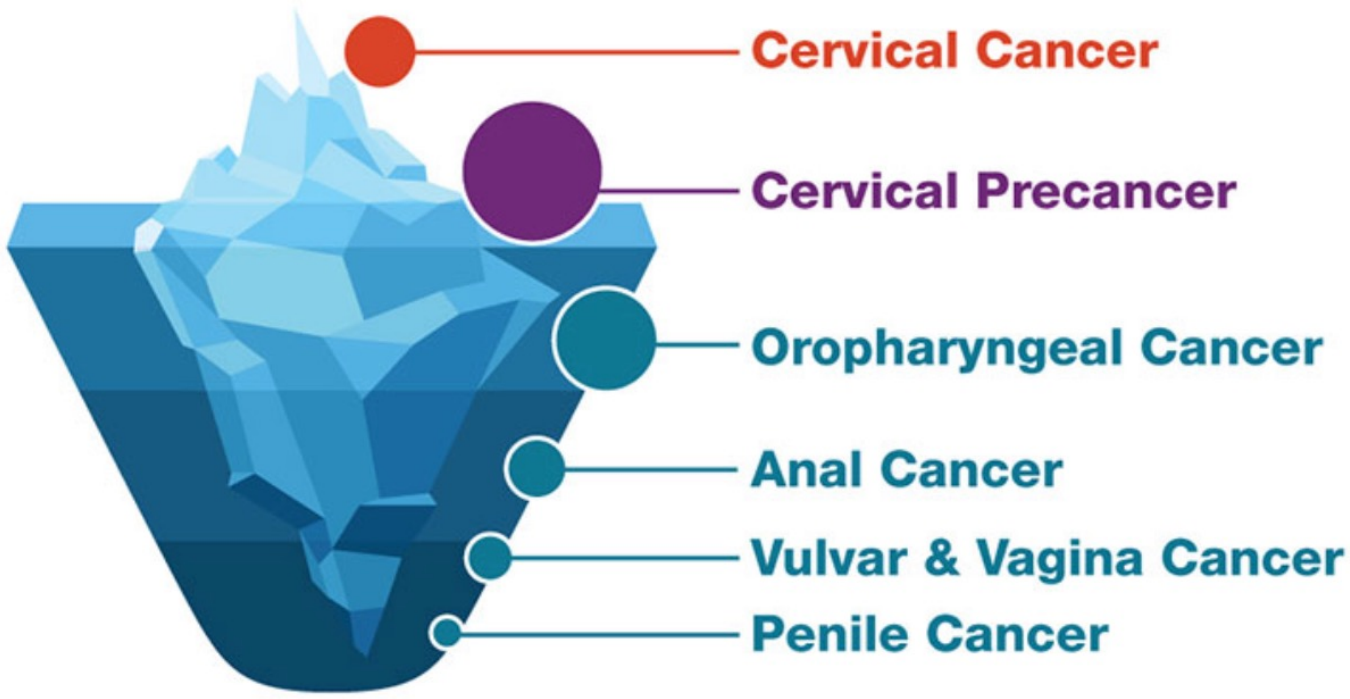
↓ HPV Transmission

↓ Risk of HPV Infection

↓ Risk of HPV-associated Cancers

METHODIST
ESTABROOK CANCER CENTER

Screening Won't Protect Your Patients from Most HPV Cancers



- HPV infection is common (8 in 10 adults); asymptomatic
- Cancer presentation may lag HPV infection by decades
- Safe sex practices encouraged, but ANY sexual activity adds risk
- **No known precancerous lesions** that correspond to HPV-associated OPSCC
- "Pap"-like testing in OPSCC: Poor correlation between infection and atypia

Meites E, Szilagyi PG, Chesson HW, Unger ER, Romero JR, Markowitz LE. Human Papillomavirus Vaccination for Adults: Updated Recommendations of the Advisory Committee on Immunization Practices. MMWR Morb Mortal Wkly Rep 2019;68:698–702.

Fakhry C, Rosenthal BT, Clark DP, Gillison ML. Associations between oral HPV16 infection and cytopathology: evaluation of an oropharyngeal "pap-test equivalent" in high-risk populations. Cancer Prev Res (Phila)2011;4:1378– 1384.

Image: CDC.gov

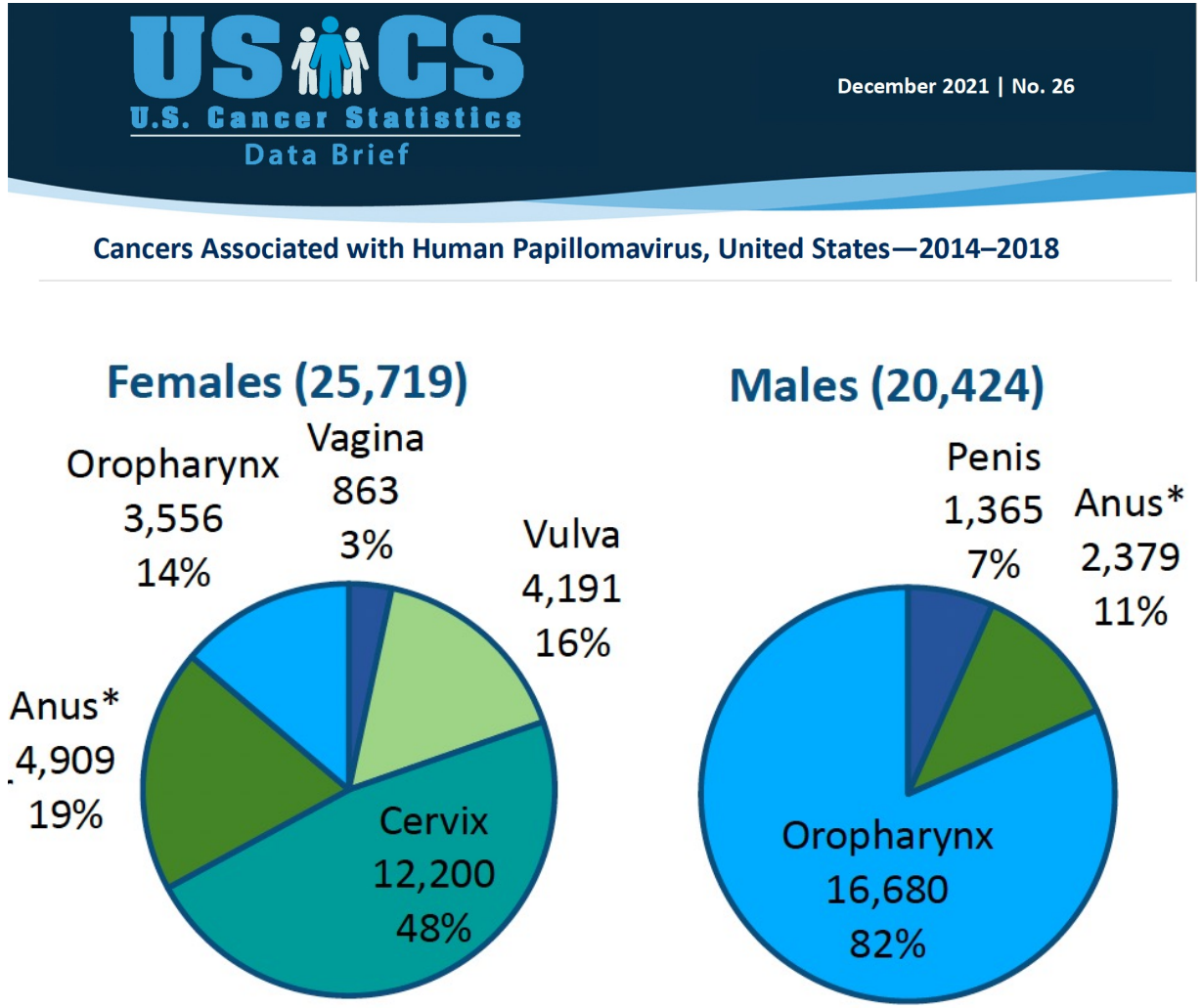
METHODIST ESTABROOK CANCER CENTER

HPV Vaccination: Why?

- Healthcare Significance HPV-associated cancers in the United States: High annual incidence

- Direct costs (2010):

  USD 306 Million



Chesson HW, Ekwueme DU, Saraiya M, Watson M, Lowy DR, Markowitz LE. Estimates of the annual direct medical costs of the prevention and treatment of disease associated with human papillomavirus in the United States. *Vaccine*. 2012;30(42):6016-6019.

METHODIST
ESTABROOK CANCER CENTER

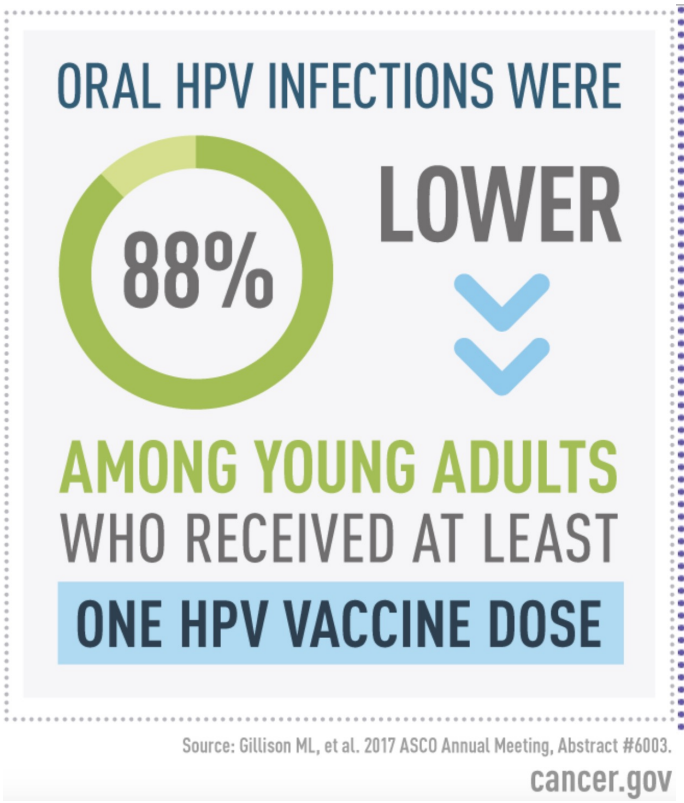
HPV vaccines:

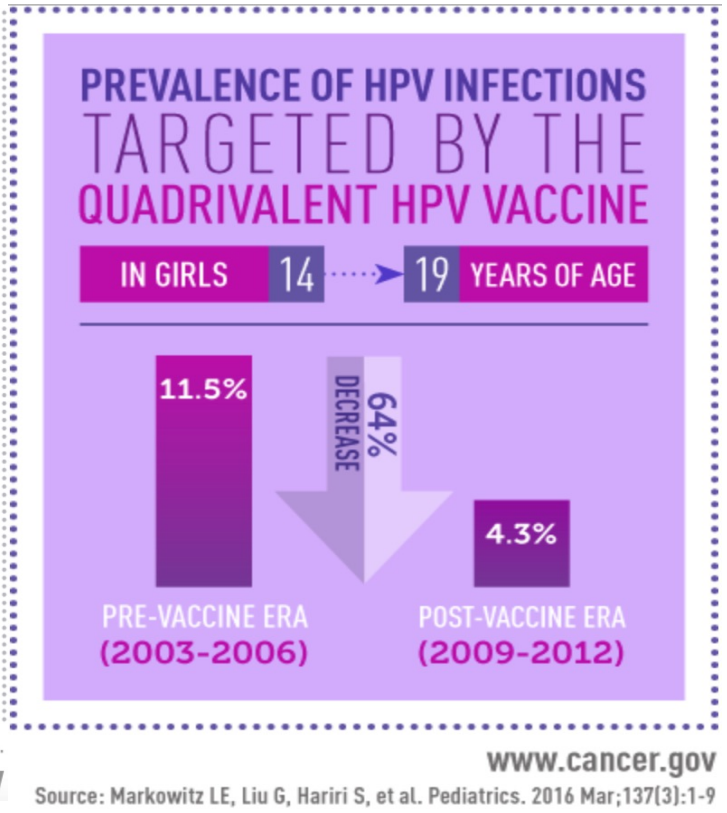
- Target common HPV-strains:
  - High-risk cancer causing: HPV- 16, 18, 31, 33
  - Low-risk papilloma/ wart producing: 6, 11 and others
- Safe:
  - Post-marketing surveillance of 838,991 doses of HPV vaccine (2015-17)
  - No significant vaccine related adverse events

James G. Donahue, Burney A. Kieke, Edwin M. Lewis, et al. Near Real-Time Surveillance to Assess the Safety of the 9-Valent Human Papillomavirus Vaccine. Pediatrics Dec 2019, 144 (6) e20191808

HPV vaccines:

- Effective:





METHODIST
ESTABROOK CANCER CENTER

THE LANCET

ARTICLES | VOLUME 394, ISSUE 10197, P497-509, AUGUST 10, 2019

Population-level impact and herd effects following the introduction of human papillomavirus vaccination programmes: updated systematic review and meta-analysis

Mélanie Drolet, PhD • Élodie Bénard, MSc • Norma Pérez, MSc • Prof Marc Brisson, PhD

on behalf of the HPV Vaccination Impact Study Group

The New York Times

GLOBAL HEALTH

HPV Vaccines Are Reducing Infections, Warts — and Probably Cancer

An analysis covering 66 million young people has found plummeting rates of precancerous lesions and genital warts after vaccination against the human papillomavirus.

METHODIST
ESTABROOK CANCER CENTER

Cancer Prevention Vaccination

Cancer.Net
Doctor-Approved Patient Information from ASCO®

HPV AND CANCER (WWW.CANCER.NET/HPV)

Sources: American Society of Clinical Oncology Statement: Human Papillomavirus Vaccination for Cancer Prevention (2016): http://ascopubs.org/doi/full/10.1200/JCO.2016.67.2014
CDC recommends only two HPV shots for younger adolescents (2016): https://www.cdc.gov/media/releases/2016/p1020-HPV-shots.html

©2018 American Society of Clinical Oncology (ASCO). All Rights Reserved Worldwide

METHODIST
ESTABROOK CANCER CENTER

GARDASIL 9
Human Papillomavirus
9-valent Vaccine, Recombinant

HELP PROTECT YOURSELF

HPV Types 6, 11, 16, 18, 31, 33, 45, 52, and 58.

- Males and Females (Ages 9-26)
- Ideally at ages 11-12: Before exposure; high immunogenicity
- Recent approval: ages 27-45 years (Consider for specific at-risk groups)

Men don't need to worry about HPV, right?

Wrong.

HPV affects men and women. In fact, oropharyngeal cancer from HPV is 3 to 5 times more common in men.

The HPV vaccine is a series of 2 or 3 shots.

Cancer.Net
Doctor-Approved Patient Information from ASCO®

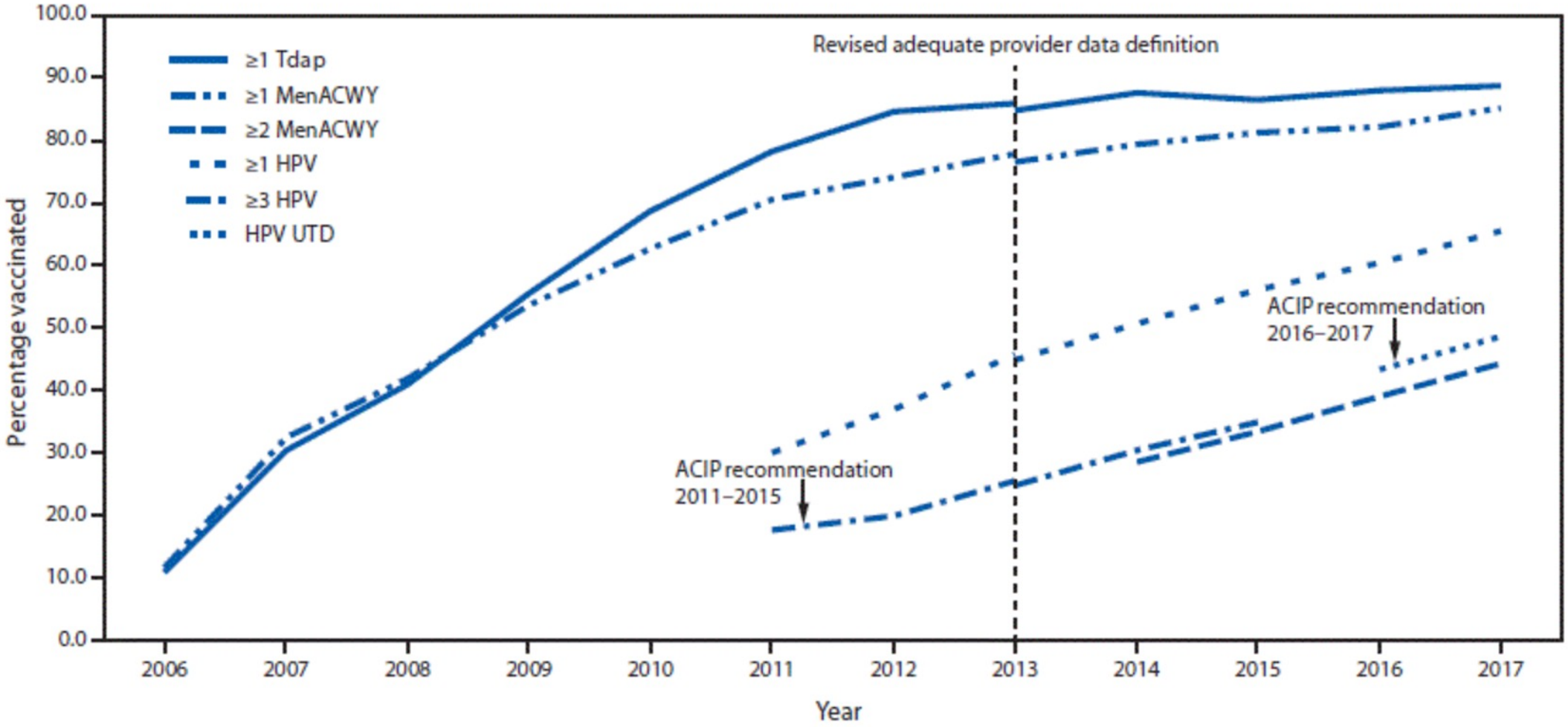
HPV AND CANCER (WWW.CANCER.NET/HPV)

Sources: American Society of Clinical Oncology Statement: Human Papillomavirus Vaccination for Cancer Prevention (2016): http://ascopubs.org/doi/full/10.1200/JCO.2016.67.2014
CDC recommends only two HPV shots for younger adolescents (2016): https://www.cdc.gov/media/releases/2016/p1020-HPV-shots.html

©2018 American Society of Clinical Oncology (ASCO). All Rights Reserved Worldwide

METHODIST
ESTABROOK CANCER CENTER

FIGURE. Estimated coverage with selected vaccines and doses* among adolescents aged 13–17 years, by survey year and ACIP recommendations† — National Immunization Survey-Teen, United States, 2006–2017§



Walker TY, Elam-Evans LD, Yankey D, et al. National, Regional, State, and Selected Local Area Vaccination Coverage Among Adolescents Aged 13–17 Years — United States, 2017. MMWR Morb Mortal Wkly Rep 2018;67:909–917.

METHODIST ESTABROOK CANCER CENTER

HPV Vaccination for ages 13-17 year (2017)

	Nebraska	Iowa	US
HPV ≥1 dose	71.0	71.4	65.5
HPV Up to date	58.3	53.7	48.6
Tdap ≥1 dose	92.3	93.4	88.7

Walker TY, Elam-Evans LD, Yankey D, et al. National, Regional, State, and Selected Local Area Vaccination Coverage Among Adolescents Aged 13–17 Years — United States, 2017. MMWR Morb Mortal Wkly Rep 2018;67:909–917.

METHODIST ESTABROOK CANCER CENTER

ODPHP | Office of Disease Prevention and Health Promotion

health.gov healthfinder.gov

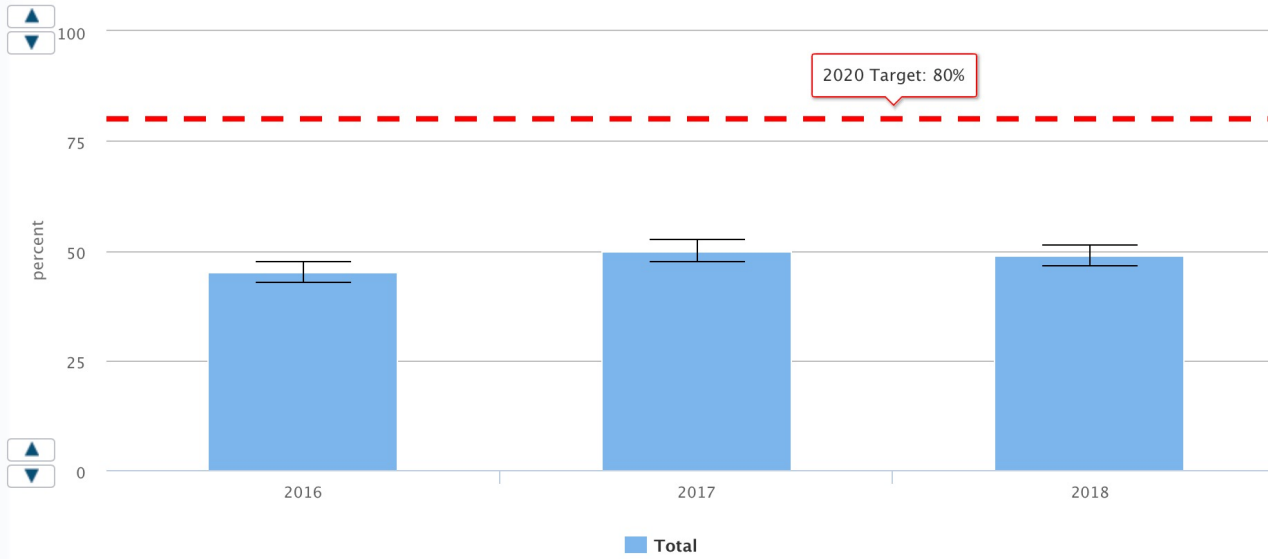
HealthyPeople.gov

Healthy People 2020

Female adolescents receiving 2 or 3 doses of HPV vaccine by age 13–15 years (percent)
By Total

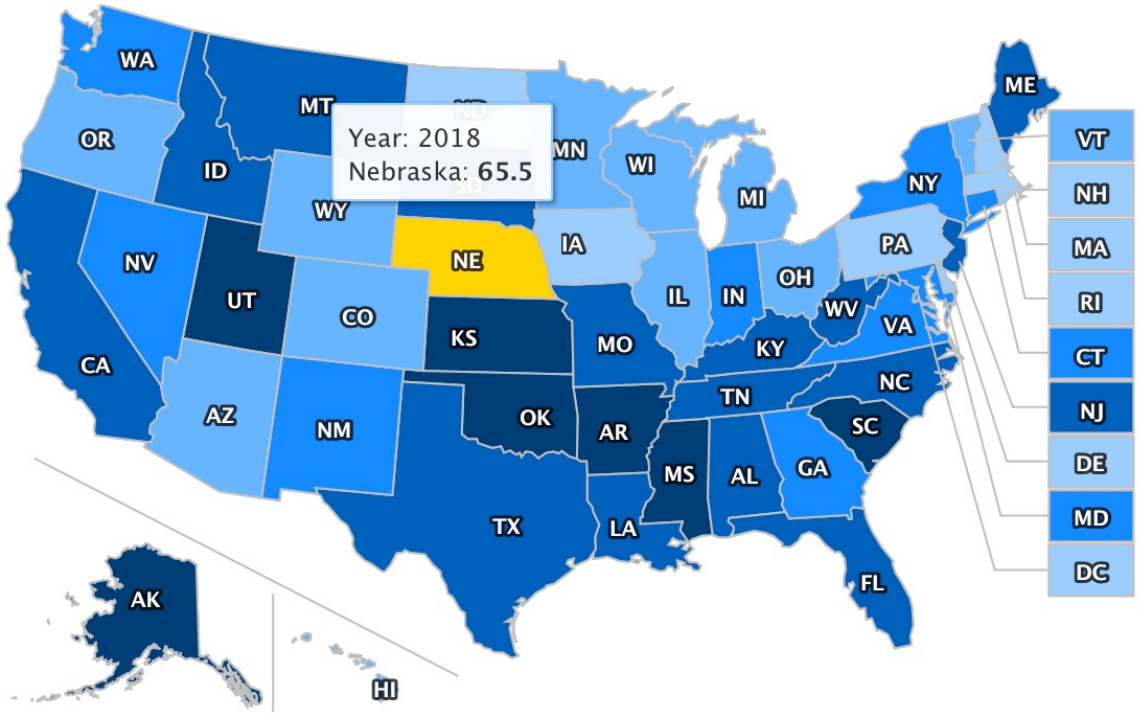
2020 Baseline (year): 45.1 (2016) --- **2020 Target:** 80.0 **Desired Direction:** ↑Increase desired

Auto Scale



Data Source: National Immunization Survey-Teen (NIS-Teen); Centers for Disease Control and Prevention, National Center for Immunization and Respiratory Diseases and National Center for Health Statistics (CDC/NCIRD and CDC/NCHS)

2018



States with no available data are shown in white

STATES	2016	2017	2018
Nebraska	48.7	50.8	65.5

U.S. Department of Health and Human Services

Healthy People 2030

Most Recent Data:
48.0 percent (2018)

Target:
80.0 percent

Desired Direction:
Increase desired

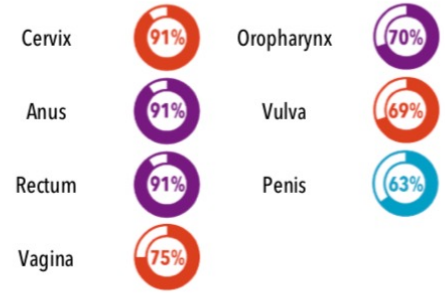
Baseline:
48.0 percent of adolescents aged 13 through 15 years received recommended doses of the HPV vaccine by 2018

METHODIST ESTABROOK CANCER CENTER

HPV Cancer & Prevention Profile

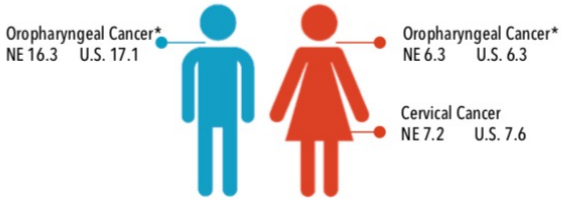
Nebraska

Percentage of Cancers Probably Caused by HPV[1]

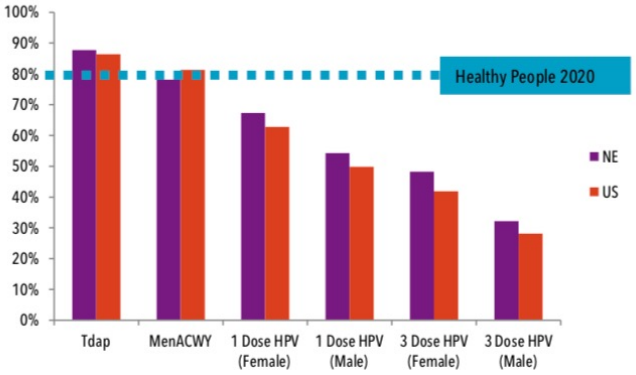


HPV causes nearly all cervical cancers and many cancers of the vagina, vulva, penis, anus, rectum, and oropharynx.[1]

State vs. U.S. HPV-Associated Cancer Incidence per 100,000 Population (2009-2013)[2]



HPV, Tdap and MenACWY Vaccination Coverage among Adolescents 13-17 Years (2015)[3]



Take Action! 81% of new HPV-associated cancer cases diagnosed each year could be prevented by HPV vaccination[1]

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** 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.

This publication was supported by Cooperative Agreement Number 1H23IP000960-02, funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services.

1. Saraiya M., Unger E.R., Thompson T.D., Lynch C.F., Steina M., Watson M....Goodman M. T. (2015) US Assessment of HPV types in cancers: Implications for current and 9-valent HPV vaccines. *Journal of the National Cancer Institute, 107*(6):djv086. 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. *WONDER Online Database*. Retrieved from http://wonder.cdc.gov/cancer-v2013.HTML 3. Reagan-Steiner, S., Yankey, D., Jeyarajah, J., Elam-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*(33), 850-858. Retrieved from http://www.cdc.gov/mmwr/volumes/65/wr/mm6533a4.htm

Low Vaccination Rates may stem from:

- Missed opportunities
- Knowledge gaps
  - Healthcare provider
  - Patients/ Parents
- Social/ Cultural Barriers
- Access

npr

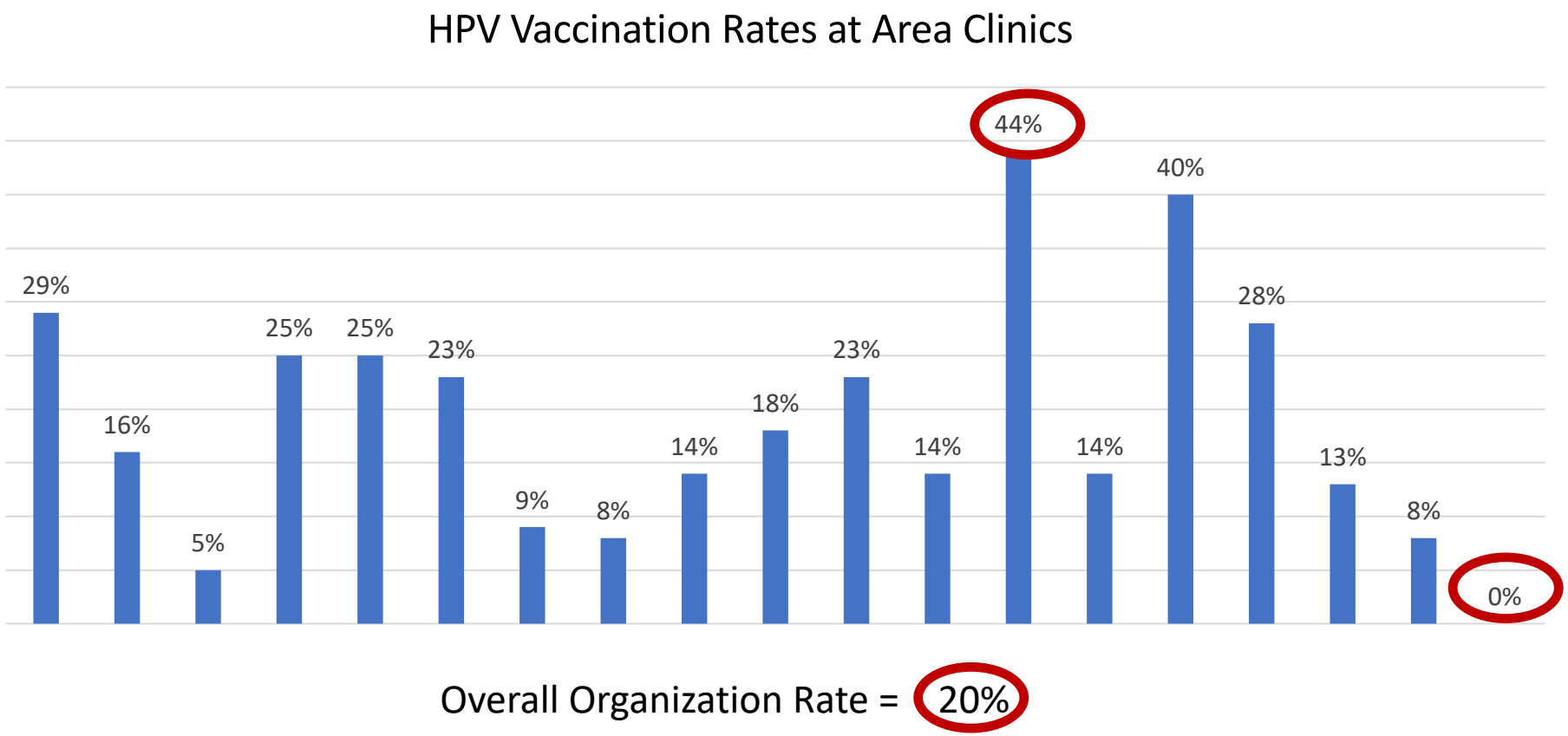
SHOTS - HEALTH NEWS

Doctors, Not Parents, Are The Biggest Obstacle To The HPV Vaccine

October 22, 2015 • Though the HPV vaccine prevents cancer, doctors hesitate to suggest that preteens get vaccinated at routine visits, a study finds. Or they're offering it for teens they think are sexually active.

HPV Cancer and Prevention Profiles 2017. GW Cancer Center/ AHEC. https://smhs.gwu.edu/cancercontroltap/resources/hpv-cancer-and-prevention-profiles-2017

HPV Vaccination:
Understanding Gaps Locally & Globally



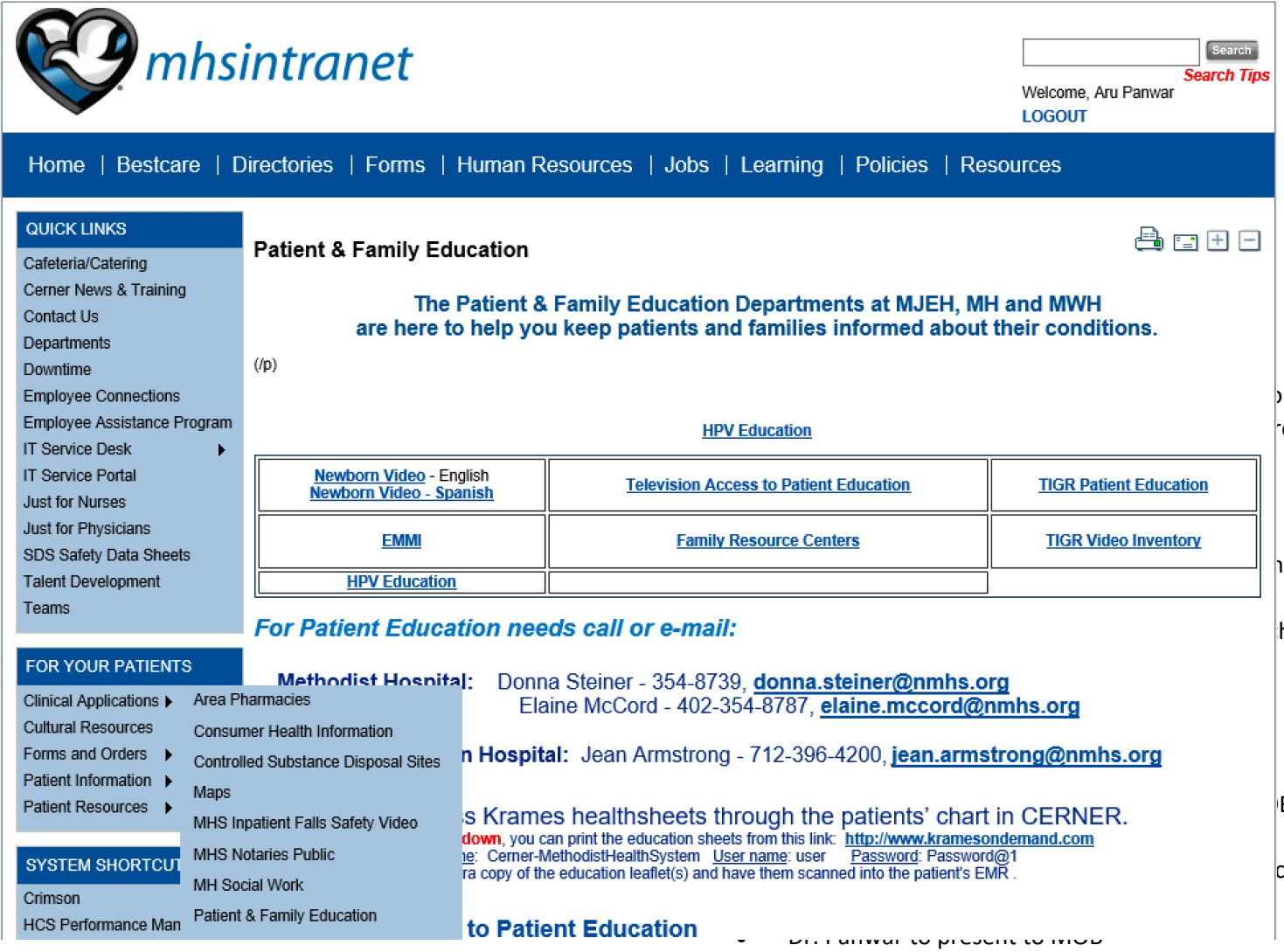
- Identify existing coverage
- Define knowledge gaps
- Cultural/ Social contributors
- Identify champions
- Community partners
- Offer education
- Integrate workflow
- Measure effect
- Re-calibrate strategies

METHODIST
ESTABROOK CANCER CENTER

Individual Roles

Systems Based Collaborative Approach

METHODIST
ESTABROOK CANCER CENTER

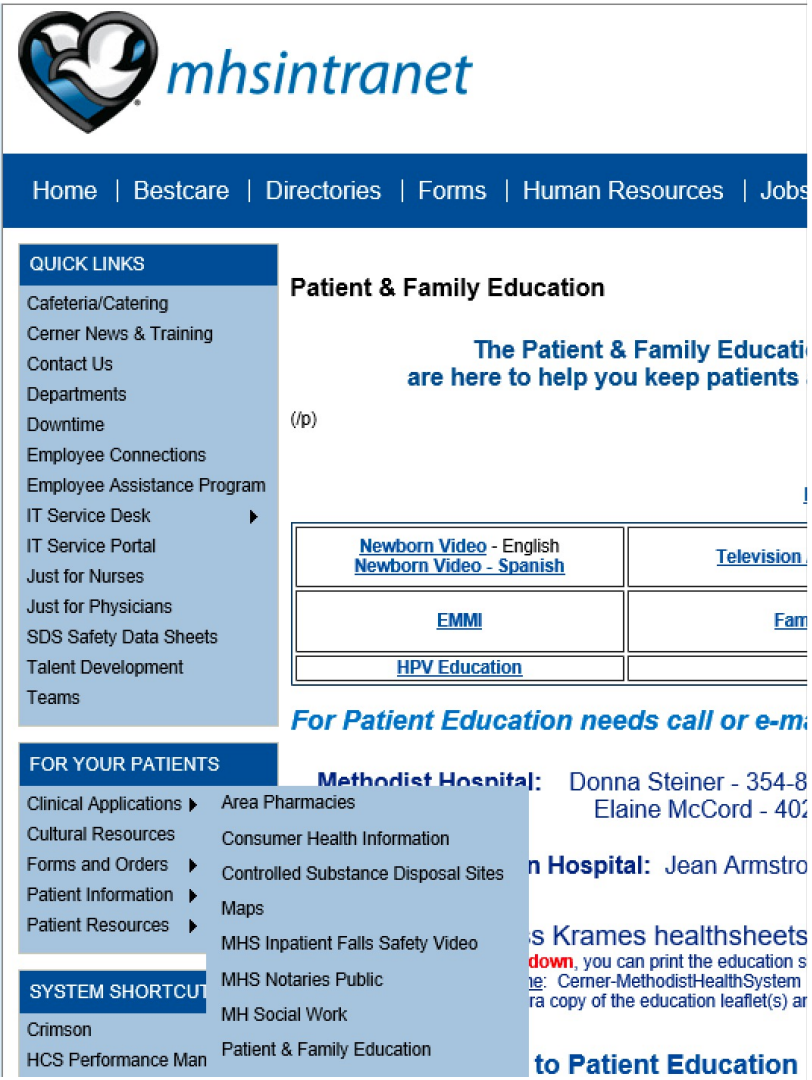


	May 1, 2019	Dr. Panwar, Liz VanWinkle, Brook Lym, Sue Rohlfs, Kelli Eaton
ut developed by roved by Elaine	May 13, 2019	Dr. Panwar, Liz VanWinkle, Brook Lym, Sue Rohlfs, Kelli Eaton, Elaine McCord
	Ongoing	Elaine McCord
ning events	Ongoing	Liz VanWinkle, Head and Neck Clinic
hool/high school	Ongoing	Sue Rohlfs, Mike Kraus, Jen Tran
	May 21, 2019	Brook Lym
B	Pending	Brook Lym / Kelli Eaton
c	Pending	Kelli Eaton
	Pending	Brook Lym / Kelli Eaton

SYSTEM COLLABORATION

• Present data to MPC quality committee	Pending	Laurie O'Byrne
• Present to cancer committee	April 10, 2019	Chandy Lockman Hoke
• Present data at the director's meeting	July 3, 2019 and ongoing with ACIP updates	Brook Lym
• Present data to vaccine committee	Tentative date August 20, 2019	Brook Lym

METHODIST
ESTABROOK CANCER CENTER



Human Papilloma Virus (HPV)

What is HPV and how common is it?

Human Papilloma Virus (HPV) is a very common virus that is spread by direct contact of infected skin or mucous membranes during intimate sexual activity. Nearly 8 in 10 individuals of reproductive age in the United States will encounter an HPV infection at some point in time during their lifetime.

There are over 100 subtypes of HPV. Broadly, HPV subtypes can be classified as:

- Low-Risk subtypes of HPV that cause oral, oropharyngeal (throat), or genital warts.
- High-Risk subtypes types of HPV that lead to cervical, vaginal, vulvar, penile, anal, or oropharyngeal (throat) cancer.

How is HPV Transmitted?

HPV is transmitted through direct contact of infected skin or mucous membranes. You can get HPV by having vaginal, anal, or oral sex with someone who has the virus. Some research suggests that the virus can also be transmitted during open mouth kissing.

How do I find out if I have HPV?

Usually, a person with HPV infection has no signs or symptoms. As a result, individuals may not be aware of transmission of HPV for years and unless symptoms of HPV associated illness develop, often years or decades after acquiring the infection. In most cases, HPV infection is cleared by the body's immune system and may not cause any health problems. However when HPV infection persists, it can contribute to health problems like genital warts and cancer.

Since HPV infections are very common, and because most HPV infections are cleared over time, there are no recommended tests to determine a person's "HPV status". There are no reliable or recommended tests to screen for HPV infections of the lining of mouth or throat. Routine HPV testing is not recommended for men. Depending on age and other considerations, some women undergoing cervical cancer screening may be tested for certain high risk strains of HPV at the time of a Pap smear.

How can I prevent HPV?

1. **Get the HPV Vaccine.**
   - Boys and girls, men and women should consider HPV vaccination.
   - Vaccination interrupts the transmission of HPV and reduces the risk that you will contract the virus.

e most common cause
c.gov/hpv.
. Be aware that
completely protect
to person by touching
condom.
as a substitute for
used to establish the legal
ied to all patients in all
sis.
m.
cination for males and
vaccine for males and
cts.
to check with your
n cancers of the throat,
accine, 6-12 months
recommended.
compared with older
f the HPV vaccination
inics, school based
rs.com or contact the
958-6498.
Methodist Community
4-3198.

Top 10 Tips for HPV Vaccination Success

Attain and Maintain High HPV Vaccination Rates

HPV VACCINE IS CANCER PREVENTION

1	Appreciate the significance of achieving high HPV vaccination rates.	By boosting HPV vaccination rates among your patients, you will be preventing cancer.
2	Acknowledge the importance your recommendation has when it comes to parents choosing to get their children vaccinated.	Clinician recommendation is the number one reason parents decide to vaccinate. This is especially important for HPV vaccination.
3	Use an effective approach by bundling your vaccine recommendation.	Recommend the HPV vaccine the same day and the same way you recommend all other vaccines. For example, "Now that Danny is 11, he is due for vaccinations to help protect against meningitis, HPV cancers, and whooping cough. We'll give those shots during today's visit. Do you have any questions about these vaccines?"
4	Motivate your team and encourage their immunization conversations with parents.	Starting with your front office, ensure each team member is aware of HPV vaccine's importance and is educated on proper vaccination practices and recommendations, ready to answer parents' questions, and/or regularly remind and recall parents. Be sure staff regularly check immunization records, place calls to remind families about getting vaccines, and let you know if parents have additional questions.
5	Implement systems to ensure you never miss an opportunity to vaccinate.	Establish a policy to vaccinate at every visit. Create a system to check immunization status ahead of all visits. Before seeing the patient, staff should indicate if the patient is due for immunization, with special consideration to HPV vaccination. Use standing orders.
6	Use your local health department's resources.	Use the resources of the local health department to achieve your goals of protecting your patients.
7	Know your rates of vaccination and refusal.	Deputize your staff to assist you with knowing your actual vaccination rates and learning more about why some patients are behind on their vaccines. They can also help you facilitate solutions on how to bring these patients in and get or keep immunization rates up.
8	Maintain strong doctor-patient relationships to help with challenging immunization conversations.	It is extremely gratifying when parents who initially questioned immunization agree to get their child vaccinated on time. It's always nice to hear: "Okay, that makes sense and I trust you!"
9	Learn how to answer some of parents' most common questions about HPV vaccine.	Be prepared to answer parents' questions succinctly, accurately, and empathetically by using terms that they understand. A parent will often accept your explanations if presented with their children's best interests in mind.
10	Use personal examples of how you choose to vaccinate children in your family.	Providing personal examples shows you believe in the importance of immunizations, especially HPV vaccine. These examples—combined with an effective recommendation—can help parents better understand the benefits of HPV vaccination for cancer prevention.

For more info visit: www.cdc.gov/hpv

Last updated MAY 2018

- ✓Improve knowledge base
- ✓Provider recommendation important
- ✓Bundling of vaccine recommendation
- ✓"Same day, same way" recommendations
- ✓Reduce missed opportunities
- ✓Communicate effectively & factually
- ✓Use personal examples

METHODIST ESTABROOK CANCER CENTER

Take home messages

- HPV-associated OPSCC (Tonsil & Base of Tongue): Most common HPV related cancer
- Fast increase in incidence: Public health burden/ cost
- HPV infection is common, asymptomatic
- HPV vaccine: safe and effective-> Implications for HPV related cancers
- 9v-HPV Vaccine: Males and Females, 9-26 years
- Special populations: up to 45 years of age
- Vaccination gaps: opportunities for collaborative approaches

METHODIST
ESTABROOK CANCER CENTER

Upcoming Free Head and Neck Cancer Screening Events

Methodist Jennie Edmundson Hospital 933 E Pierce St, 2nd floor, Council Bluffs, IA	**Tuesday, April 26, 2022** 3PM- 5PM	Register for MJE screening
Methodist Estabrook Cancer Center 8303 Dodge St, suite 304, Omaha, NE	**Thursday, April 28, 2022** 3PM- 6PM	Register for MECC screening

Methodist Head & Neck Surgical Oncology Clinic Thanks You, Our Community Partners