

# Introduction to HPV Vaccination in Nebraska

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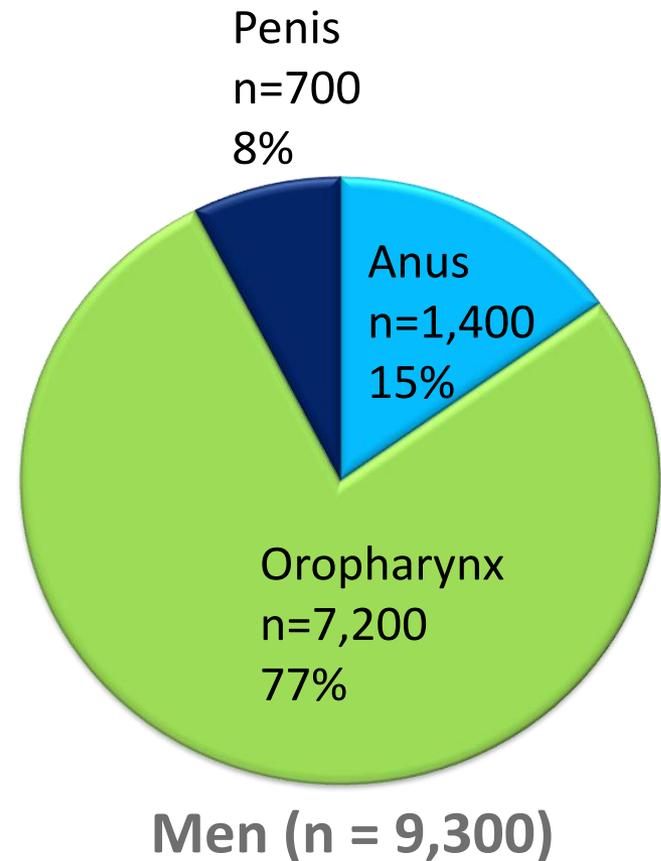
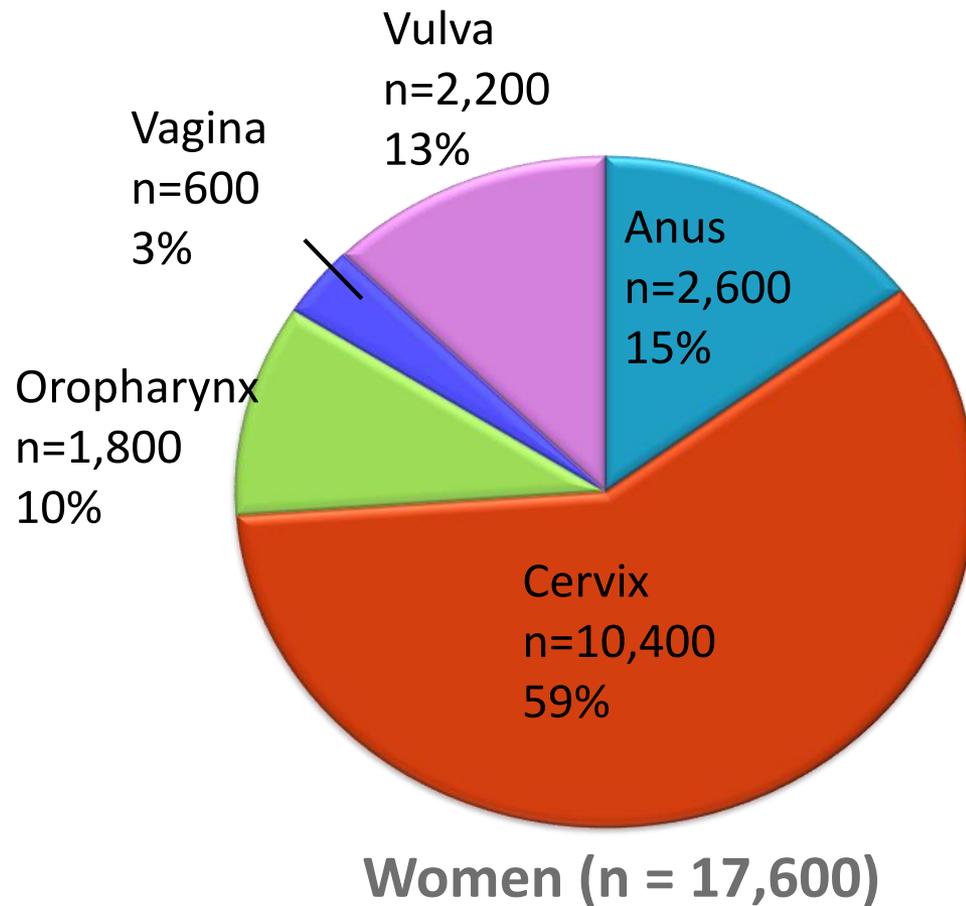
# Learning Objectives

- Define the importance of HPV vaccination for cancer prevention and the rationale for vaccinating girls and boys at ages 11-12
- Provide useful and compelling information about HPV vaccination to encourage and help providers to make a strong recommendation to vaccinate and parents to make the decision to vaccinate
- Identify at least one recommended strategy for improving HPV vaccination rates

# HPV Infection

- ➔ **Most females and males will be infected with at least one type of HPV at some point in their lives**
  - ➔ Estimated 79 million Americans currently infected
  - ➔ 14 million new infections/year in the US
  - ➔ HPV infection is most common in people in their teens and early 20s
- ➔ **Most people will never know that they have been infected**

# New Cancers Caused by HPV per Year United States 2006-2010



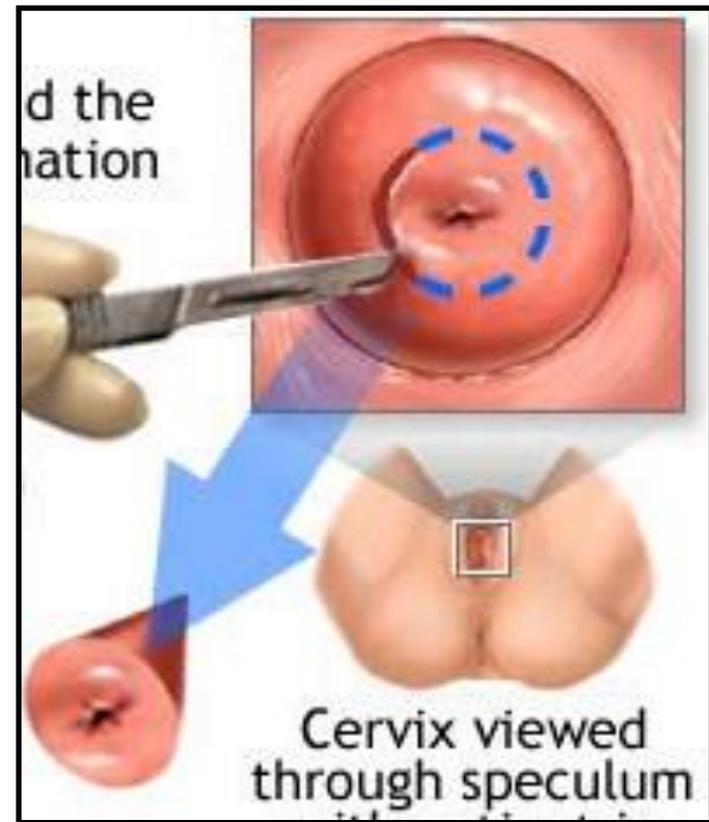
# Cervical Cancer

- ▶ **Cervical cancer is the most common HPV-associated cancer among women**
  - ▶ 500,000+ new cases and 275,000 attributable deaths world-wide in 2008
  - ▶ 11,000+ new cases and 4,000 attributable deaths in 2011 in the U.S.
- ▶ **37% cervical cancers occur in women who are between the ages of 20 and 44**
  - ▶ 13% (or nearly 1 in 8) between 20 and 34
  - ▶ 24% ( or nearly 1 in 4) between 35 and 44

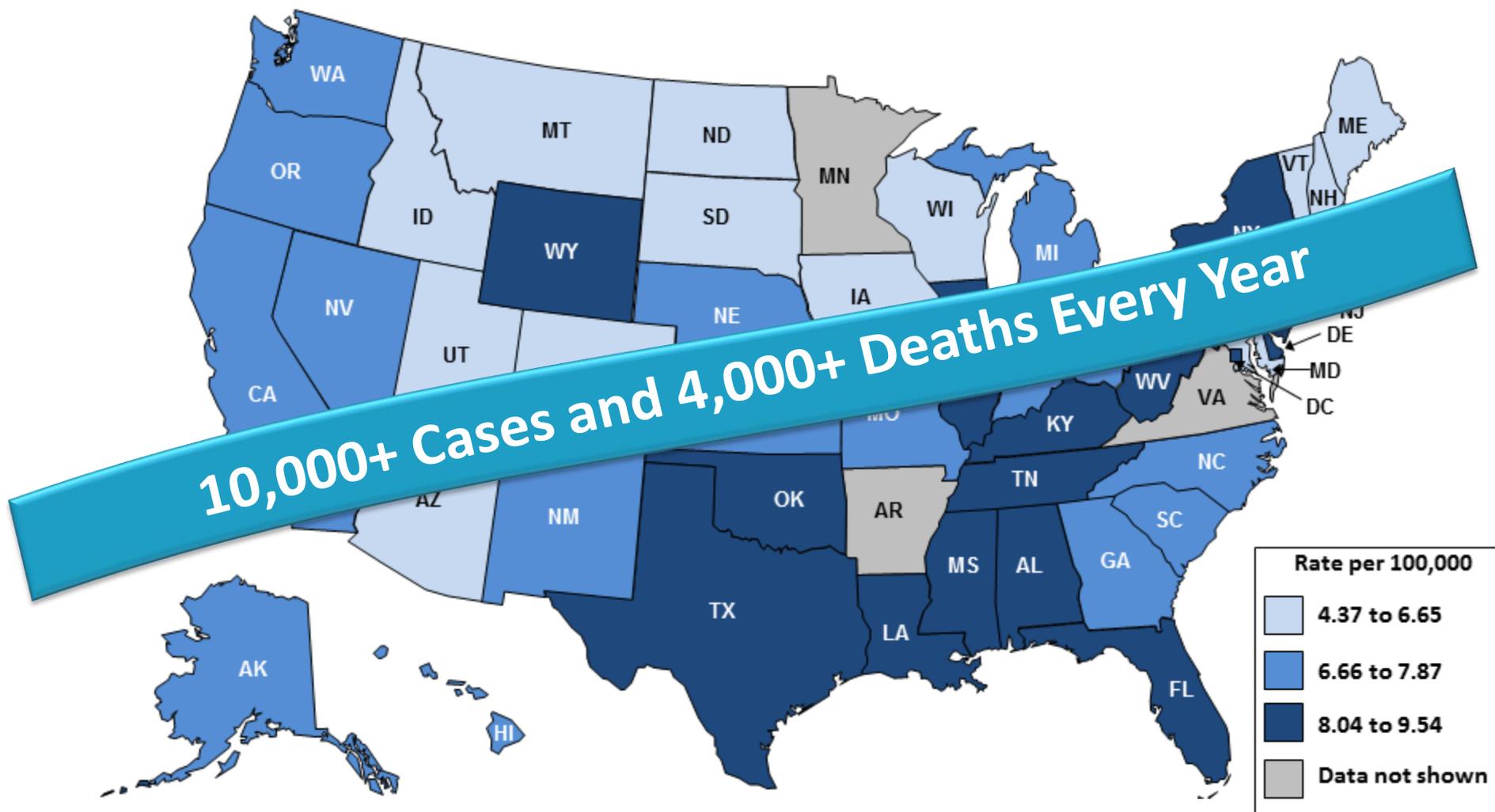
# HPV infection causes preterm delivery

- ➔ 330,000 women undergo cone/LEEP procedures every year
- ➔ LEEP/HPV infection associated with obstetric morbidity
  - ➔ Preterm delivery
  - ➔ Preterm rupture of membranes
  - ➔ Low birth weight
  - ➔ *Long term developmental outcomes, neonatal intensive care costs*

***Why remove part of the cervix, when you can get a shot in the arm instead?***



# HPV-Associated Cervical Cancer Incidence Rates by State, United States, 2006-2010



# HPV-Associated Cervical Cancer Incidence in Nebraska

**TABLE 1: Cancer Incidence**  
**Number of Cases and Rates, by Selected Primary Site and Gender**  
**Nebraska (2012 and 2008-2012) & U.S. (2008-2012)**

Nebraska Department of Health and Human Services/Cancer Registry

Site	NEBRASKA 2012						NEBRASKA 2008-2012						U.S. 2008-2012		
	Male No.	Male Rate	Female No.	Female Rate	Total No.	Total Rate	Male No.	Male Rate	Female No.	Female Rate	Total No.	Total Rate	Male Rate	Female Rate	Total Rate
All Sites	4,627	483.2	4,337	398.5	8,964	433.1	23,049	502.0	22,242	417.3	45,292	451.9	522.8	418.8	461.9
Oral Cavity & Pharynx	142	14.2	63	5.6	205	9.6	775	16.3	351	6.4	1,126	11.0	16.9	6.3	11.3
Esophagus	97	10.0	20	1.7	117	5.5	421	8.9	102	1.8	523	5.1	8.3	1.8	4.7
Stomach	60	6.1	25	2.2	85	4.0	348	7.7	172	3.1	520	5.1	9.2	4.6	6.6
Small Intestine	29	2.9	11	1.0	40	1.9	125	2.7	77	1.4	202	2.0	2.6	1.9	2.2
Colon & Rectum (Colorectal)	466	49.8	419	37.3	885	43.0	2,359	52.0	2,308	41.1	4,667	46.1	48.3	36.6	41.9
Liver & Intrahepatic Bile Duct	88	8.5	28	2.5	116	5.2	402	8.4	153	2.9	556	5.4	11.4	3.9	7.4
Pancreas	149	15.7	122	10.5	271	12.9	622	13.5	593	10.4	1,215	11.9	14.0	10.9	12.3
Larynx	60	5.8	12	1.1	72	3.3	270	5.6	69	1.3	339	3.3	6.3	1.4	3.6
Lung & Bronchus	670	70.8	562	49.8	1,232	59.1	3,187	70.8	2,741	50.0	5,928	58.9	76.6	54.1	63.7
Soft Tissue	41	4.5	30	2.6	71	3.5	173	3.8	135	2.6	308	3.1	3.9	2.8	3.3
Melanoma of the Skin	206	21.3	150	15.0	356	17.6	987	21.7	794	16.1	1,781	18.4	25.5	16.0	19.9
Breast (invasive cases only)	9	0.9	1,275	118.2	1,284	62.5	57	1.3	6,415	122.7	6,472	65.3	1.4	123.0	66.3
Uterine Cervix	--	--	58	6.7	--	--	--	--	303	6.9	--	--	--	7.7	--
Uterine Corpus & Unspecified	--	--	288	25.9	--	--	--	--	1,407	26.2	--	--	--	25.3	--

# HPV-Associated Cervical Cancer Mortality in Nebraska

Nebraska Department of Health and Human Services/Cancer Registry

**TABLE 5: Cancer Mortality**  
**Number of Deaths and Rates, by Selected Primary Site and Gender**  
**Nebraska (2012 and 2008-2012) & U.S. (2008-2012)**

Site	NEBRASKA 2012						NEBRASKA 2008-2012						U.S. 2008-2012		
	Male No.	Male Rate	Female No.	Female Rate	Total No.	Total Rate	Male No.	Male Rate	Female No.	Female Rate	Total No.	Total Rate	Male Rate	Female Rate	Total Rate
All Sites	1,832	198.3	1,649	140.7	3,481	164.7	8,943	200.8	8,091	140.7	17,034	165.9	207.9	145.4	171.2
Oral Cavity & Pharynx	31	3.1	16	1.3	47	2.1	163	3.5	94	1.6	257	2.5	3.8	1.4	2.5
Esophagus	83	8.6	18	1.4	101	4.7	384	8.3	90	1.6	474	4.6	7.5	1.5	4.2
Stomach	30	3.2	13	1.1	43	2.0	156	3.4	90	1.5	246	2.4	4.6	2.4	3.4
Colon & Rectum (Colorectal)	163	17.6	178	14.4	341	15.9	887	19.8	876	14.6	1,763	16.9	18.6	13.1	15.5
Liver & Intrahepatic Bile Duct	66	6.7	32	3.0	98	4.6	313	6.6	158	2.8	471	4.6	8.8	3.5	6.0
Pancreas	143	15.1	102	8.7	245	11.6	546	12.0	544	9.4	1,090	10.6	12.6	9.6	10.9
Lung & Bronchus	486	52.6	419	36.3	905	43.3	2,468	55.4	1,995	35.5	4,463	44.1	59.8	37.8	47.2
Melanoma of the Skin	42	4.7	25	2.3	67	3.4	192	4.3	123	2.2	315	3.1	4.1	1.7	2.7
Breast	1	0.1	245	21.2	246	11.7	9	0.2	1,118	19.7	1,127	10.9	0.3	21.9	12.2
Uterine Cervix	--	--	17	1.8	--	--	--	--	94	1.9	--	--	--	2.3	--

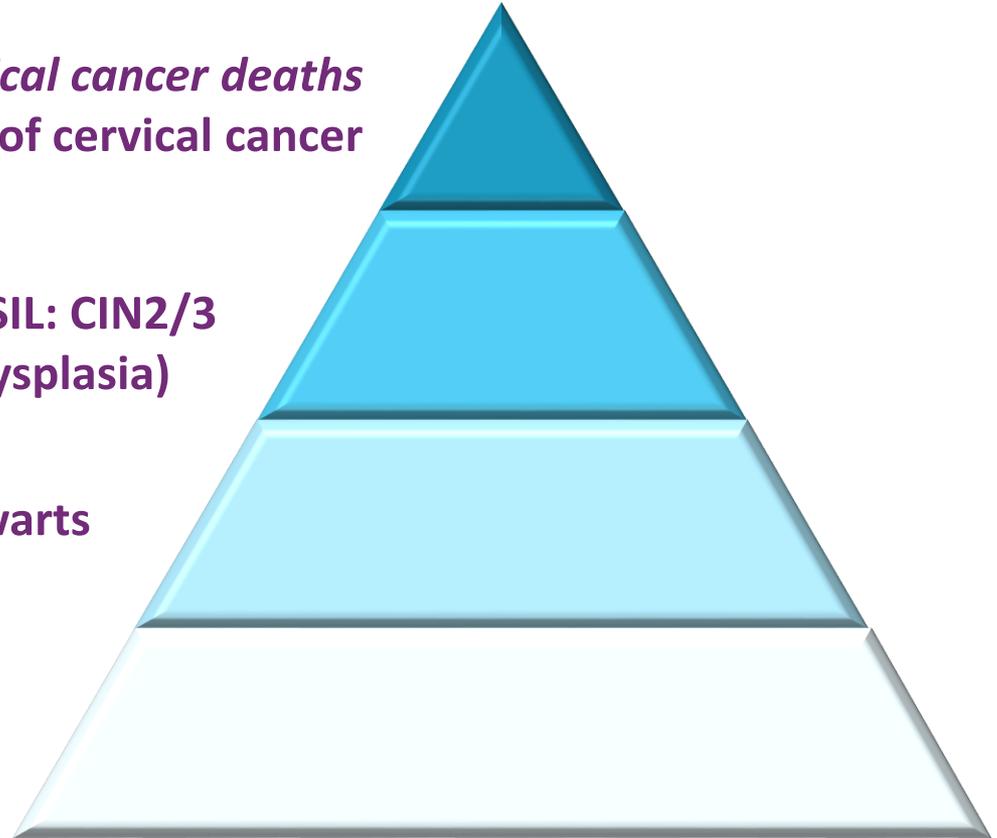
# Without vaccination, annual burden of genital HPV-related disease in U.S. females:

4,000 cervical cancer deaths  
10,846 new cases of cervical cancer

330,000 new cases of HSIL: CIN2/3  
(high grade cervical dysplasia)

1 million new cases of genital warts

1.4 million new cases of LSIL: CIN1  
(low grade cervical dysplasia)



## Nearly 3 million cases and \$7 billion

# Annual Report to the Nation on the Status of Cancer: HPV-Associated Cancers

- From 2000 to 2009, oral cancer rates increased
  - 4.9% for Native American men
  - 3.9% for white men
  - 1.7% for white women
  - 1% for Asian men
- Anal cancer rates doubled from 1975 to 2009
- Vulvar cancer rates rose for white and African-American women
- Penile cancer rates increased among Asian men

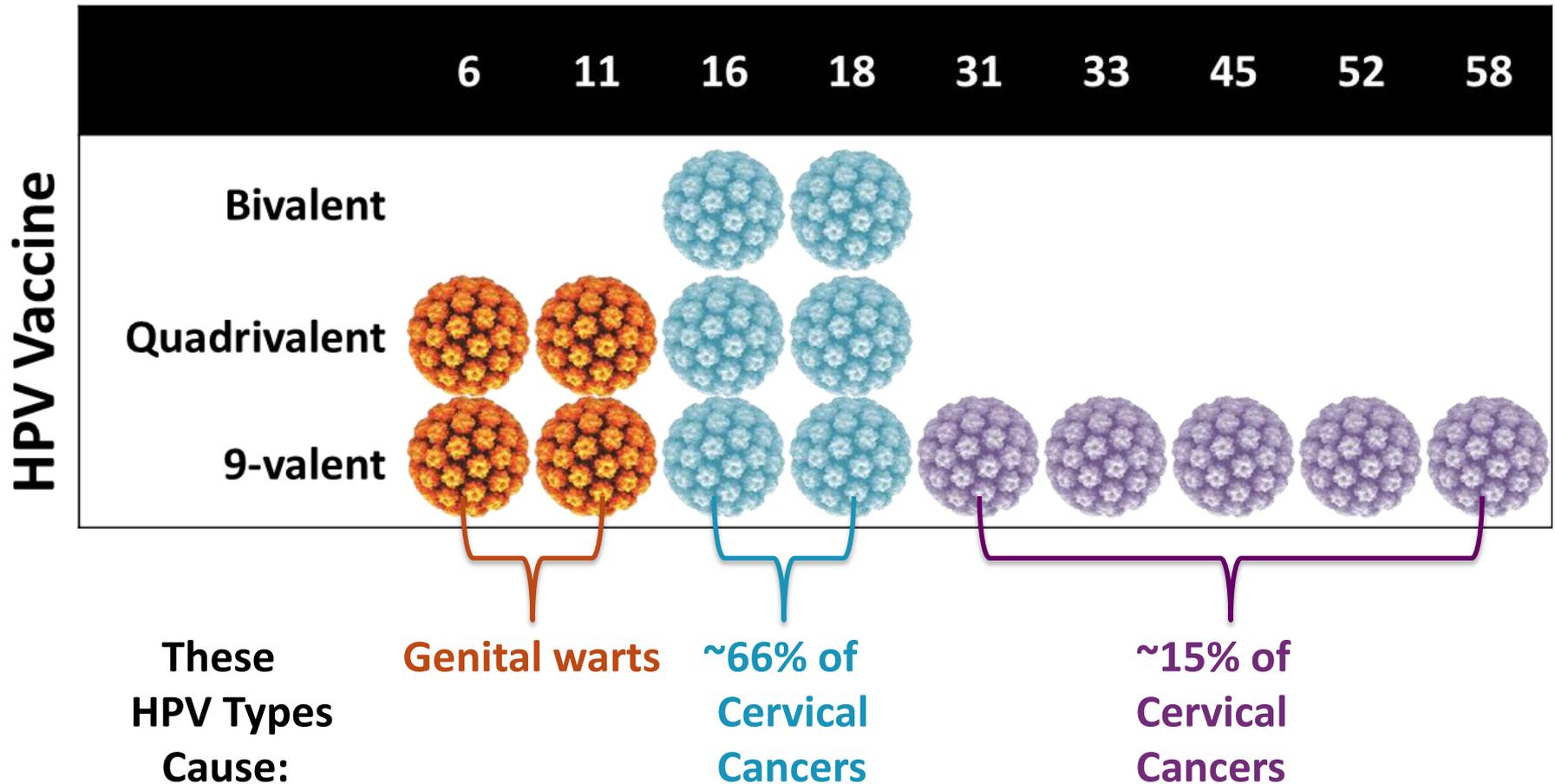
**Every year in the United States 27,000 people are diagnosed with a cancer caused by HPV**



**That's 1 case every 20 minutes**

# HPV Vaccine Comparison

## HPV Types Included in Vaccine



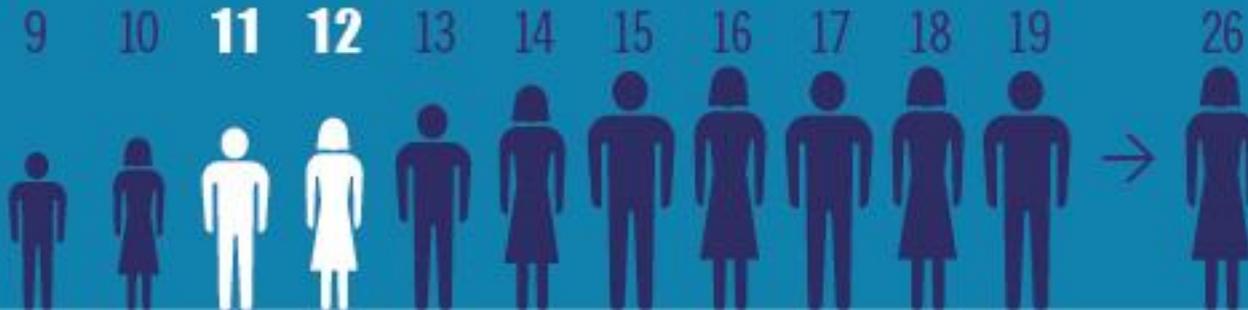


# Why so early?

- ACIP recommends vaccinating at 11-12 years old
- Time to develop an immune response before exposure
- No association with an earlier onset of sexual activity or an increase in sexual activity-related outcomes

# HPV Vaccine is Best at Ages 11 or 12 Years

Preteens have a higher immune response  
to HPV vaccine than older teens.



While there is very little risk of exposure to HPV before age 13, the risk of exposure increase thereafter.



# HPV Vaccination Coverage Rates in Nebraska

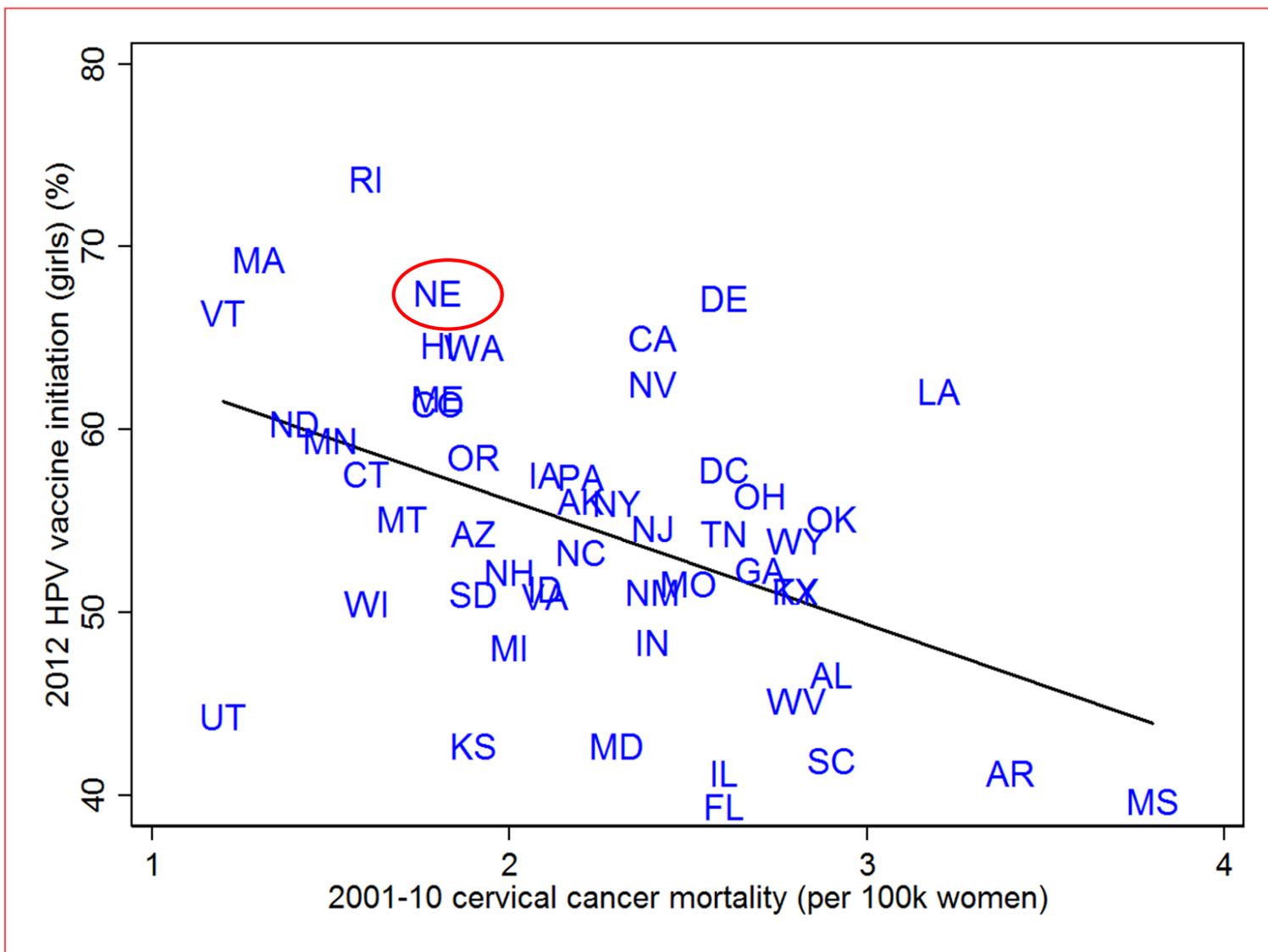
- Though higher than many other states, NE still has low coverage rates
- HPV rates are especially low when compared to Tdap and Meningococcal vaccination rates

# NE 2013-2014 Coverage Rates

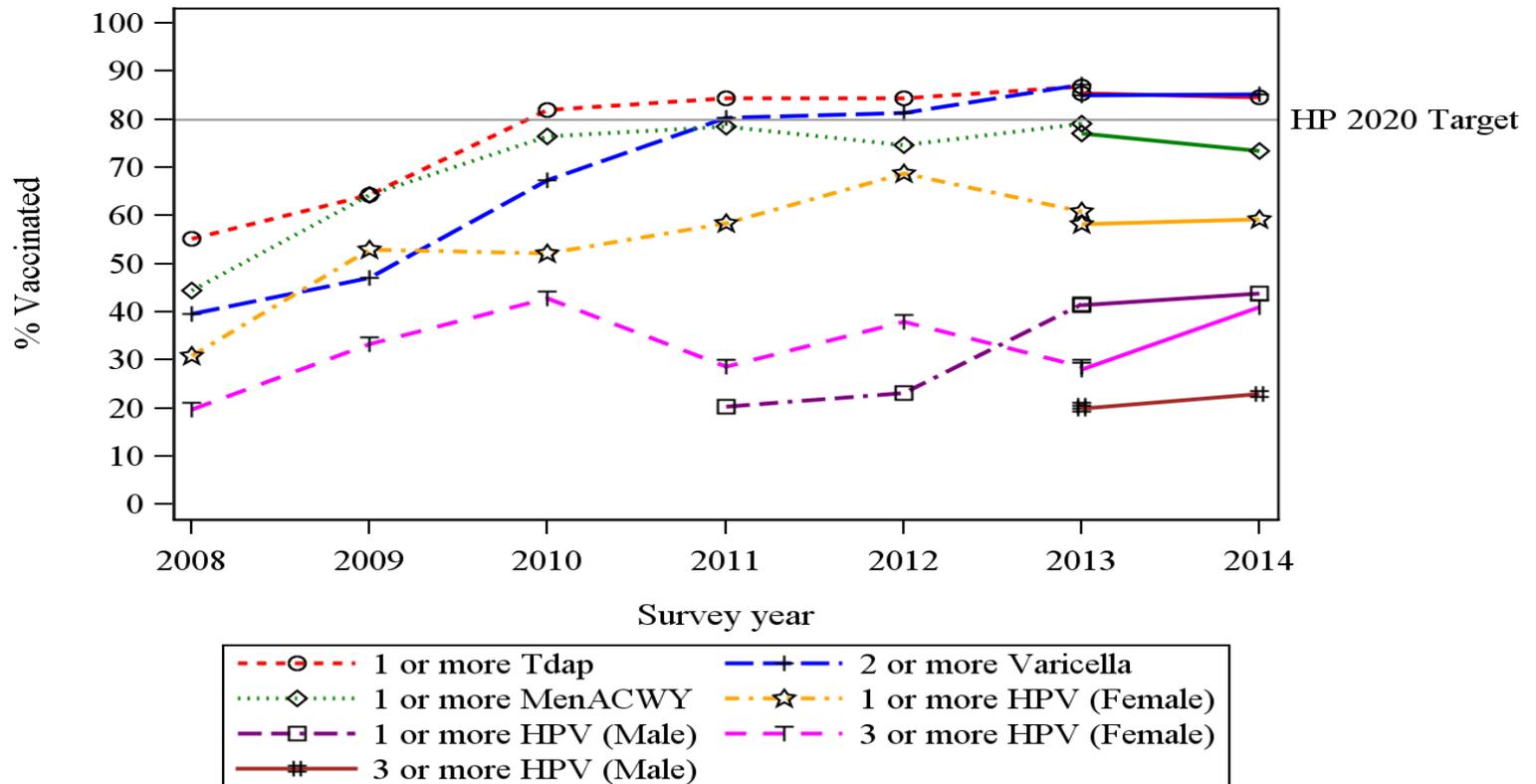
Estimated vaccination coverage with selected vaccines and doses among adolescents aged 13–17 years, for Nebraska -- National Immunization Survey–Teen (NIS-Teen), 2013-2014

				Females			Males		
	≥1 Tdap	≥1 MenACWY	≥1 HPV	≥2 HPV	≥3 HPV	≥1 HPV	≥2 HPV	≥3 HPV	
	% (95% CI)								
United States									
2013 (Revised)	84.7(±1.0)	76.6(±1.1)	56.7(±1.9)	46.9(±1.9)	36.8(±1.9)	33.6(±1.8)	22.6(±1.6)	13.4(±1.3)	
2014	87.6(±0.9)	79.3(±1.1)	60.0(±1.9)	50.3(±1.9)	39.7(±1.9)	41.7(±1.8)	31.4(±1.7)	21.6(±1.6)	
Nebraska									
2013 (Revised)	85.2(±4.8)	76.2(±5.4)	63.5(±9.2)	54.4(±9.2)	40.8(±8.9)	38.0(±8.6)	25.8(±7.7)	19.1(±7.1)	
2014	82.2(±5.4)	74.1(±5.8)	59.6(±9.1)	51.2(±9.4)	43.3(±9.5)	39.5(±9.1)	31.0(±8.8)	22.8(±7.8)	

# Screening and vaccination



**Estimated vaccination coverage with selected vaccines and doses among adolescents aged 13-15 years, by survey year, National Immunization Survey-Teen, Nebraska, 2008-2014**



- Nebraska met the *Healthy People 2020* target for Tdap in 2014, but not for MenACWY, or HPV.
- In 2014, vaccination coverage with  $\geq 1$  HPV and  $\geq 3$  HPV doses among females and males continues to be lower than coverage with Tdap and MenACWY.

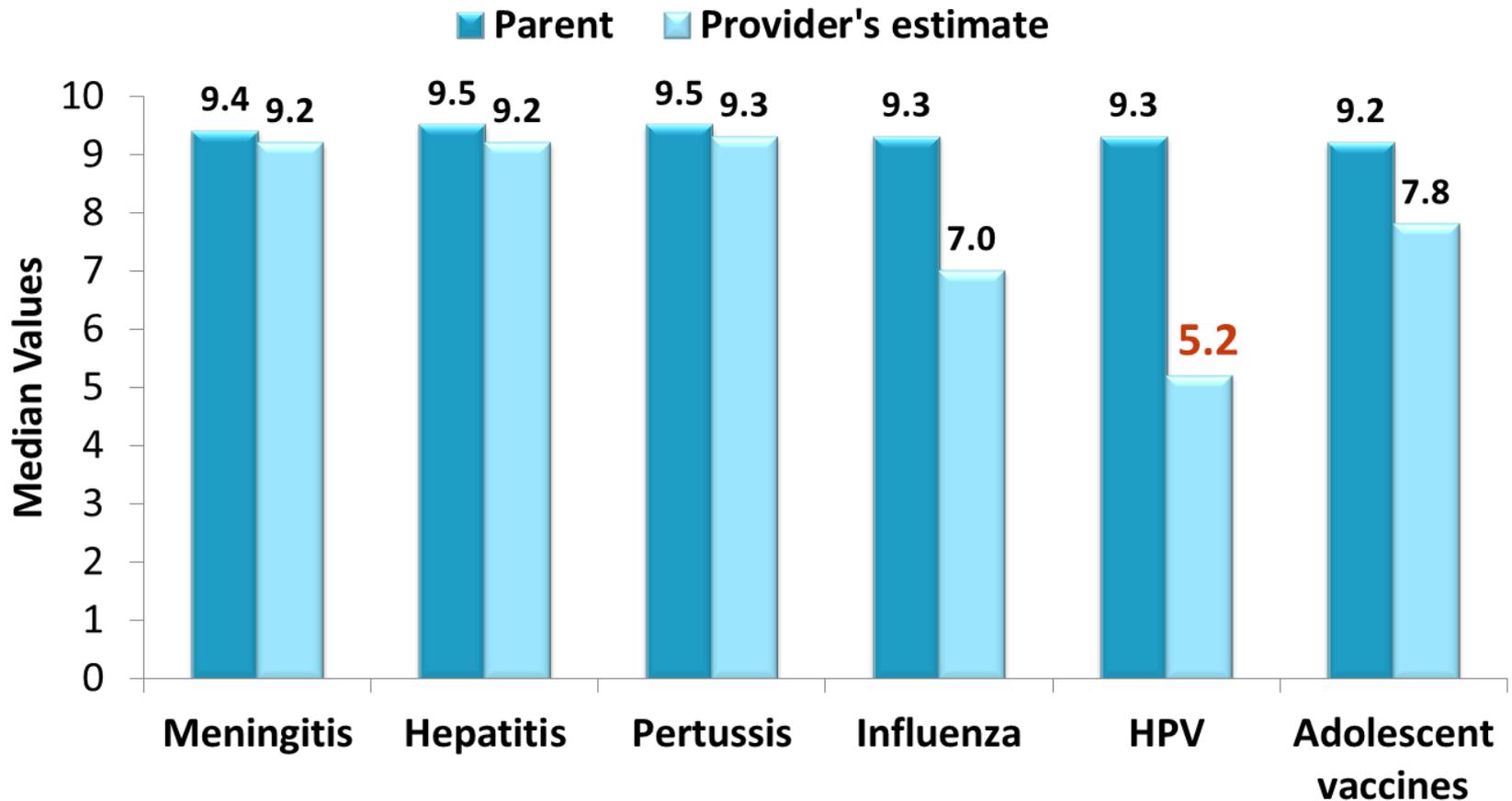


# Making a Strong Recommendation

- Awareness

- Studies have shown that up to 60% of parents have no prior knowledge about the vaccine before their child's provider educates them about it.
- Providers perceive resistance that is not there

# Clinicians Underestimate the Value Parents Place on HPV Vaccine





# Making a Strong Recommendation

- Strong, bundled recommendation:  
Same Way, Same Day
  - Same Way - Bundle HPV with other recommended vaccines (Tdap and Meningococcal)
  - Same Day - Inform parent that the vaccines are recommended and you want the child to be protected
  - Address any questions or concerns with facts

# How does the Chair of ACIP do it?

*“When discussing HPV vaccine with 11 and 12 year-olds and their parents, I will ask the simple question:*

**When do you want your children to put on their bike helmets?**

- ➡ **A. Before they get on their bike**
- ➡ **B. When they are riding their bike in the street**
- ➡ **C. When they see the car heading directly at them**
- ➡ **D. After the car hits them**

*I usually end up with a smile and a successfully launched series.”*



# Making a Strong Recommendation

Reminder/Recall practices are evidence-based and help to increasing coverage rates

- Inform parents that HPV vaccination is a 3 dose series
- Encourage them to make future appointments before leaving the office
- Send postcards, voice/text messages to remind them to come back when due

**26 million:**

number of girls under 13 years of age in the United States

**168,400:**

number who will develop cervical cancer if none are vaccinated

**54,100:**

number who will die from cervical cancer if none are vaccinated

*For each year we stay at 30% coverage instead of achieving 80%...*

**4,400:** number of future cervical cases we will not prevent

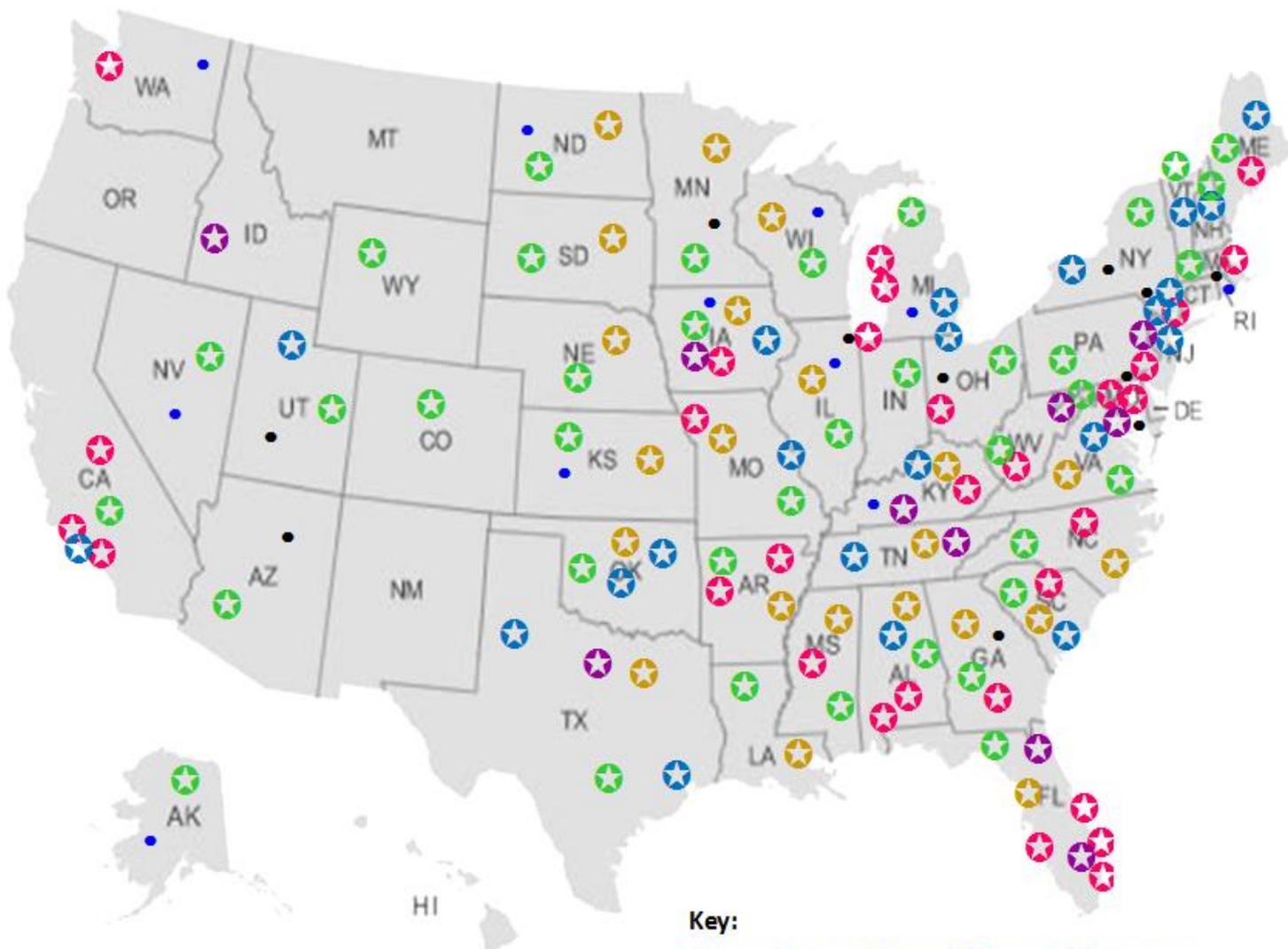
**1,400:** number of cervical cancer deaths we will not prevent

# ACCELERATING HPV VACCINE UPTAKE: URGENCY FOR ACTION TO PREVENT CANCER

## HOW TO ACCELERATE HPV VACCINE UPTAKE IN THE U.S.



# 2015-2016 CDC Grantee Sites & PPHF HPV Immunization Awardees



**Key:**

- ★ ACS
- ★ APA
- ★ AAP
- ★ AHEC
- ★ NACCHO
- 2013 CDC PPHF HPV Immunization Awardees
- 2014 CDC PPHF HPV Immunization Awardees

# American Academy of Pediatrics (AAP)

- Professional membership organization
- 64,000 members
- 10 districts
- 66 state/local chapters





# NE AAP HPV Funding

- Provide outreach & training to pediatric offices on immunization delivery issues;
- Disseminate immunization educational materials to pediatricians;
- Form strong partnerships to complement AAP expertise on immunization delivery topics, enhance spread of common messages, and avoid duplication of effort; and
- Prioritize HPV vaccination efforts within the AAP structure.

# National AHEC Organization



HPV **VACs**

Vaccinate **A**dolescents against **C**ancers

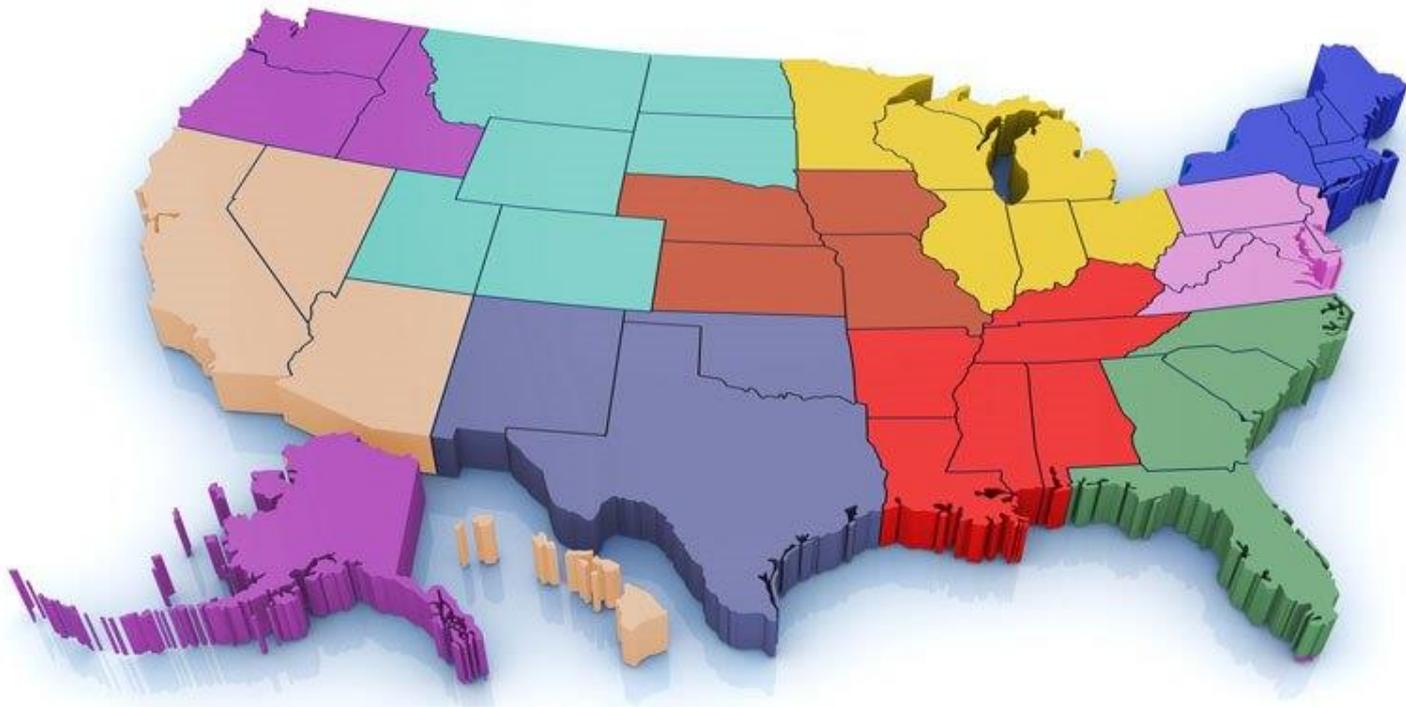




# Organizational Overview

- National AHEC Organization is the membership organization for more than 300 AHEC Programs and Centers in 45 states.
- AHECs were developed in the early 70's to improve the supply, distribution, and quality of primary care practitioners and other health professionals in medically underserved areas.
- Uniquely positioned in communities serving designated regions AHECs are always looking to partner.

# NAO Regions



States currently without an AHEC include: Delaware, Oklahoma, Minnesota, Iowa, Mississippi



# Key HPV Vaccination Initiatives

- Conduct direct clinician outreach and training programs
  - State/Regional/Local emphasis
  - Nationwide webinars for clinicians
- Disseminate educational materials to clinicians
  - Focusing on AHECs partnerships, medical/dental schools and other health professions schools
- Influence national efforts to increase HPV vaccination rates by forming and strengthening strong partnerships



# AHEC in Nebraska

- 5 independent AHEC centers (Grand Island, Norfolk, Scottsbluff, Beatrice & Omaha)
- Provide services in all 93 NE counties
- 3 AHECs working on HPV project (GI, Norfolk & Omaha)



# NE Comprehensive Cancer Control Program/NE Cancer Coalition (NC2)

- Current Nebraska Cancer Prevention and Control Plan for 2011 – 2016 does include a goal for HPV
  - Objective: Increase percentage of Nebraska adolescents ages (13-17) who receive the HPV vaccine to 43.9%
- Currently in the process of revising cancer plan for the next 5 years and the Prevention WG has been discussing what objectives/goals to set around HPV

# Two CDC Grant Awards

## HPV Roundtable

### The National HPV Vaccination Roundtable



#### Taking Action to Help Save Lives

The purpose of the National HPV Vaccination Roundtable is to increase HPV vaccination coverage. Key activities include increased awareness, provider education, public education, systems changes, and health policy efforts. The American Cancer Society has led the development of the Roundtable by convening a national coalition of public, private, and voluntary organizations dedicated to increasing HPV vaccination coverage in the United States. Through coordinated leadership, strategic planning, and action, we can reduce HPV-associated cancers and related deaths.

#### HPV Vaccination and Cancer

Nearly all cases of cervical cancer are caused by infection with high-risk types of human papilloma virus (HPV). The virus also has been linked to cancers of the vagina, vulva, anus, penis, and throat.

HPV vaccination prevents infection by virus types that cause the vast majority of these cancers and genital warts, but the vaccine works only if given well before an infection occurs. That's why, in part, the American Cancer Society recommends it at ages 11 to 12. Vaccination at these younger ages also leads to a greater immune response.

Despite the power of HPV vaccination to prevent cervical cancer, only one-third of adolescent girls have completed the 3-dose series. The CDC reports that vaccination coverage increased slightly between 2012 and 2013 but remains too low.

In 2014, the President's Cancer Panel released a report calling "undersure of HPV vaccines a serious but correctable threat to progress against cancer."

#### What the Society Will Do

The National HPV Vaccination Roundtable develops and implements pilot projects focused on overcoming barriers to HPV vaccination by focusing on five priority areas:

- **Providers** – Strengthen HPV vaccination recommendations and decrease missed opportunities.
- **Parents** – Educate and raise awareness about the importance of vaccinating males and females ages 11-12 to prevent cancers and to increase acceptance of vaccination against HPV infection.
- **Systems** – Address barriers such as the inadequate reimbursement for vaccine administration and the lack of reminder systems.
- **Policies** – Maximize access to and opportunities for vaccination (e.g., by considering alternative settings such as pharmacies).
- **Health Disparities** – For underserved populations at highest risk for cervical and other HPV-associated cancers, address barriers including cultural factors, distrust of the medical system, and limited access to health care.

#### To Find Out More

Email: HPV.Vaccination.Roundtable@cancer.org  
**Debbie Saslow**, Principal Investigator | debbie.saslow@cancer.org  
**Lisa Oliver**, Project Specialist | lisa.oliver@cancer.org

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cancer.org | 1.800.227.2345



## HPV VACs Program

### HPV VACs

Vaccinate Adolescents against Cancers



#### Taking Action to Save Lives

#### HPV Vaccination and Cancer

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The President's Cancer Panel released a report calling "undersure of HPV vaccines a serious but correctable threat to progress against cancer."

#### The HPV VACs Project (Vaccinate Adolescents against Cancers)

is aimed at increasing HPV vaccination rates for adolescents across the nation through improved provider awareness and education and improved system-wide processes. With a 6.4 million dollar grant from the Centers for Disease Control and Prevention, ACS will expand current cancer prevention and early detection activities with federally qualified healthcare centers (FQHCs) to increase HPV vaccination through improved provider awareness and education and improved system-wide processes. Additionally, ACS will partner with state health departments and other state-based entities to facilitate systems changes that increase the availability and utilization of the HPV vaccine.

#### What We Will Do?

- Provide direct clinician outreach and training activities through 30 FQHC Partnerships
- Implement 2-year Practice Change Pilot projects with FQHCs to increase HPV vaccination rates
- Develop and implement Electronic Health Record and other tracking tools to measure vaccination processes and rates
- Partner with state health departments and state-based health care plans to provide clinician education and training
- Disseminate CDC and other evidence-based educational materials to clinicians and constituents
- Increase national partnerships that strengthen HPV vaccination rates

#### How Do I Find Out More?

**Debbie Saslow**, Principal Investigator | debbie.saslow@cancer.org  
**Marcie Fisher-Borne**, Project Director and Co-Principal Investigator | marcie.fisherborne@cancer.org  
**Molly Black**, Project Manager | molly.black@cancer.org

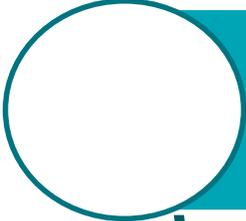
This project is supported in part by CDC Cooperative Agreement Number 1H23IP000953-01.



# WHY HPV VACCINATION? WHY ACS?



We have a vaccine



This vaccine prevents (multiple) cancers



We need to vaccinate more kids



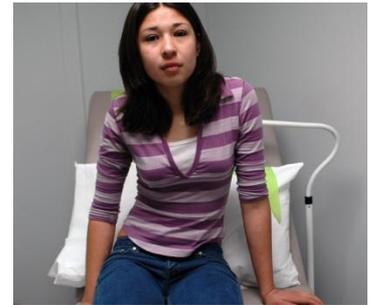
Cancer and immunization need to work together



**Success is achievable!**

# HPV VACs Goals

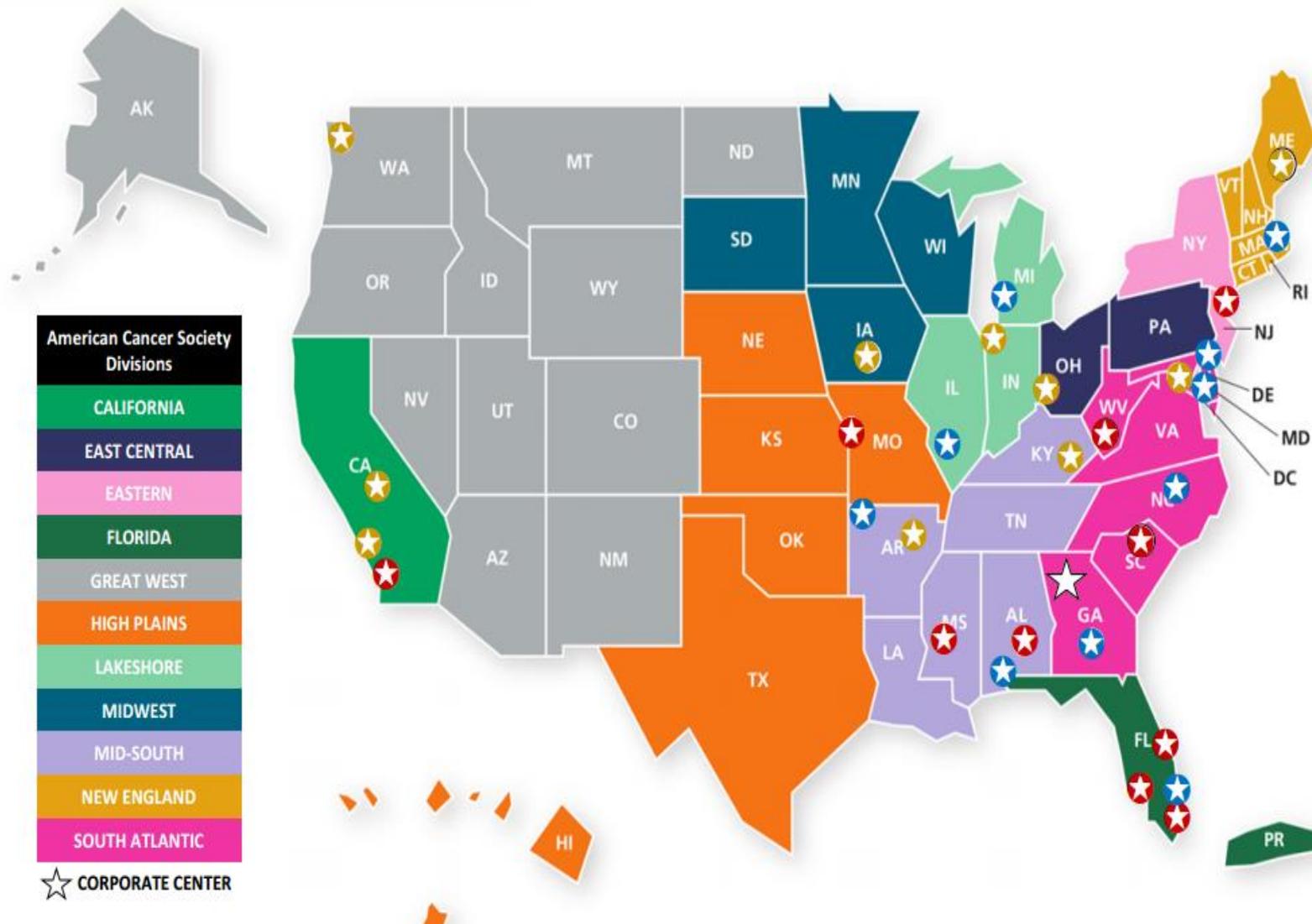
Increasing HPV vaccination rates for adolescents across the nation through improved provider awareness and education and improved system-wide processes—  
with a focus on adolescents ages 11 to 12



# HPV VACs

Vaccinate Adolescents against Cancers

## 2015-2016 FQHC Pilot Sites





# HPV Vaccination Institute

- November 4-5 in Atlanta
- Participants left with excellent next steps to increase HPV vaccination efforts in their states and divisions including:
  - Convening and facilitating coalitions and task groups.
  - Understanding how key state groups such as immunization and comprehensive cancer play a role with HPV vaccination uptake.
  - Working with insurers on policies and funding for HPV vaccination.
  - Creating division strategy and team goals related to HPV vaccination.
  - Forming relationships with partners such as AAP, AAFP and Cervical Cancer-Free Coalitions.

# Mission



The National HPV Vaccination Roundtable is a national coalition of organizations working together to prevent HPV-associated cancers and pre-cancers by increasing and sustaining U.S. HPV vaccination.

Supported by grant #1H23IP000931-01, funded by the Centers for Disease Control and Prevention

# Roundtable Members

- Academic Institutions/Cancer Centers
- Advocacy and Survivors
- Cancer Prevention
- Communication
- Government Agencies
- Immunization
- Insurance
- Providers/Professional Societies
- Public Health
- State-based Organizations
- Quality Improvement
- Research
- Special Populations
- Training
- Vaccine Manufacturing

# Roundtable Task Groups

- Provider Training
- National Campaign
- Pharmacy-located Vaccination
- School-based Parent Education
- Electronic Health Records
- Survivor Involvement



## Recommended strategies for improving HPV vaccination rates

- Partnership engagement and collaboration
- Local Immunization Coalitions
- Incorporating HPV vaccination into cancer control plans
- Using all opportunities to educate parents and clinicians about importance of routine HPV vaccination at ages 11-12 years



[cdc.gov/vaccines/YouAreTheKey](https://cdc.gov/vaccines/YouAreTheKey)

## **HPV PORTAL FOR PROVIDERS**

# HPV CANCER PREVENTION

**1 HPV VACCINE IS CANCER PREVENTION**  
 HPV vaccine protects against HPV types that most commonly cause anal, cervical, oropharyngeal, penile, vaginal, and vulvar cancers.  
 Every year in the U.S., 27,000 people get cancer caused by HPV. That's 1 person every 20 minutes of every day, all year long.  
 Most of these cancers can be prevented by HPV vaccine.

**2 HPV VACCINE IS RECOMMENDED AT THE SAME TIME AS OTHER TEEN VACCINES**  
 Teens need three vaccines at 11 or 12. They protect against whooping cough, cancers caused by HPV, and meningitis.  
 Vaccines for your 11-12 year old:  
 • Tdap  
 • HPV  
 • Meningococcal

**3 HPV VACCINE IS BEST AT 11-12 YEARS**  
 Teens have a higher immune response to HPV vaccine than older teens.  
 While there is very little risk of exposure to HPV before age 13, the risk of exposure increases thereafter.

Parents and healthcare professionals are the key to protecting adolescents from HPV cancers.

**VACCINATE YOUR 11-12 YEAR OLDS.**

[www.cdc.gov/vaccines/teens](http://www.cdc.gov/vaccines/teens)



Free posters available for ordering in the following sizes: 8.5x11, 11x17, 18x24

If there were a vaccine against cancer, wouldn't you get it for your kids?

HPV vaccine is cancer prevention. Talk to the doctor about vaccinating your 11-12 year old sons and daughters against HPV.

[www.cdc.gov/vaccines/teens](http://www.cdc.gov/vaccines/teens)

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[www.cdc.gov/vaccines/teens](http://www.cdc.gov/vaccines/teens)

You're not opening the door to sex. You're closing the door to cancer.

HPV vaccine is cancer prevention. Talk to your child's doctor about vaccinating your 11-12 year old against HPV.

[www.cdc.gov/vaccines/teens](http://www.cdc.gov/vaccines/teens)





## For more information.....

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# Q&A