

# State Vaccine Promotion Efforts:



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

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National Oral Health Conference

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# Learning Objective – Part III

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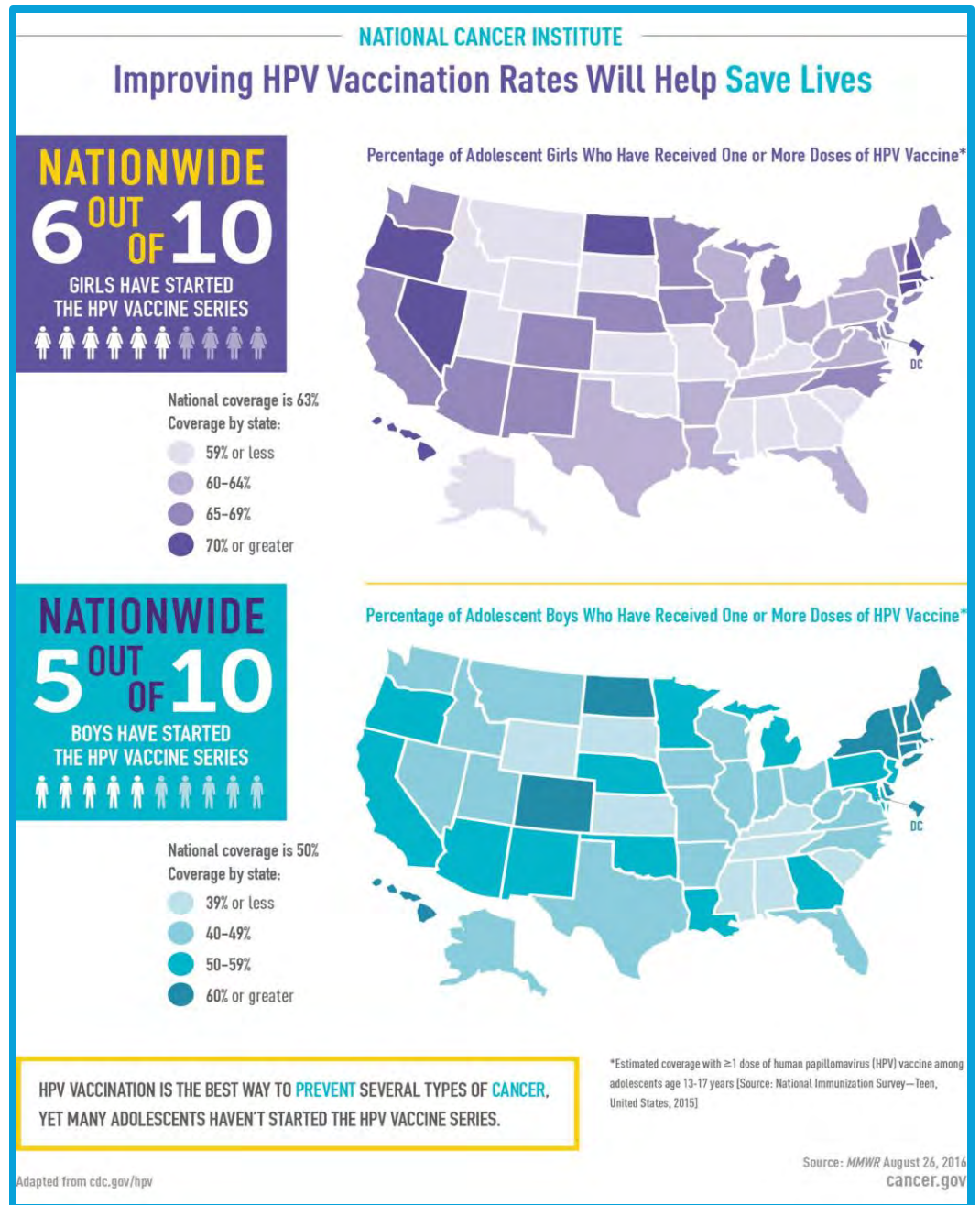


1. Identify strategies for communication in and among the health professions about HPV including tools for how to do this effectively and comfortably, in order to increase the use of the HPV vaccine and to raise public awareness about signs, symptoms, risk factors and changing demographics of HPV-related OPC in comparison to non-HPV related OPC.

The graphic features a central red rounded rectangle with a white dashed border. To the left of this rectangle are two dark gray gears, one above and one below, with white circular centers. The background consists of horizontal stripes: a gray stripe at the top, a white stripe, a gray stripe, a white stripe, and a gray stripe at the bottom. The red rectangle is positioned between the second and third stripes from the top.

# 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

## *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

# 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).

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

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- Promote risk-based oral cancer screenings (children/adults)
- Talk to parents/caregivers about HPV vaccine (cancer prevention)
- Promote integrated health care model
- Oral HPV infections need to be studied and investigated thoroughly to help promote HPV awareness in oral health settings.



# 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

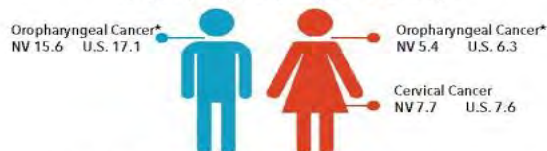
## Nevada

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

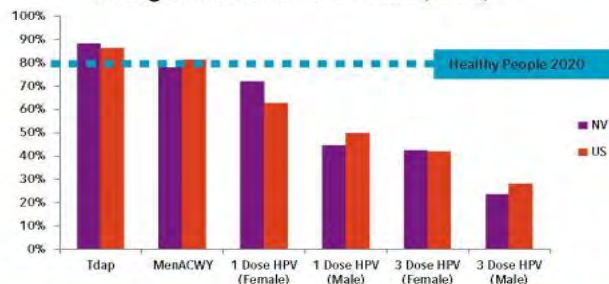


HPV causes nearly all cervical cancers and many cancers of the vagina, vulva, penis, anus, rectum, and oropharynx.<sup>1</sup>

### 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., Lyndi C.F., Steina M., Watson M., Goodman M.J. (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. *HPVWISER Online Database*. Retrieved from <http://seer.cdc.gov/cancer/2013-111MI>. 3. Reagan-Steiner, S., Yankey, D., Jesirajah, J., Elam-Evans, L.D., Curtis, D., McNeil, 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>

\*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**

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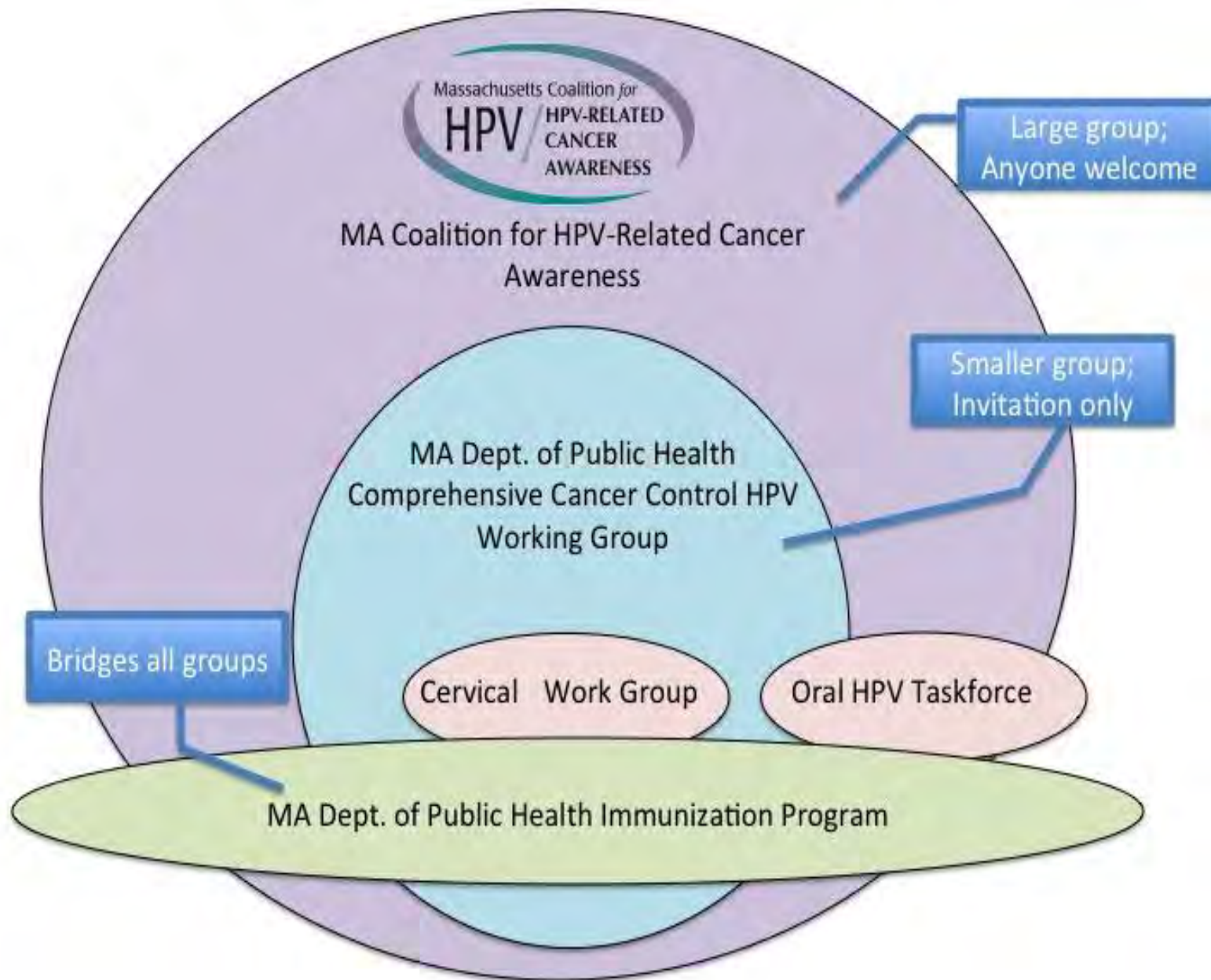
# State Vaccine Promotion Efforts:

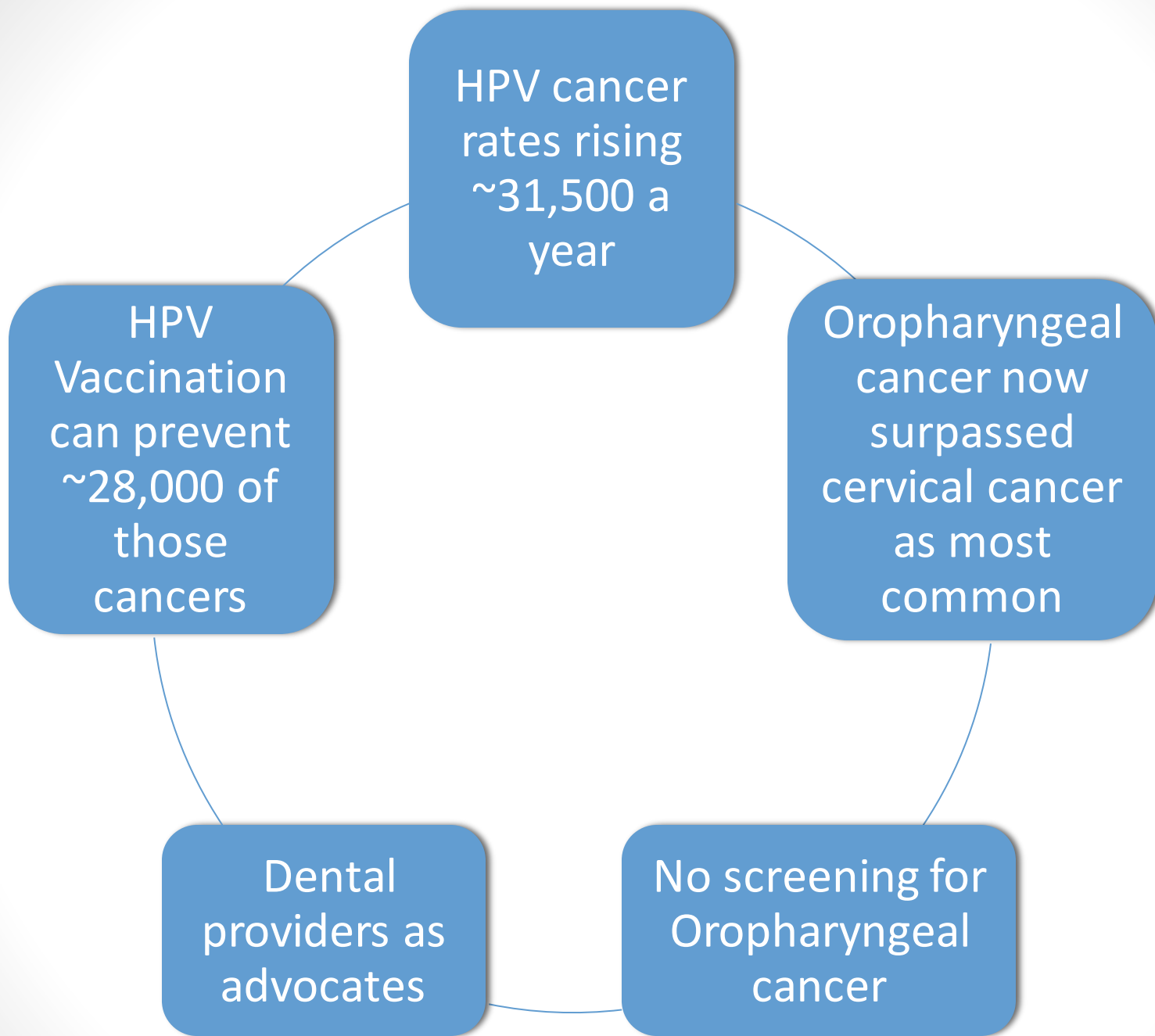




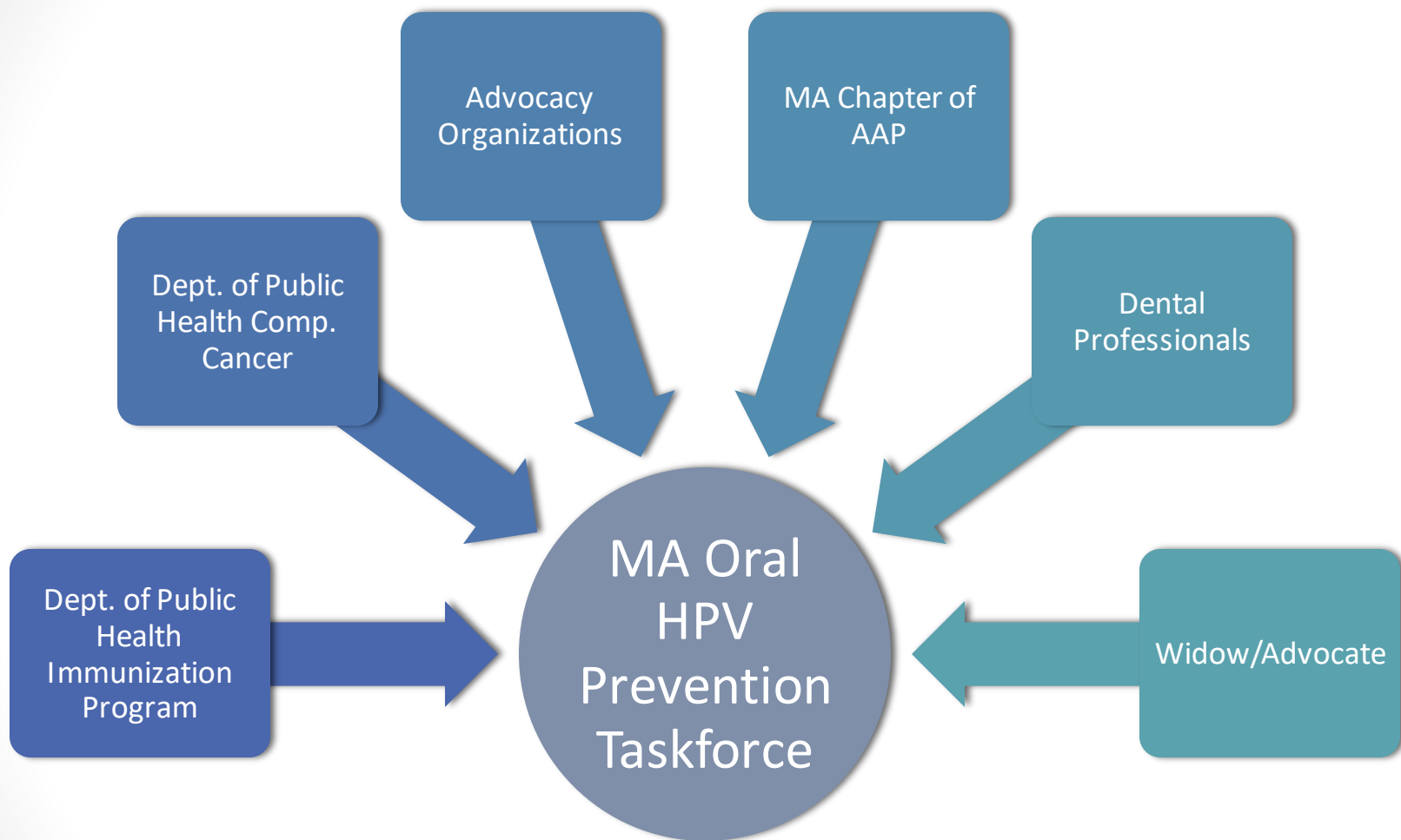
# Massachusetts Coalition for HPV-Related Cancer Awareness











## Connect

- Dental world
- Cancer partners

## Meet

- Conference calls
- In-person

## Collaborate

- Presentations
- Projects

**For more information, contact:**

**Rebecca Vanucci**

**Immunization Outreach Coordinator, Immunization Program**

**Bureau of Infectious Disease and Laboratory Sciences**

**Massachusetts Department of Public Health**

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**Website: [www.mass.gov/dph/imm](http://www.mass.gov/dph/imm)**

**Or visit:**

**Team Maureen**

**[www.teammaureen.org/](http://www.teammaureen.org/)**

# State Vaccine Promotion Efforts:



# **Integrating Vaccine Promotion Efforts – State Oral Health Programs, State Health Agencies, and Outreach**

Katy Battani, RDH, MS  
Stacy Costello, MPH, CHES  
Maryland Office of Oral Health  
April 16, 2018



MARYLAND  
Department of Health

# MISSION AND VISION

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## **MISSION**

The mission of the Prevention and Health Promotion Administration is to protect, promote and improve the health and well-being of all Marylanders and their families through provision of public health leadership and through community-based public health efforts in partnership with local health departments, providers, community based organizations, and public and private sector agencies, giving special attention to at-risk and vulnerable populations.

## **VISION**

The Prevention and Health Promotion Administration envisions a future in which all Marylanders and their families enjoy optimal health and well-being.

# Barriers to Vaccination

## Accelerating HPV Vaccine Uptake: Urgency for Action to Prevent Cancer

A Report to the President of the United States from the President's Cancer Panel. Bethesda, MD: National Cancer Institute; 2014.

<http://deainfo.nci.nih.gov/advisory/pcp/annualReports/HPV/index.htm>

### Missed Opportunities with Providers

Factors Contributing to Provider Hesitancy

- Limited understanding of HPV-associated diseases & benefits of vaccination
- Concerns about safety
- Concerns about inadequate reimbursement for vaccines
- Personal attitudes and beliefs
- Discomfort talking to parents and adolescents about a topic related to sexual behavior
- Concerns about parental resistance
- Preference for vaccinating older versus younger adolescents
- Lack of time or incentives to educate parents and patients about HPV and HPV vaccines
- Lack of systems to remind providers to offer vaccines to age-eligible patients

# Barriers to Vaccination - Continued

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## Parental/Caregiver Acceptance

Reasons Parents Have Given for NOT Intending to Vaccinate:

- Vaccination not needed, particularly for males
- Vaccination not recommended by healthcare provider
- Safety concerns
- Lack of knowledge about the vaccines or diseases caused by HPV infections
- Son or daughter not sexually active
- Son or daughter too young to be vaccinated against HPV
- Cost of vaccines



# Maryland Department of Health HPV Task Force

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## GOAL

Implement a Maryland Department of Health (MDH)-wide effort to increase the percent of Maryland adolescents that are fully vaccinated against HPV.

## TARGET AUDIENCES

Based on the documented barriers to the uptake of HPV vaccines, the effort implemented by MDH is a multi-pronged approach focusing on:

- Maryland providers in a position to recommend and/or administer HPV vaccine
- Maryland parents of adolescents eligible for HPV vaccine.

## MDH PARTICIPATING OFFICES

- Center for Cancer Prevention and Control
- Office of Oral Health
- Center for Immunization
- Office of Family Planning and Home Visiting
- Office of School Health
- Medicaid
- Center for Chronic Disease Prevention and Control
- MDH Leadership

# HPV Task Force Activities Aligned with Promising Strategies

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Promising Strategy	Maryland Efforts
Joint initiatives with cancer prevention and immunization stakeholders (including clinical professional organizations like AAP)	<ul style="list-style-type: none"><li>• MDH HPV Task Force comprised of internal PHPA offices meets quarterly</li><li>• Continue collaboration with Medicaid to report HPV vaccination rates to MCOs in annual report</li><li>• Continue funding two primary prevention grants focusing on increasing HPV vaccination</li></ul>

# HPV Task Force Activities Aligned with Promising Strategies

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Promising Strategy	Maryland Efforts - Previous/Ongoing
Using all opportunities to educate clinicians and parents about the importance of on-time HPV vaccination	<ul style="list-style-type: none"><li>• Created toolkits for LHDs, Community Partners, Medicaid, Parents. Toolkits included:<ul style="list-style-type: none"><li>• Links to existing CDC TV &amp; radio ads (including materials in Spanish)</li><li>• CDC Print materials (including option for materials in Spanish)</li><li>• Cover letter from MDH leadership indicating HPV vaccines as a priority &amp; encouraging use of toolkit with current patients/providers*</li></ul></li></ul>

# HPV Dental memo from MDH Leadership



August 2, 2017

Dear Colleague:

We are writing to ask for your help in addressing the critical public health issue of under-vaccination of Maryland's adolescents against Human Papillomavirus (HPV). According to the Centers for Disease Control and Prevention (CDC), about 14 million people, including teens, become infected with HPV each year, posing a significant public health risk. HPV is a common virus that can cause several types of cancers affecting men and women, including cervical, penile, anal, and throat cancers. According to the CDC, oropharyngeal cancer is the most common HPV-associated cancer in men.

A primary reason exists to protect against these HPV-related cancers. The HPV vaccine is recommended for preteen boys and girls at age 11 or 12 because it provides protection before exposure to the virus and produces a more robust immune response during the preteen years. The HPV vaccine has been shown to be very effective in preventing HPV. However, current data from the 2015 CDC National Immunization Survey shows only 43.7% of girls and 11.1% of boys receive all doses of the HPV vaccine in Maryland.

We are encouraging physicians, dental hygienists, dentists, Local Health Departments, and parents of children around the state to take part in increasing HPV vaccination coverage in Maryland. As a dental professional, you can join this statewide effort and help to prevent cancer by encouraging family members visiting your office with age-eligible children to initiate and/or complete the full series of the HPV vaccine. Your recommendation may likely be one of the greatest influencing factors as a parent's decision to have their children vaccinated against HPV. We encourage you to provide information, and discuss the benefits of HPV vaccination with parents of age-eligible children. Additionally, CDC research has shown that many parents do not know what the full vaccine series requires. Your encouraging parents to make appointments for their children with their physician for all shots in the series, will help them to complete the series. To assist your efforts, please access the promotional materials listed in the table below for your HPV vaccination awareness efforts. The fact sheets may be used by providers in conversations with parents, and the videotaped PSAs may be used as provider office waiting rooms. All of the toolkit materials are available at no cost by visiting <http://hpv.health.maryland.gov/cancer/Pages/HPV.aspx>, or by visiting the individual links listed in the table on page 1.

<b>Fact Sheet for Parents (English)</b> <a href="http://www.cdc.gov/ncncd/parents/diseases/teen-hpv-factsheet-english.pdf">http://www.cdc.gov/ncncd/parents/diseases/teen-hpv-factsheet-english.pdf</a>
<b>Fact Sheet for Parents (Spanish)</b> <a href="http://www.cdc.gov/ncncd/parents/diseases/teen-hpv-factsheet-spanish.pdf">http://www.cdc.gov/ncncd/parents/diseases/teen-hpv-factsheet-spanish.pdf</a>
<b>30 second PSA video about HPV (English)</b> • Click on the "Adolescent" tab • Scroll to the 3 HPV vaccine PSAs
<b>30 second PSA video about HPV (Spanish)</b> • Click on the "Adolescent" tab • Scroll to the first video
<b>15 second Radio PSA about HPV (English)</b> <a href="http://www.cdc.gov/ncncd/parents/diseases/teen-hpv-factsheet-english.pdf">http://www.cdc.gov/ncncd/parents/diseases/teen-hpv-factsheet-english.pdf</a>
<b>30 second Radio PSA about HPV (English)</b> <a href="http://www.cdc.gov/ncncd/parents/diseases/teen-hpv-factsheet-english.pdf">http://www.cdc.gov/ncncd/parents/diseases/teen-hpv-factsheet-english.pdf</a>
<b>30 second Radio PSA about HPV (Spanish)</b> <a href="http://www.cdc.gov/ncncd/parents/diseases/teen-hpv-factsheet-spanish.pdf">http://www.cdc.gov/ncncd/parents/diseases/teen-hpv-factsheet-spanish.pdf</a>

Thank you for all that you do to improve the health of Marylanders, and for your consideration of joining this important effort to prevent cancer by increasing the uptake of the HPV vaccination.

*Dennis R. Sciarini*  
Dennis R. Sciarini  
Secretary  
Maryland Department of Health

*Janine Chen, M.D., MPH*  
Janine Chen, M.D., MPH  
Acting Deputy Secretary, Public Health  
Services  
Maryland Department of Health

## HPV

As parents, you do everything you can to protect your children's health for now and for the future. There is a strong reason to protect several types of cancer in our kids: the HPV vaccine.

**HPV and Cancer**

HPV is short for Human Papillomavirus, a common virus in the United States each year, there are about 13,500 women and 8,500 men affected by HPV-related cancers. Many of these cancers could be prevented with vaccination. In both women and men, HPV can cause oral and throat/head/neck (oropharyngeal) cancer. It can also cause cancer of the cervix, vulva and vagina in women, and cancer of the penis in men.

For women, screening is available to detect most cases of cervical cancer with a Pap smear. Unfortunately, there is no routine screening for other HPV-related cancers like women or men, and these cancers can cause pain, suffering, or even death. That's why a vaccine that prevents most of these types of cancers is so important.

**More about HPV**

HPV is a virus passed from one person to another during skin-to-skin sexual contact, including vaginal, oral, and anal sex. HPV is most common in people who have sex and only 20% of all sexually active people will get HPV at some time in their lives, though most will never know it.

Most of the time, the body naturally fights off HPV, before HPV causes any health problems. This is so because the body does not fight off HPV, and HPV can cause health problems like cancer and genital warts. Genital warts are not a life-threatening disease, but they can cause emotional stress, and their treatment can be very uncomfortable. About 1 in 10 sexually active adults in the United States have genital warts at any given time.

**Why does my child need this now?**

HPV vaccines offer the best protection to girls and boys who complete the series and take time by showing an immune response before they begin sexual activity with another person. This is not to say that your children are ready to have sex, in fact, it's the opposite—it's important to get your child protected before you or your child have to think about this issue. The immune response to this vaccine is better in preteens, and this could mean better protection for your child.

**DISEASE and the VACCINE** fact sheet 2016

HPV vaccination is recommended for preteen girls and boys at age 11 or 12 years.

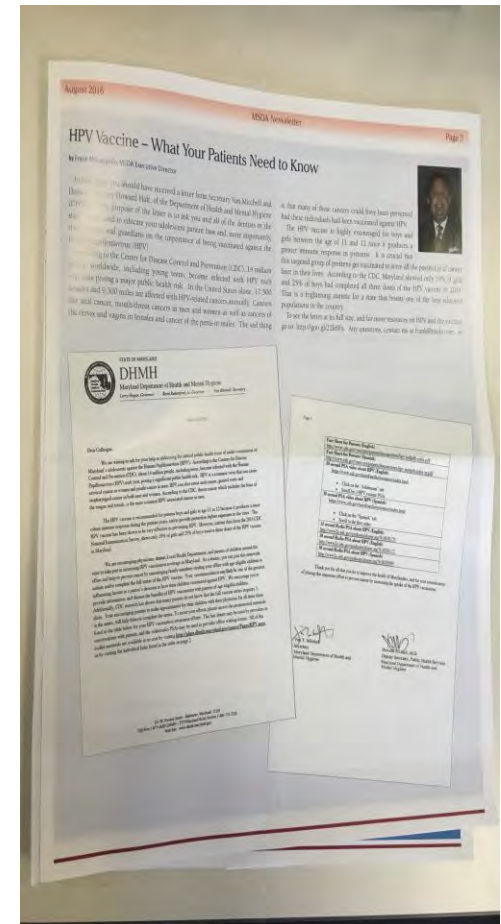
All preteens need HPV vaccination so that they can be protected from HPV infections that cause cancer. Boys and young adults who don't get or finish the HPV vaccine series also need HPV vaccination. Young women can get HPV vaccine until they are 27 years old and young men can get HPV vaccine until they are 27 years old. Young men who have sex with other men or who have anal sex should get the HPV vaccine until they are 27.

HPV vaccination is a series of two shots over several months. You have to go to a provider to get your child all the shots they need to be sure the vaccine works. For the reasons that you know, the doctor's office is best.

**Is the HPV vaccine safe?**

Yes, HPV vaccines have been studied very carefully and continue to be monitored by CDC and the Food and Drug Administration (FDA). No serious safety concerns have been linked to HPV vaccines. These studies continue to show that HPV vaccines are safe.

The most common side effects reported after HPV vaccination are mild. They include pain and redness at the site of the shot where the shot was given, tired, dizziness, and muscle aches. Some parents and teens may feel a little sore after getting their shot or any other medical procedure, sitting or lying down for about 15 minutes after getting their shot can help prevent dizziness. This could happen if your child were to fall while lying down.



# HPV Task Force Activities Aligned with Promising Strategies

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Promising Strategy	Maryland Efforts- Previous/Ongoing
Using all opportunities to educate clinicians and parents about the importance of on-time HPV vaccination (continued)	<ul style="list-style-type: none"><li>• Utilized regularly scheduled Vaccines For Children provider trainings to include focus on HPV.</li><li>• Collaborated with American Academy of Pediatricians (AAP) to provide education to providers through bi-weekly digests and special issue of AAP newsletter</li><li>• Printed and distributed approximately 5,200 CDC HPV vaccination fact sheets to providers</li><li>• Launched webpage with resources*</li></ul>

# HPV Task Force Website

<https://phpa.health.maryland.gov/cancer/Pages/HPV.aspx>

## HPV (Human Papillomavirus)

HPV is a very common and widespread virus, consisting of more than 150 related viruses. Nearly everyone will be infected in their lifetime. In fact, the Centers for Disease Control and Prevention (CDC) estimates that more than 90% of sexually active men and 80% of sexually active women will be infected with at least one type of HPV at some point in their lives. Around one-half of these infections are with a high-risk HPV type.<sup>1</sup>

- High-risk HPVs can cause cancer. About a dozen high-risk HPV types have been identified.
- Low-risk HPVs do not cause cancer but can cause skin warts on or around the genitals, anus, mouth, or throat.

Most high-risk HPV infections occur without any symptoms, go away within 1 to 2 years, and do not cause cancer. Some HPV infections, however, can persist for many years. Persistent infections with high-risk HPV types can lead to cell changes that, if untreated, may progress to cancer.<sup>2</sup>



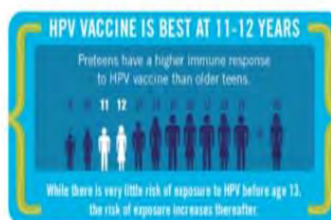
### Getting Vaccinated

The HPV vaccine can prevent infection with the HPV types that most commonly cause HPV related cancers

The CDC recommends the HPV vaccine be given to 11- to 12-year-old boys and girls so they are protected **before ever being exposed** to the virus. Research has shown that preteens have a better immune response to the vaccine than those in their late teens and early

20s.<sup>3</sup> Vaccination recommendations include:

- As of October 19, 2016, the CDC recommends that 11- to 14-year-olds receive **only two** doses of HPV vaccine at least six months apart rather than the previously recommended three doses
- Teens and young adults who start the series later, at ages 15 through 26 years, will continue to need three doses of HPV vaccine to protect against cancer-causing HPV infection.<sup>4</sup>
- Young women can get the HPV vaccine through age 26, and young men can get vaccinated through age 21.
- The vaccine is also recommended for any man who has sex with men through age 26, and for men with compromised immune systems (including HIV) through age 26, if they did not get the HPV vaccine when they were younger.<sup>5</sup>



### Tools and Resources

#### Información en español (Information in Spanish)

- Hoja Informativa para Padres (Parent Fact Sheet)
- Recursos de HPV (HPV Resources)

#### For the General Public:

- Fact Sheet for Parents (English)
- HPV Vaccine Overview by Maryland MDH
- HPV Vaccine FAQ
- HPV - Just the Facts
- HPV Vaccine Information for Young Women
- For Parents: Vaccines for Your Child
- Why Are Childhood Vaccines So Important?
- Middle School Health Starts Here
- HPV Vaccine Safety

#### For Health Professionals:

- The HPV Vaccine: Access and Use in the U.S.
- HPV Resources for Health Professionals
- Adolescent Vaccination Messaging for Practice Hold Lines
- Steps to Increasing HPV Vaccination in Practice: An Action Guide to Implement Evidence-based Strategies for Clinicians
- HPV Vaccine Report Card
- PSAs, Videos, and Podcasts
- Matte Articles to Promote Preteen and Teen Vaccination
- Template Letter - Targeting General Providers
- Tips & Time-Savers for Talking with Parents about HPV Vaccine
- Print Materials (English and Spanish)
- Fact Sheet for Parents (English)
- Fact Sheet for Parents (Spanish)

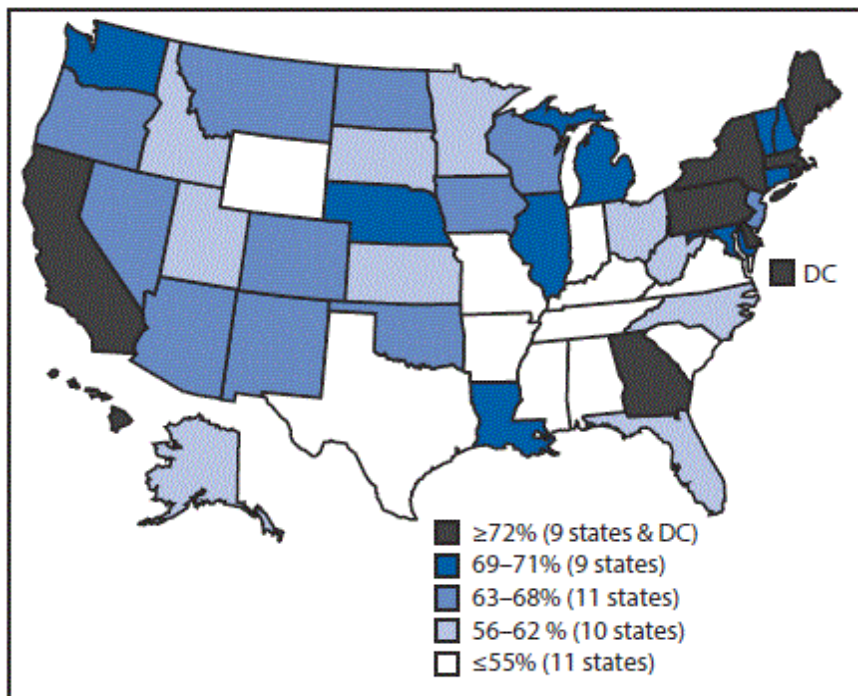
# HPV Task Force Activities Aligned with Promising Strategies

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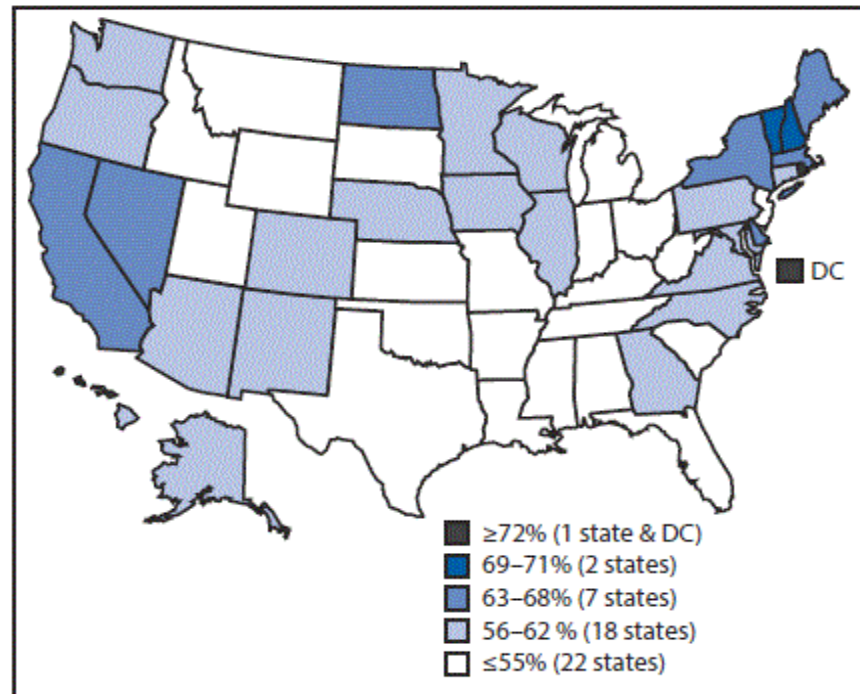
Promising Strategy	Maryland Efforts- Previous/Ongoing
Comprehensive public communication campaigns	CCPC funded radio/TV PSA campaigns statewide targeting parents with an estimated 12,300,000 impressions



# $\geq 1$ dose HPV coverage, United States, 2016



Females 13-17 years



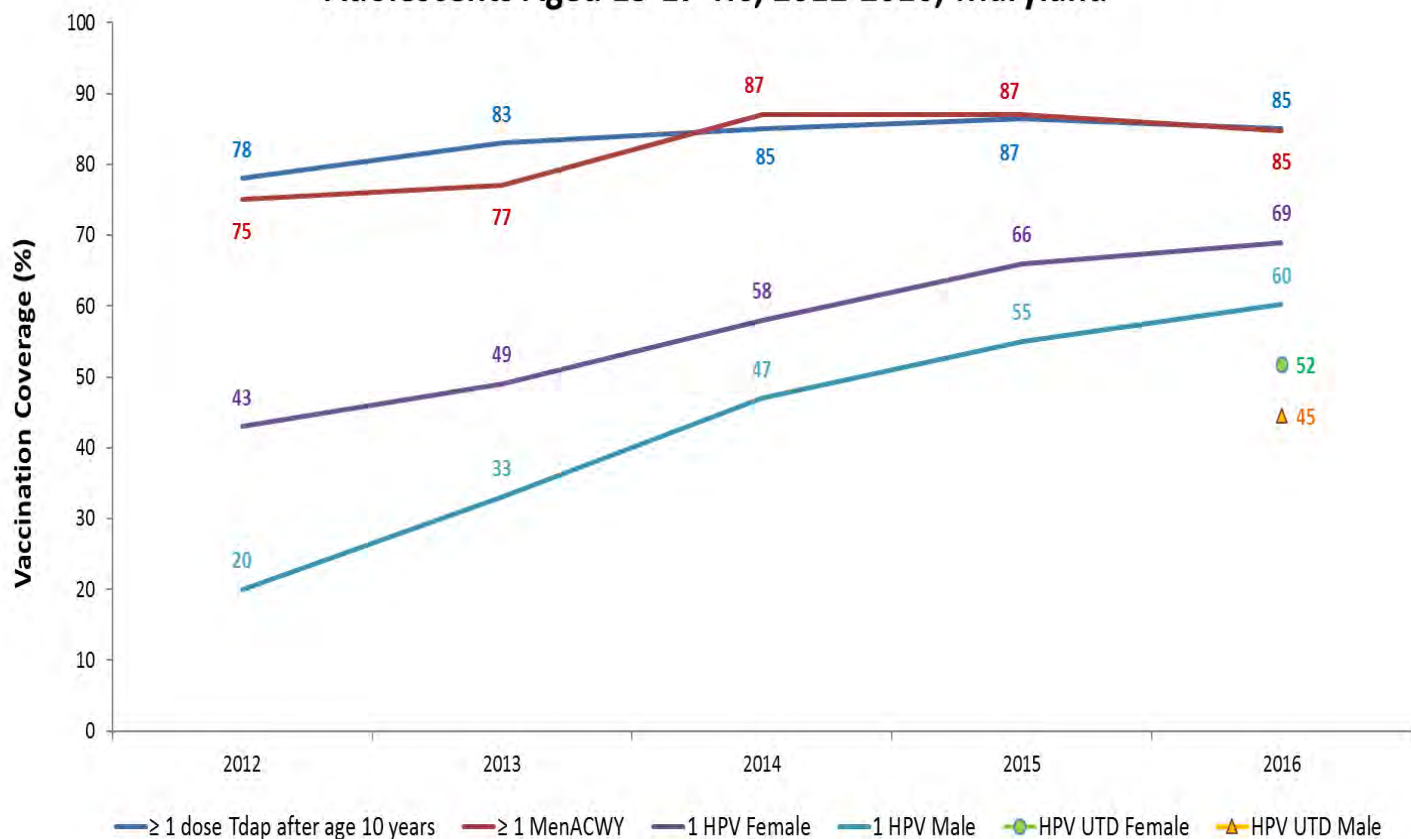
Males 13-17 years

Source: National Immunization Survey



# Adolescent Vaccination – Maryland, 2012-2016

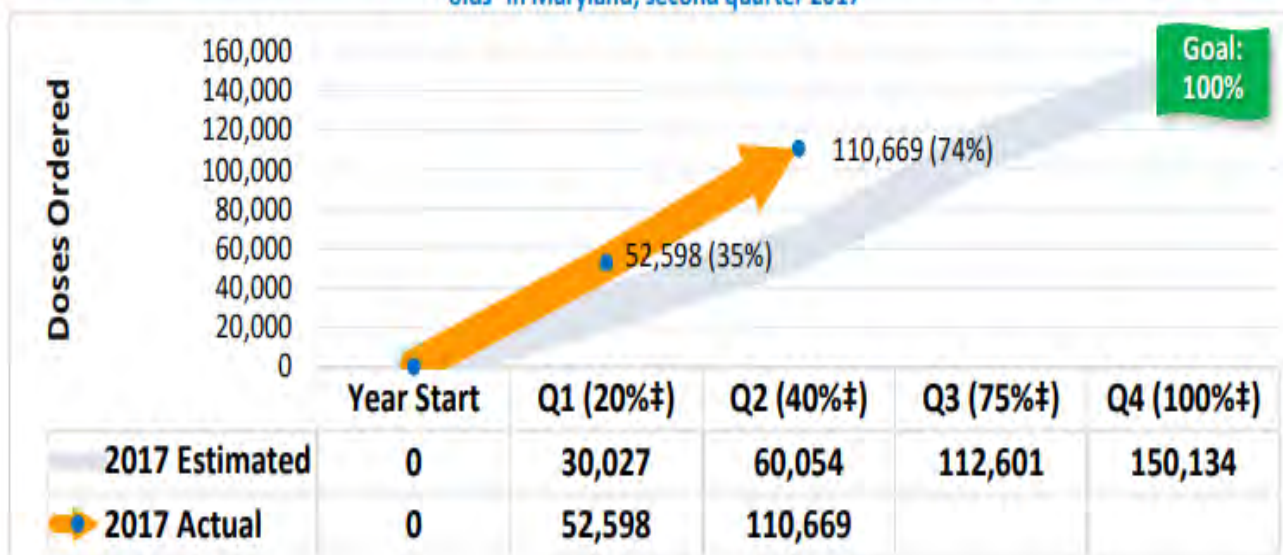
Estimated Vaccination Coverage With Selected Vaccines Among  
Adolescents Aged 13-17 Yrs, 2012-2016, Maryland



Source: National Immunization Survey

# HPV doses ordered, Maryland, 2017

Year-to-date total of HPV vaccine doses ordered\* in Maryland, compared with doses needed to fully vaccinate 11-year-olds† in Maryland, second quarter 2017



Based on an estimated 75,067\* 11-year-olds in Maryland, your jurisdiction ordered **74%** of the estimated total annual doses of HPV vaccine needed to vaccinate all 11-year-olds. If all the ordered doses are used for 11-year-olds, Maryland is on track for ordering a sufficient amount of vaccine for that age group in 2017 and should have extra doses for catch-up vaccination of older adolescents and young adults.

\*These data represent an estimate of all HPV vaccine doses distributed in Maryland. The 9-valent HPV vaccine is currently the only HPV vaccine available in the United States.

†The 11-year-old population estimate was obtained from the U.S. Census:

[https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP\\_2015\\_PEPSYASEX&prodType=table](https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2015_PEPSYASEX&prodType=table).

‡Estimated percentages of vaccine orders are based on the 11-year-old population estimate and national HPV vaccine ordering patterns over the last several years.

# Thank you

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**Questions?**