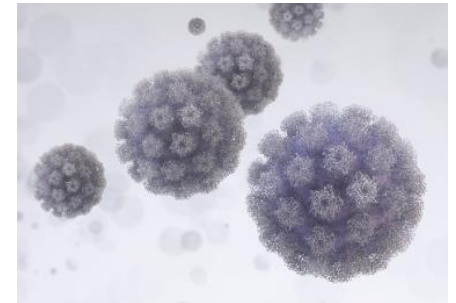


# HPV Vaccination Coverage – Continuing the Path Forward

**Shannon Stokley, DrPH, MPH**  
**Associate Director for Science**  
**Immunization Services Division**

Oregon HPV Summit  
June 11, 2019



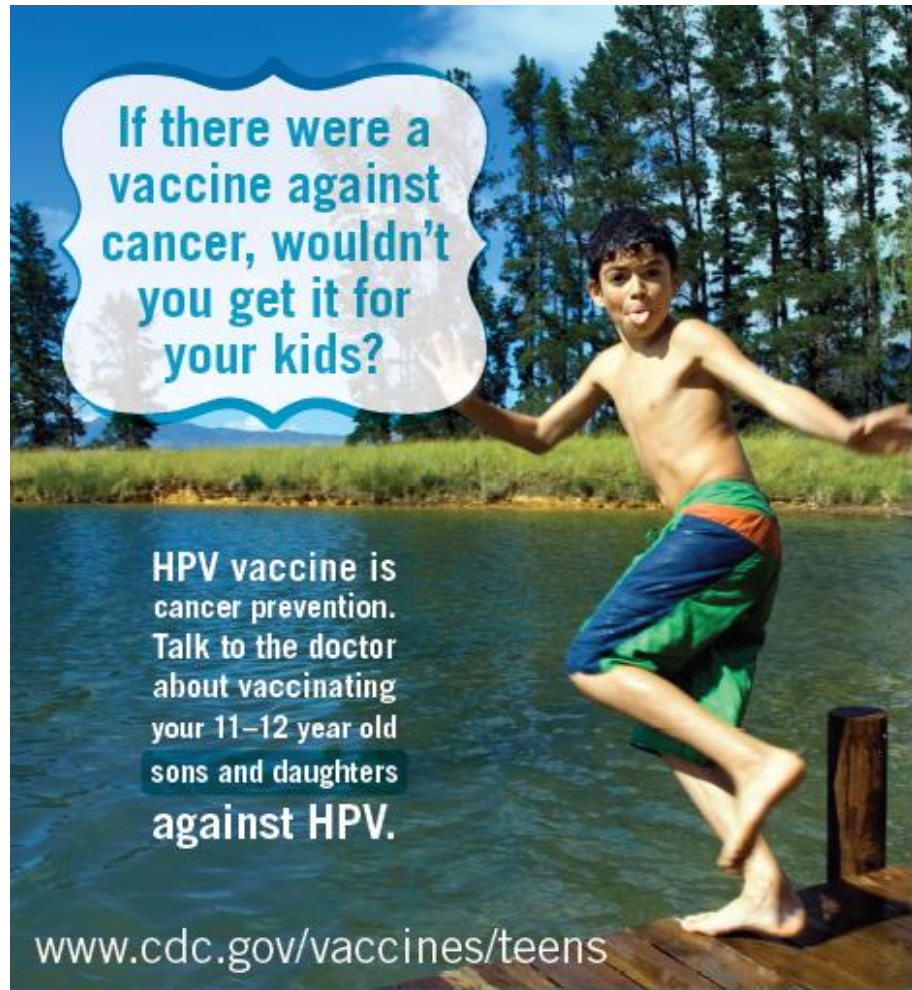
# Disclosures

- I work for the Centers for Disease Control and Prevention
- I have no financial interests to disclose.
- I will not be presenting on investigational products.
- I will not be presenting on the off label use of products.



**YOU WOULD DO ANYTHING TO PROTECT YOUR CHILD FROM CANCER. BUT HAVE YOU DONE EVERYTHING?**

HPV vaccine is cancer prevention for boys and girls. Just two shots at ages 11–12 provide safe and lasting protection against the infections that cause HPV cancer. Ask your child's doctor or nurse for HPV vaccine.



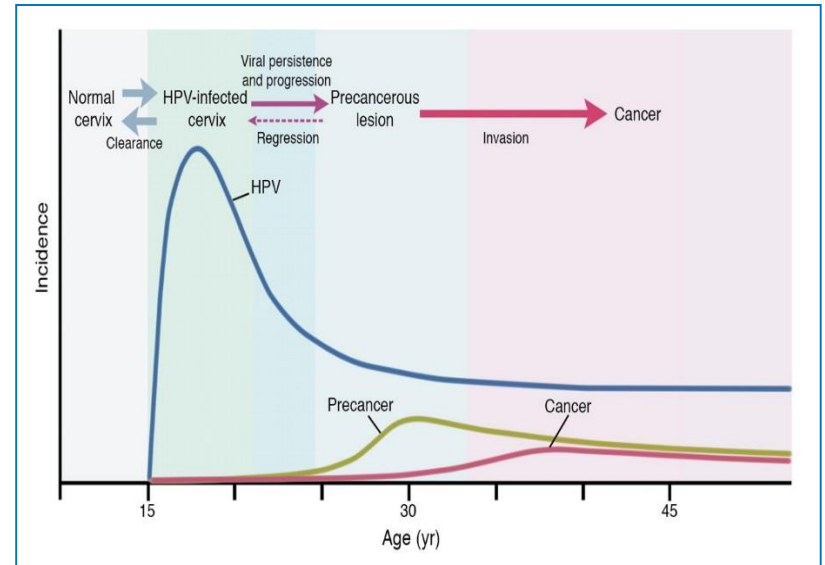
**If there were a vaccine against cancer, wouldn't you get it for your kids?**

**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)

# HPV epidemiology and natural history

- Most common sexually transmitted infection
- Most infections clear
  - ~90% of new infections clear in 2 years
- Persistent infection with a high risk HPV type can progress to cancer
  - Cervical, vaginal, vulvar, anal, penile, oropharyngeal
- Other HPV types cause
  - Genital warts, recurrent respiratory papillomatosis (RRP)

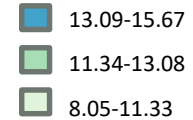
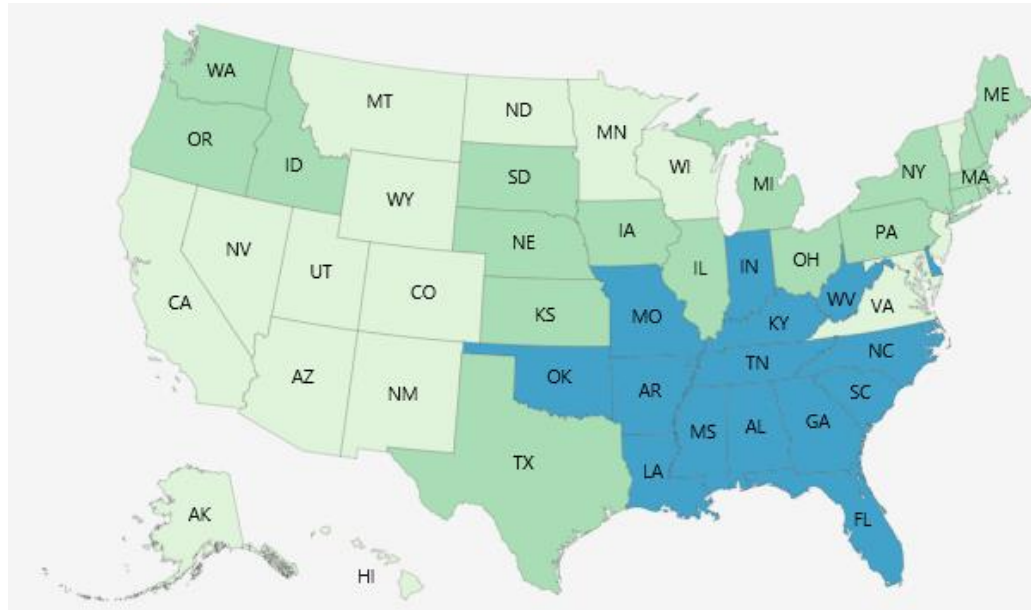


Schiffman NEJM 2005

# HPV-Associated Cancer Rates by State, United States, 2011-2015

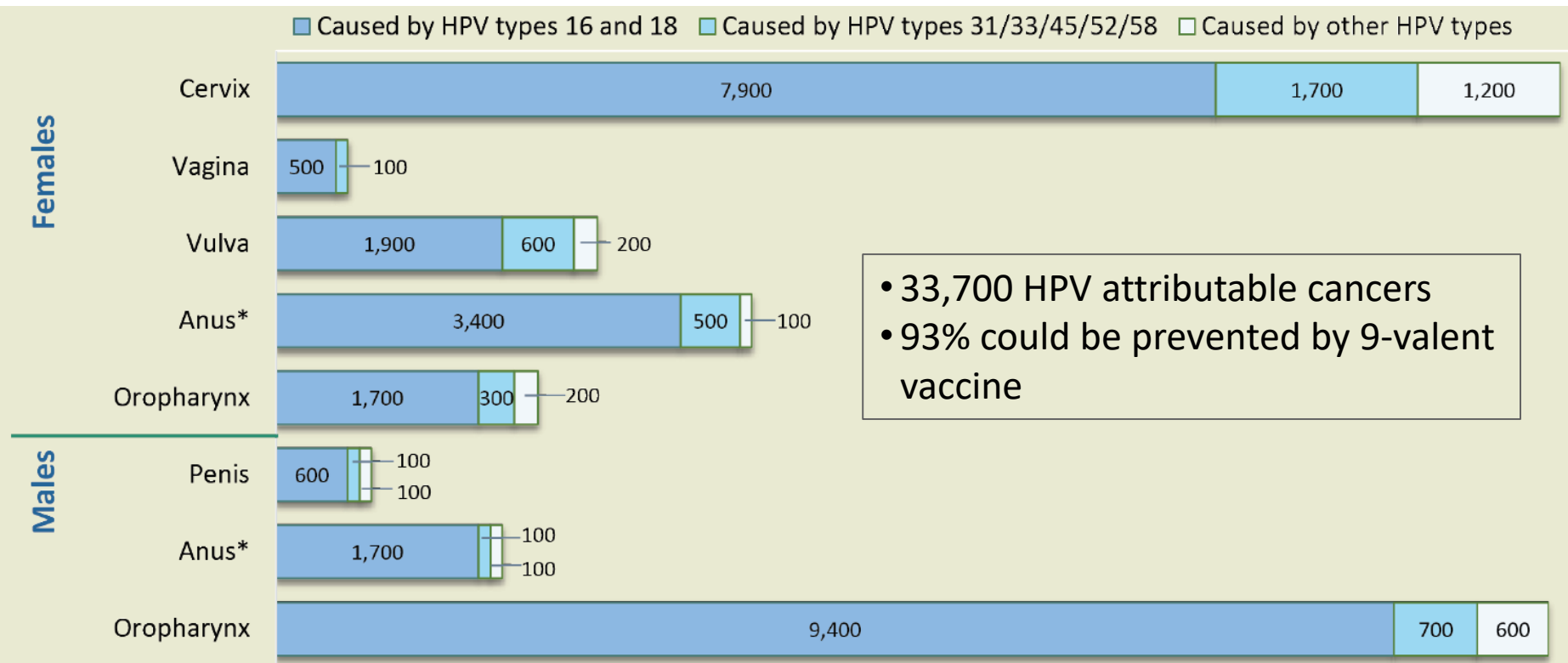
US Rate:  
12.0 per 100,000

OR Rate:  
12.06 per 100,000



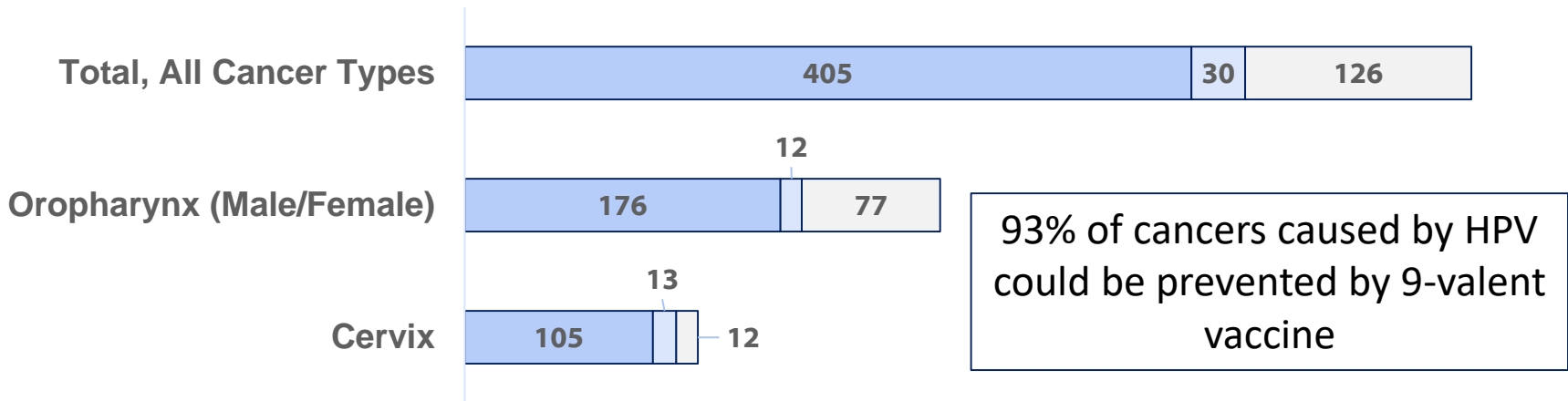
Rates per 100,000 population  
<https://www.cdc.gov/cancer/hpv/statistics/state/>

# Estimated Number of Cancer Cases Attributable to HPV by Sex, Cancer Type, and HPV Type, United States, 2011-2015

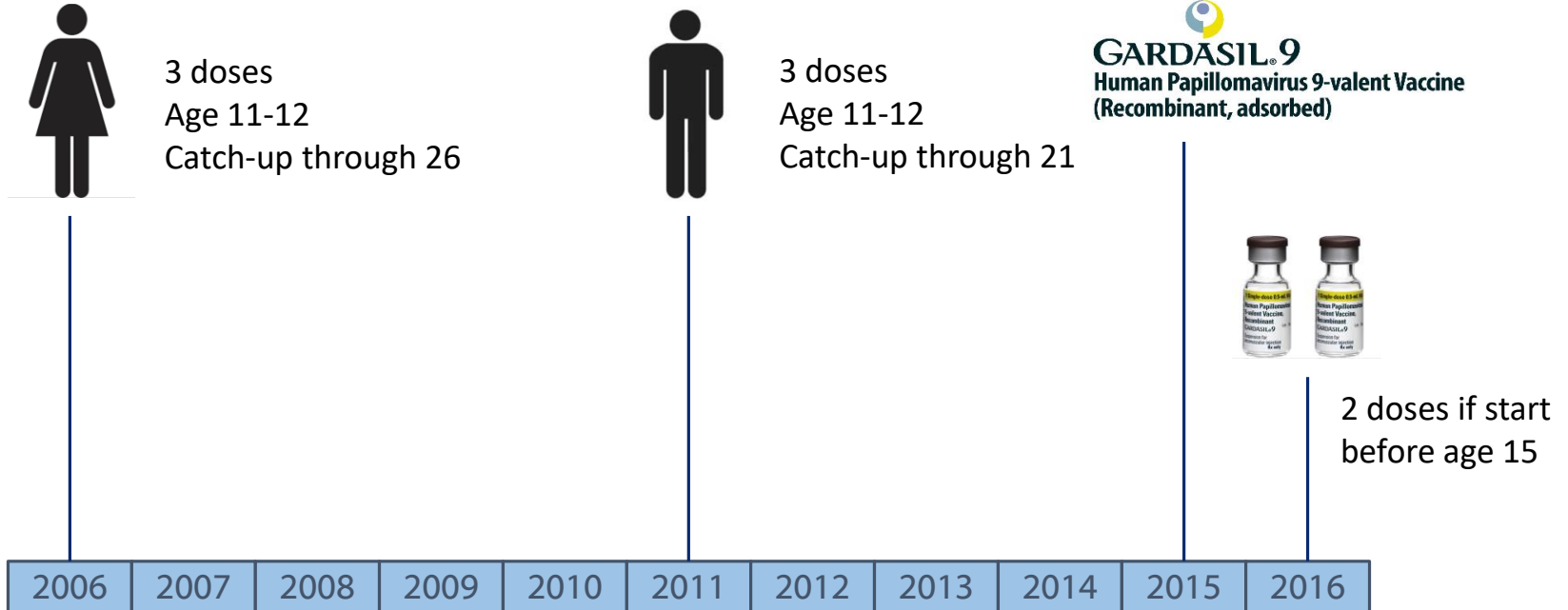


# Estimated number of HPV-associated cancers by cancer type and HPV type, Oregon, 2011-2015

■ Cancers caused by HPV types 16/18/31/33/45/52/58 ■ Cancers caused by other HPV types ■ HPV-negative cancers



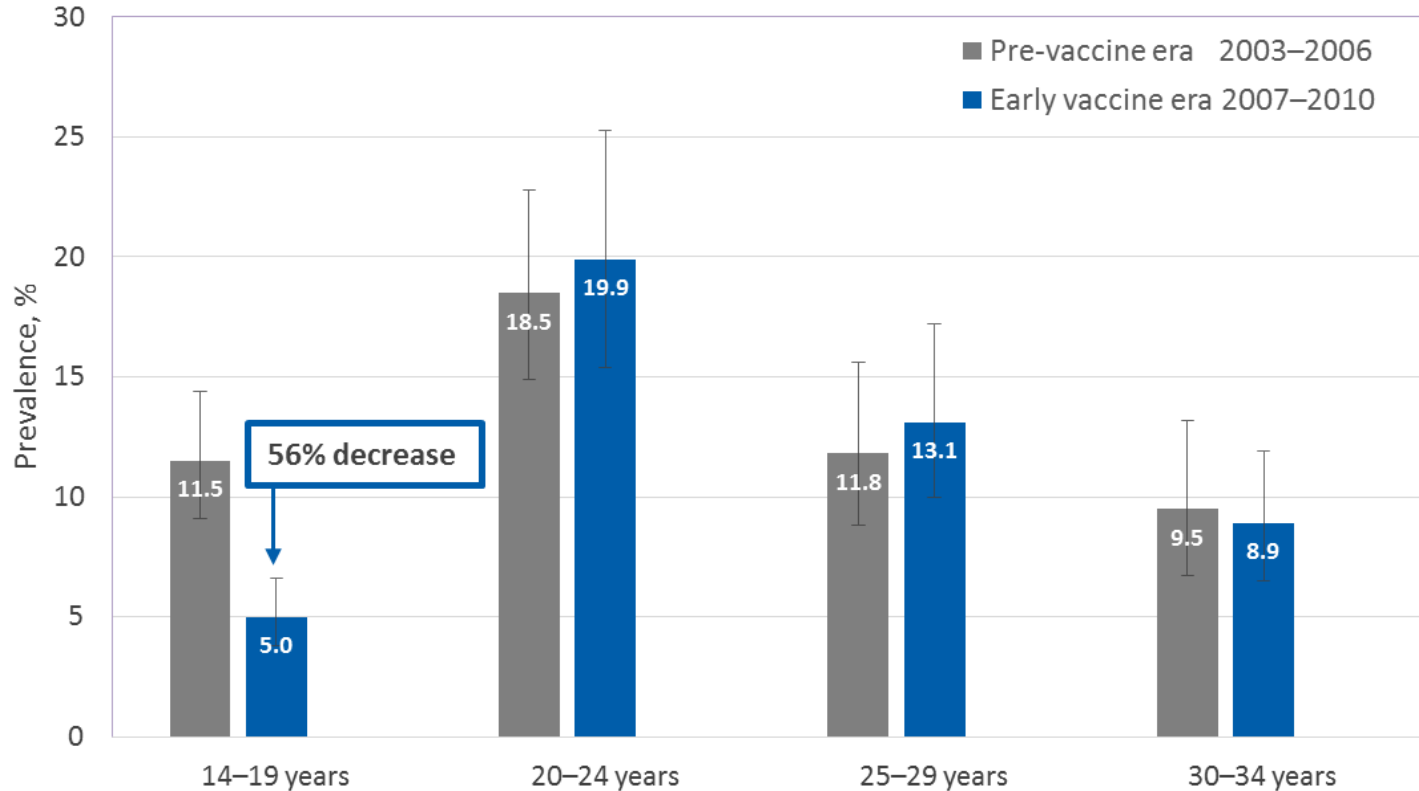
# HPV vaccine recommendations





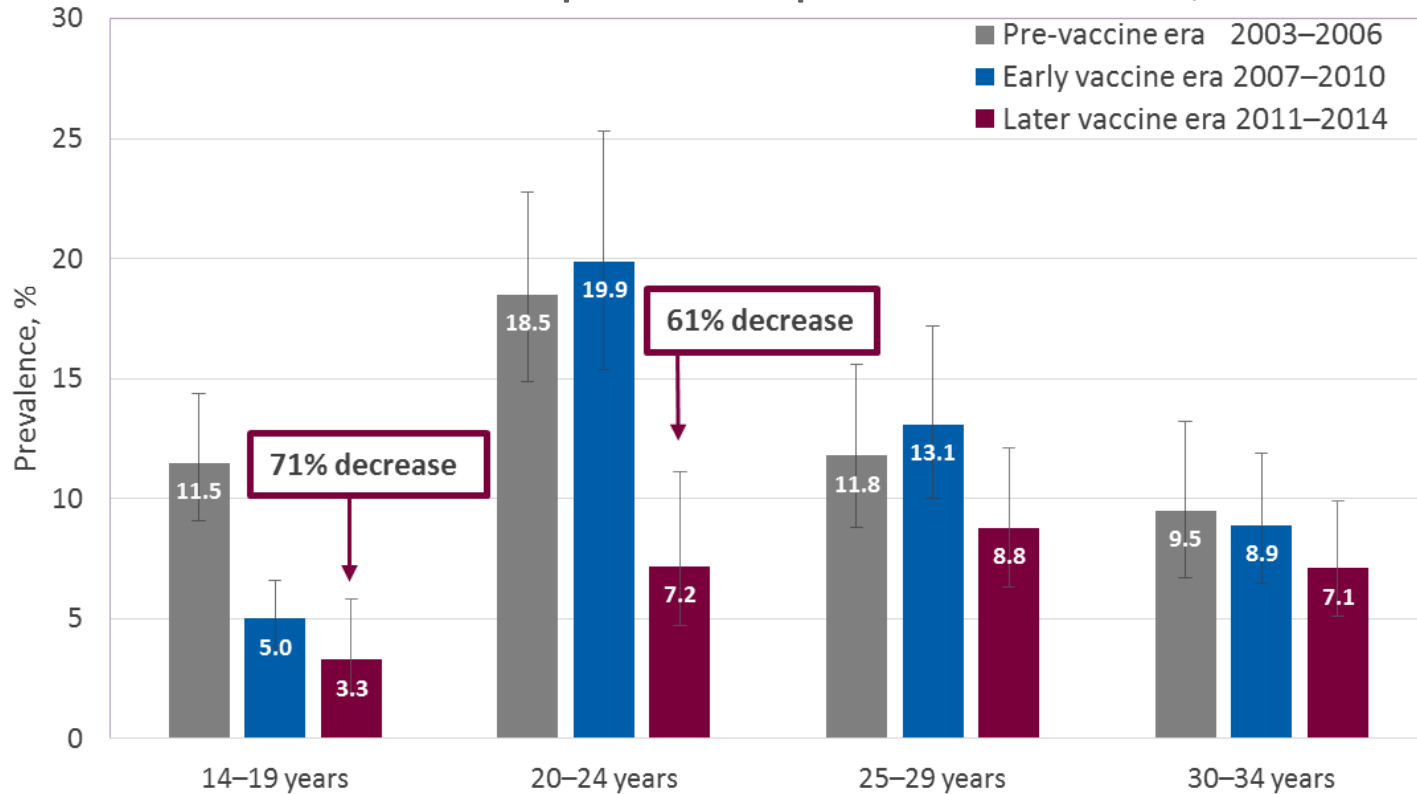
# Vaccine type prevalence (HPV 6,11,16,18), NHANES

Early vaccine era compared to pre-vaccine era, females

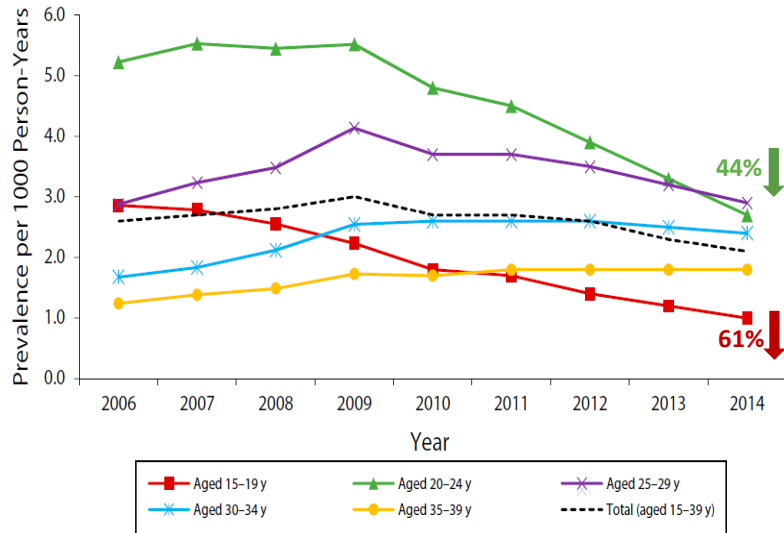


# Vaccine type prevalence (HPV 6,11,16,18), NHANES

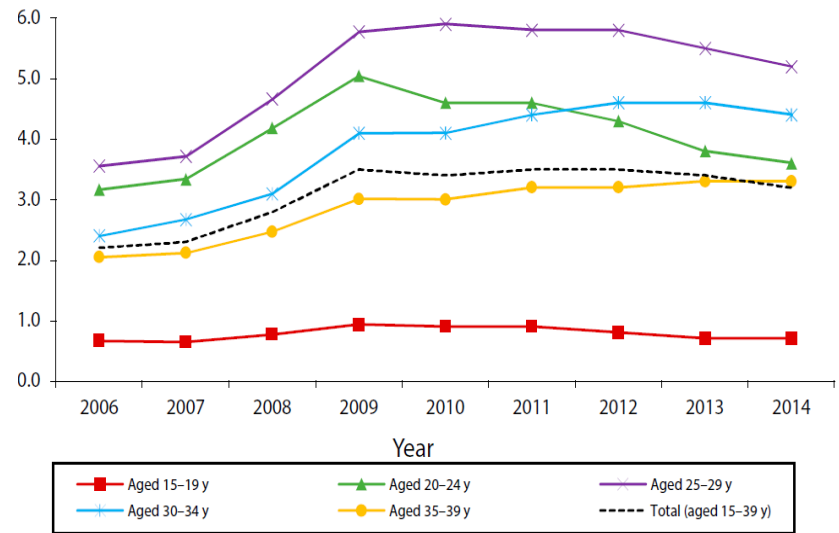
Later vaccine era compared to pre-vaccine era, females



# Anogenital Wart Prevalence among 15–39 Year-Olds with Private Insurance, United States, 2006–2014



Females



Males

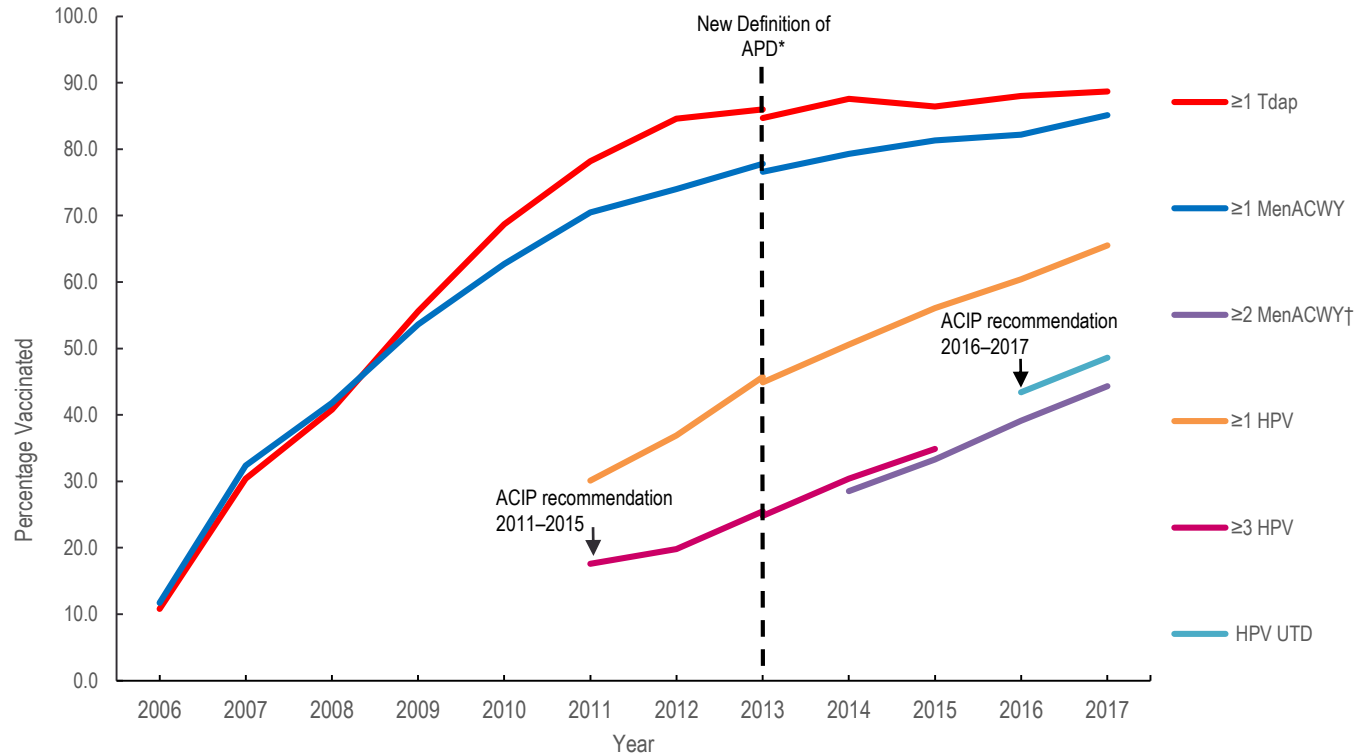


**HPV vaccine is cancer prevention.**

Talk to the doctor  
about vaccinating  
your 11–12 year old  
**sons and daughters**  
against HPV.

#UCanStopHPV

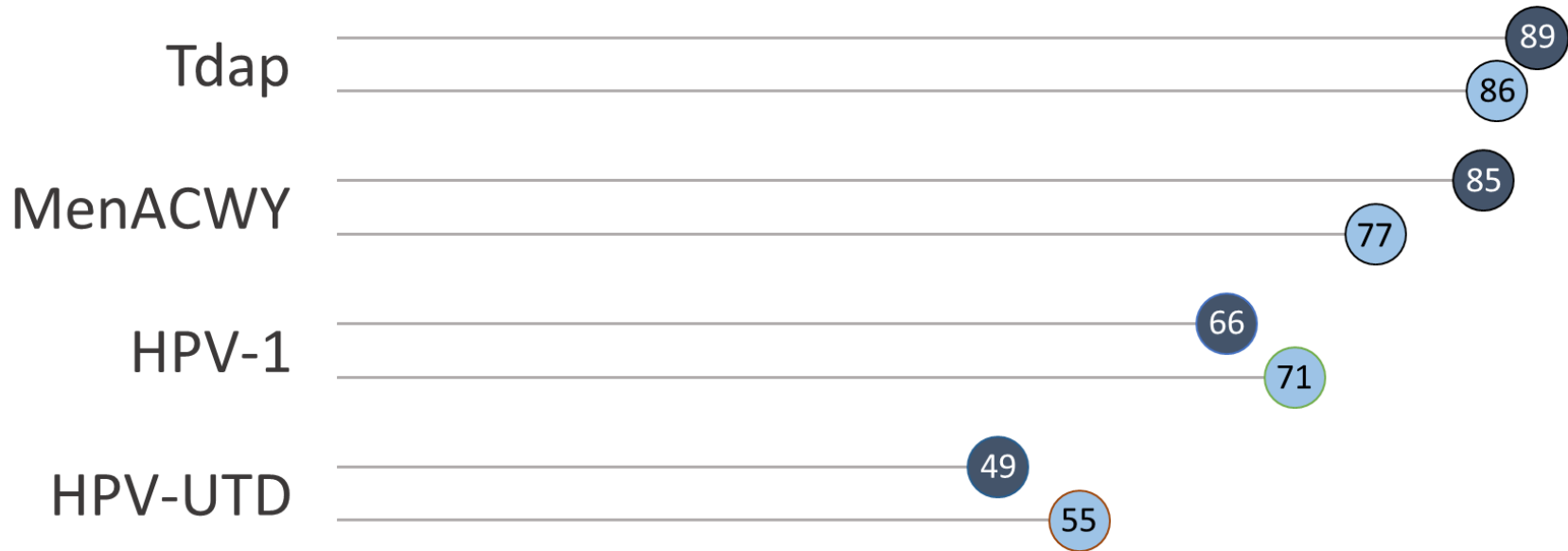
# Estimated Vaccination Coverage among Adolescents Aged 13–17 Years, NIS-Teen, United States, 2006–2017



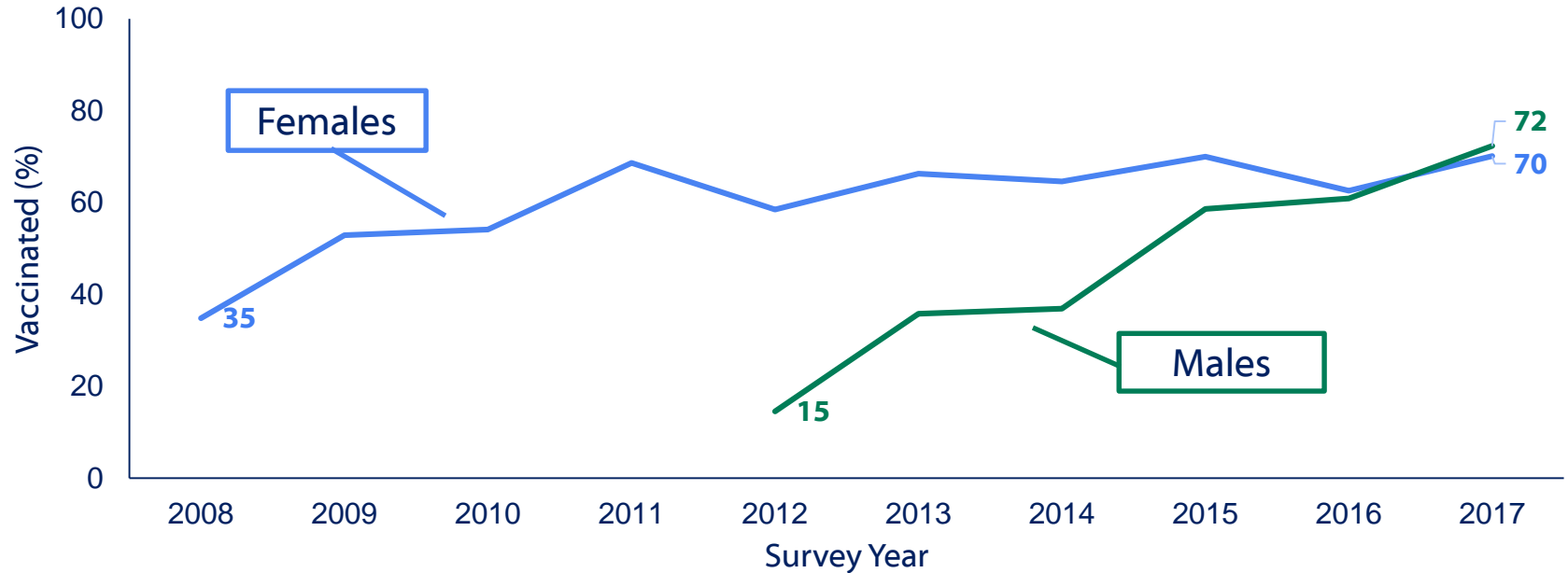
\*APD = Adequate provider data

†≥2 doses MenACWY among adolescents aged 17 years

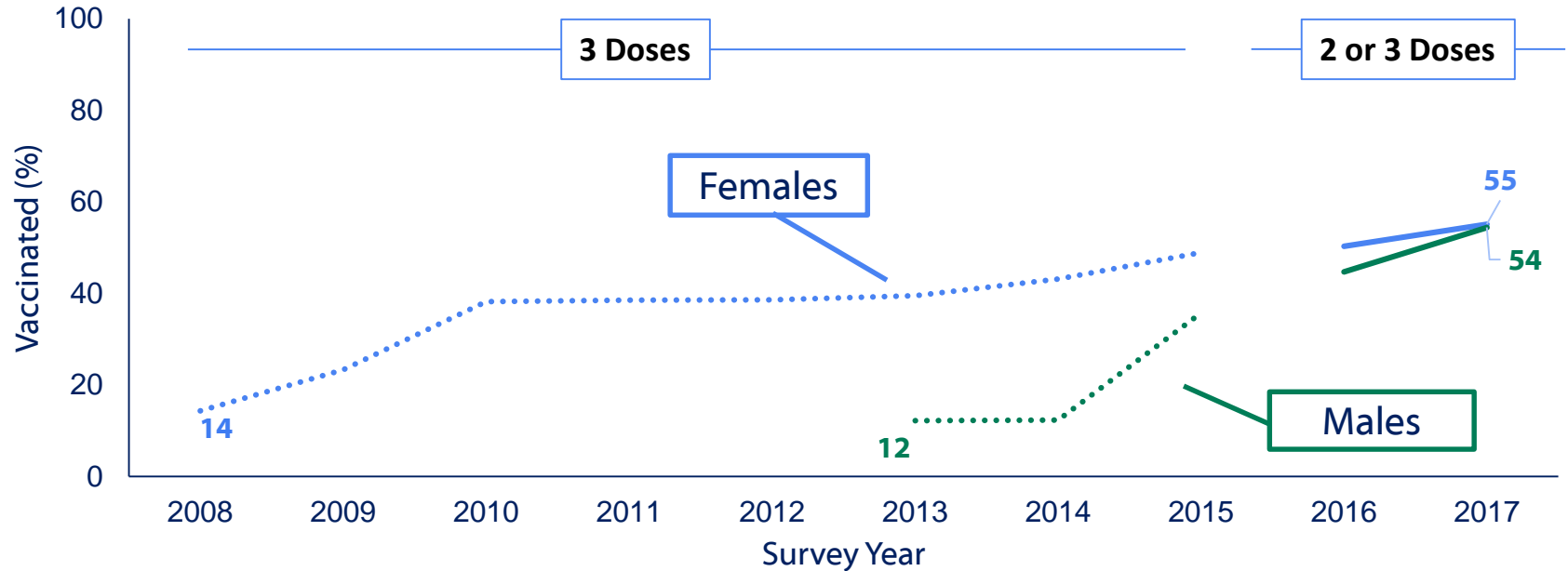
# Adolescent vaccination coverage: US and Oregon



## Estimated $\geq 1$ dose HPV vaccination coverage among adolescents 13-17 years of age by sex, Oregon 2008-2017

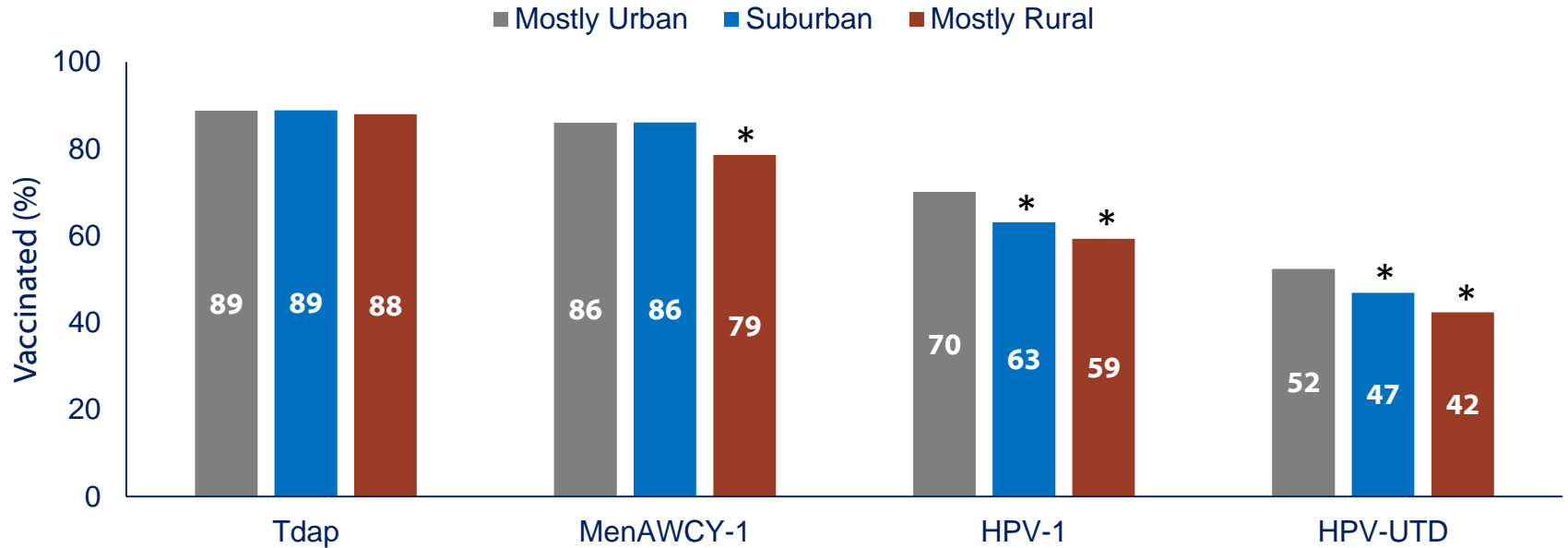


# Estimated HPV vaccine series completion coverage among adolescents 13-17 years of age by sex, Oregon 2008-2017

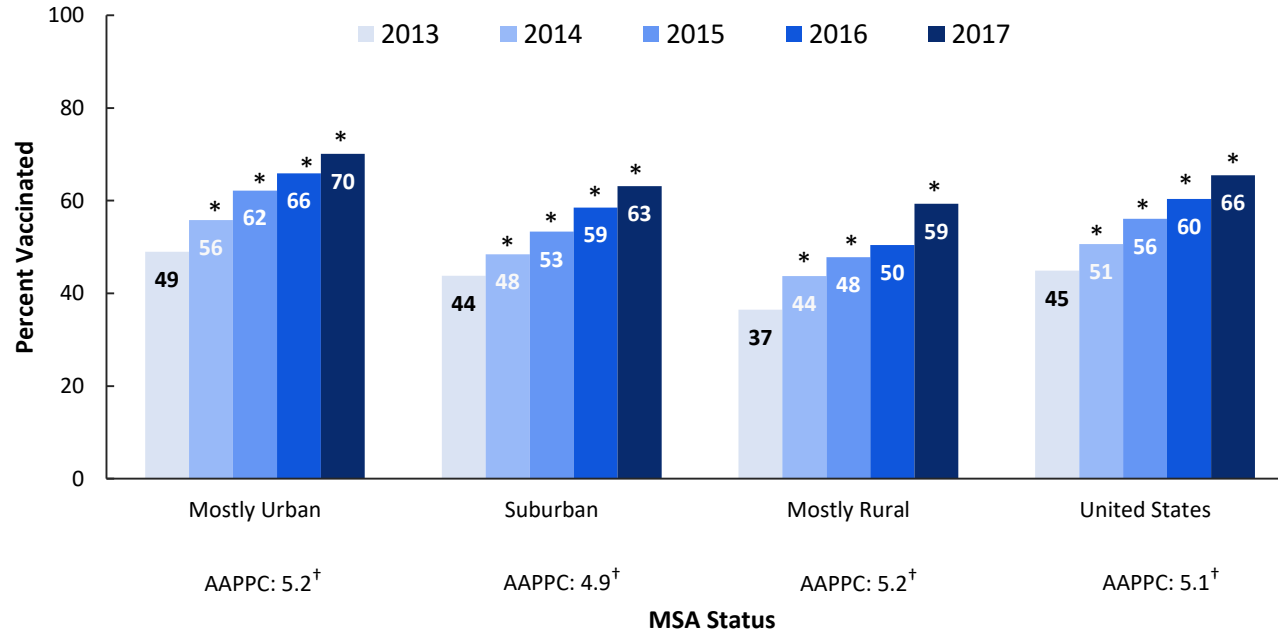




## In the US, vaccination coverage is lower in **Rural Areas**



## Vaccination coverage for $\geq 1$ HPV dose increased an average of 5 percentage points each year

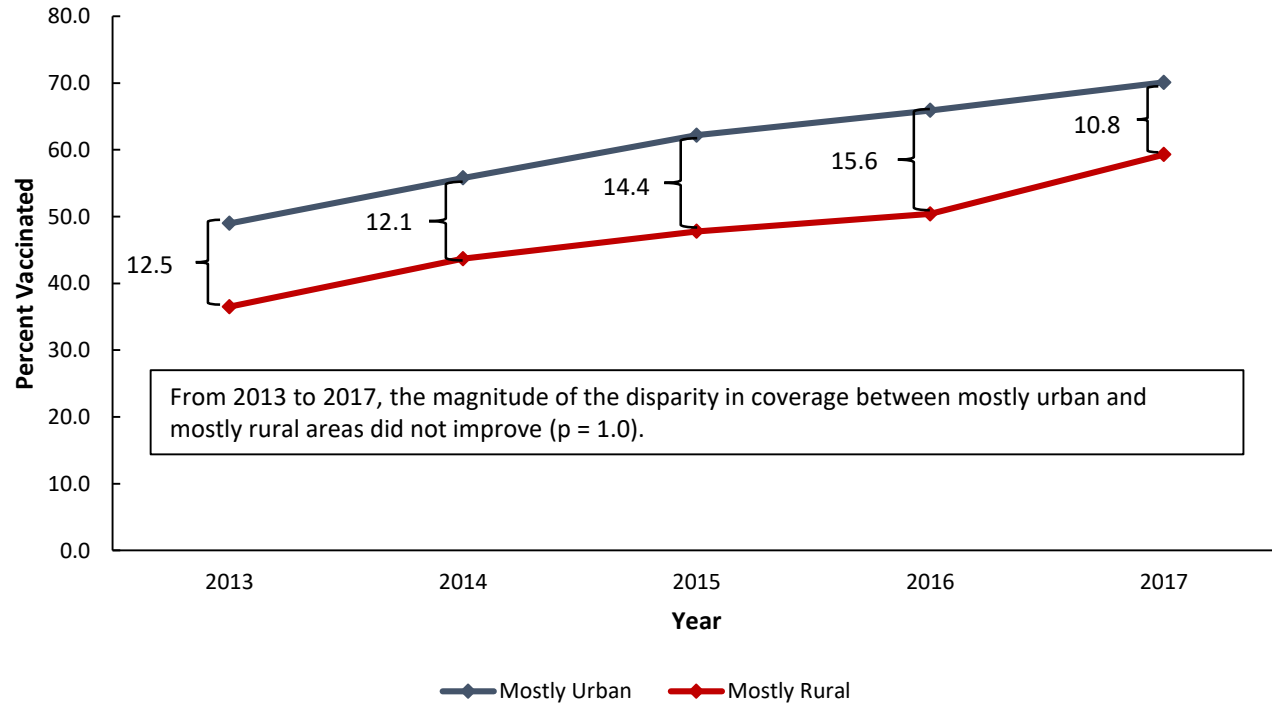


AAPPCC = Average Annual Percentage Point Change

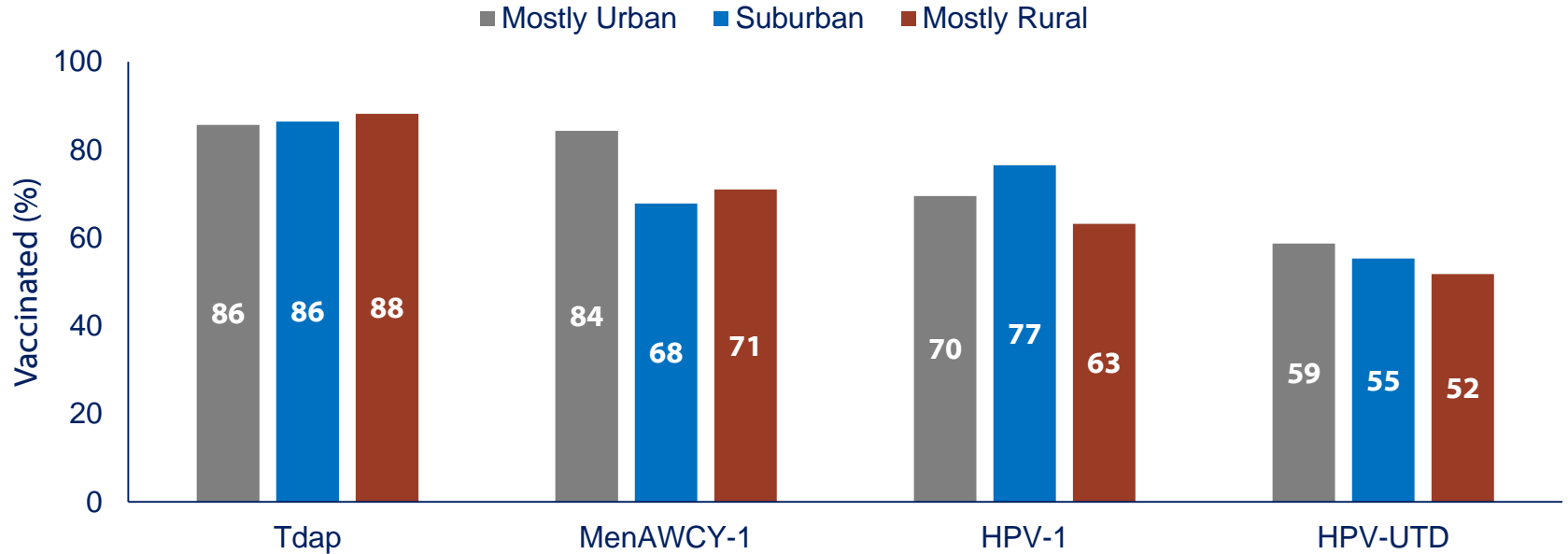
\*Statistically significant ( $p < 0.05$ ) percentage increase compared to the previous year.

<sup>†</sup>Statistically significant ( $p < 0.05$ ) estimated average annual percentage point increase.

## HPV vaccination coverage in **Rural Areas** is consistently lower



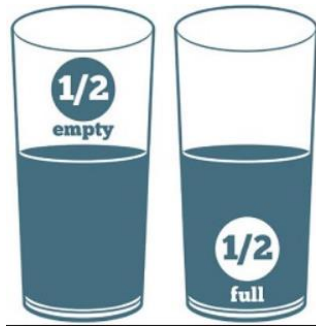
## Vaccination coverage in **Rural Areas** in Oregon are also lower



# Glass Half Full or Half Empty?

## Glass Half Full

- HPV vaccination coverage is increasing
- Difference in coverage between boys and girls is decreasing



## Glass Half Empty

- HPV vaccine series initiation is lower than expected
- Once started, many adolescents do not complete the HPV vaccine series

# Why Is HPV Vaccine Coverage Low?

## Parents

- Not offered vaccination
- Perceive vaccine as optional or unnecessary at that time
- Perceive that their providers discouraged vaccination
- Want information about vaccine safety
- Do not understand the reason to vaccinate at 11 to 12 years of age

## Providers

- Reluctant to give multiple shots at one visit
- Introduce HPV vaccination at age 11 years but do not recommend it strongly
- Recommend vaccination based on their estimation of sexual activity
- Have limited experience with HPV and underestimate risk
- Perceive HPV as more emotionally charged than other vaccines
- Delaying vaccination leads to nonvaccination

## Reasons for Not Vaccinating Adolescents with HPV Vaccine, Unvaccinated Adolescents\* Aged 13-17 Years, NIS-Teen, United States, 2017

Parents of Girls		Parents of Boys	
Safety concerns/side effects	24%	Safety concerns/side effects	17%
Not needed/not necessary	14%	Not recommended	15%
Not recommended	8%	Not needed/not necessary	14%
Lack of knowledge	8%	Lack of knowledge	9%
Not sexually active	7%	Not sexually active	8%



*create*

a culture of immunization  
in your office



**HPV VACCINE**  
IS CANCER PREVENTION



*recommend*

HPV vaccine the same way, same day  
as other adolescent vaccines



**HPV VACCINE**  
IS CANCER PREVENTION



## What can healthcare providers do?

- **Make an effective recommendation for HPV vaccination as cancer prevention for every 11- or 12-year-old patient**

“

Now that Sophia is 11, she is due for vaccinations today to help protect her from meningitis, HPV cancers, and pertussis.

”

# Announcement approach leads to a higher increase in HPV vaccination coverage

6 Month since intervention start

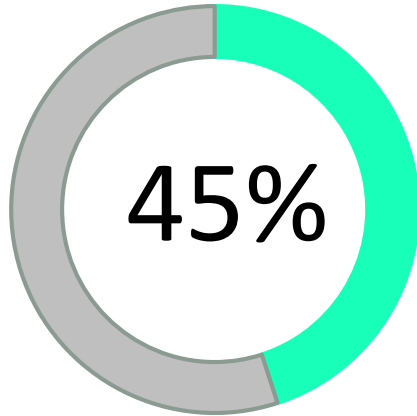


3 Month since intervention start

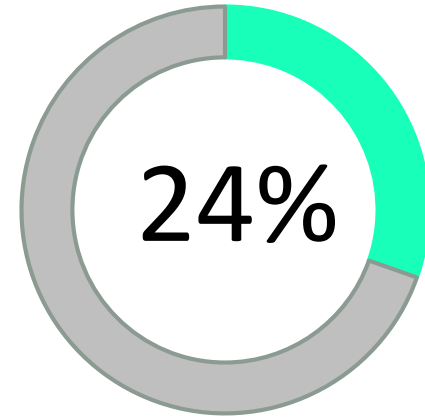


# If at first you don't succeed...Don't give up!

Among parents who initially declined HPV vaccination:

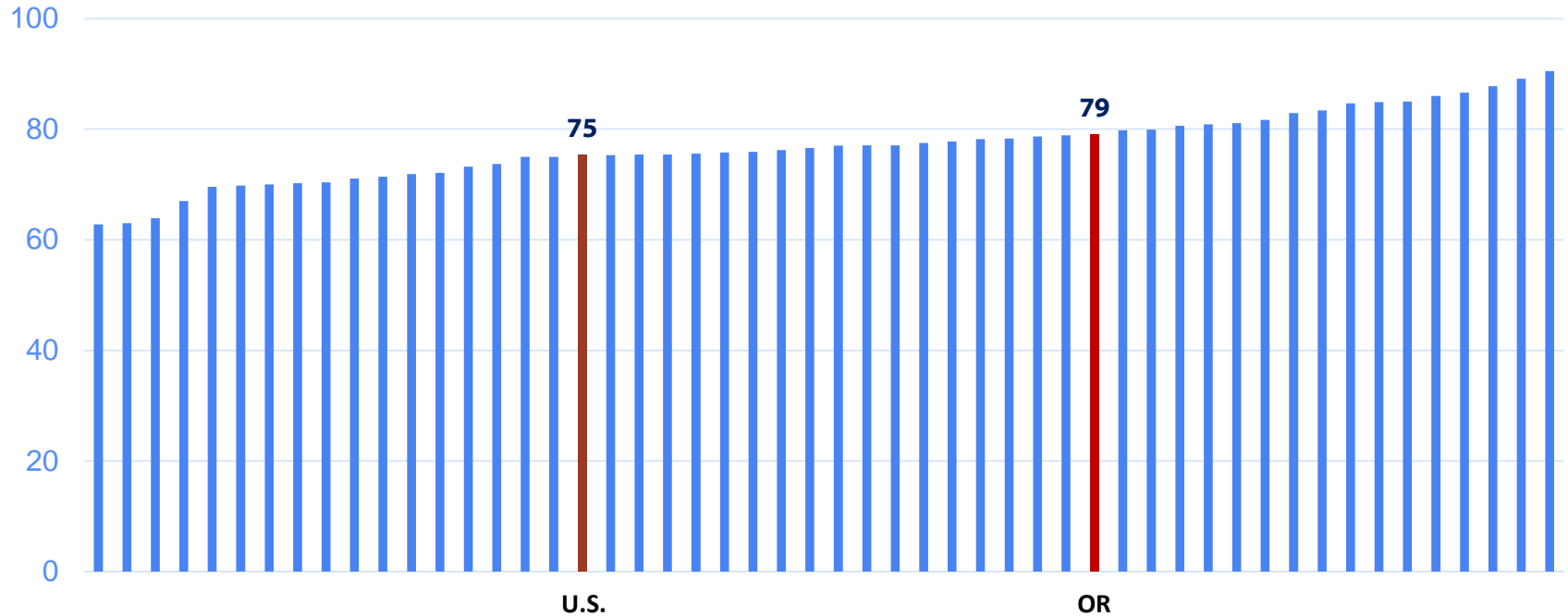


Reported accepting  
the vaccine at a later  
visit



Intended to accept  
HPV vaccination in  
the next year

# Percent of parents reporting their provider recommended HPV vaccine for their teen, 2017 NIS-Teen



# Peer-to-Peer Educational Videos

## Modeling Effective Communication Practices

- **#HowIRecommend** series features short videos of practicing clinicians addressing how they make effective recommendations and address common questions.
- Videos feature practicing pediatricians, family physicians, and nurse practitioners.

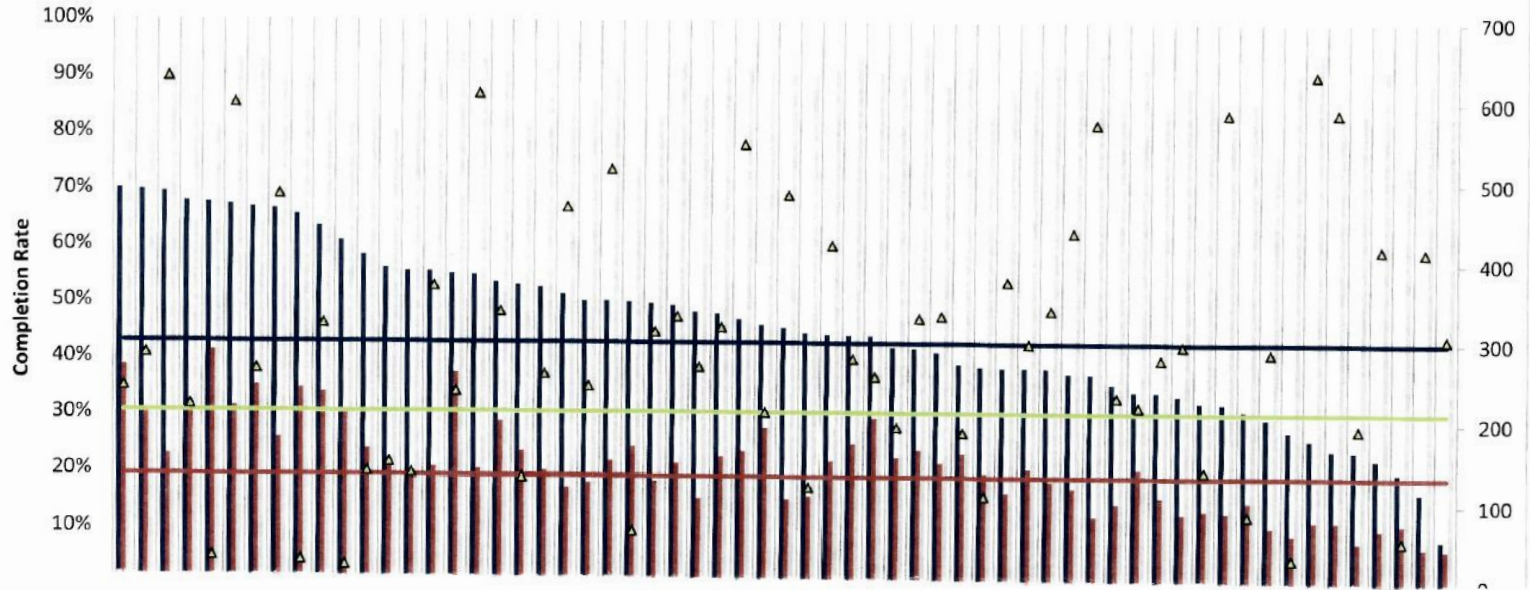


## What can healthcare providers do?

- Make an effective recommendation for HPV vaccination as cancer prevention for every 11- or 12-year-old patient
- **Assess HPV vaccination coverage for each provider in your practice and develop an office-wide strategy to improve it**

# Vaccination Series Started and Completed Rates By Provider

Active Pediatric Providers, Patients Ages 13 - 17





## What can healthcare providers do?

- Make an effective recommendation for HPV vaccination as cancer prevention for every 11- or 12-year-old patient
- Assess HPV vaccination coverage for each provider in your practice and develop an office-wide strategy to improve it
- **Engage the entire practice—not just the health care providers—in committing to improve HPV vaccination coverage**

# Keeping All Staff On the Same Page

- Align communication with mission
  - Give staff a cancer-prevention mission
  - All staff need to be saying the same thing
  - Share talking points
  - Use the Tip Sheet
  - Educate staff about HPV vaccine recommendations including schedule, administration, storage and handling

[www.cdc.gov/hpv/hcp/for-hcp-tipsheet-hpv.pdf](http://www.cdc.gov/hpv/hcp/for-hcp-tipsheet-hpv.pdf)

### 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.

**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 continue to prove 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?**  
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.

**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.

**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.

**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.

**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.

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

**HPV VACCINE**  
IS CANCER PREVENTION

# Keeping All Staff On the Same Page

- Multiple education products available free through the CDC website:
  - Immunization courses (webcasts and online self-study)
  - Netconferences
  - You Call the Shots self-study modules
  - Continuing education available

Immunization Education & Training

Education and Training Home

You Call The Shots

Current Issues in Immunization NetConferences (CIINC)

Immunization Courses +

Continuing Education

Pink Book Webinars

Patient Education

Quality Improvement Projects

Related Link

Vaccines & Immunizations

VIS

ACIP Recommendations

Schedules

<< Back to Vaccines Home

Running Time: 5:07 mins  
Date Released: 06/27/2011 / CDC Commentary - Make No Mistake: Vaccine Administration, Storage, and Handling 01  
Dr. Andrew Krueger offers 7 steps to help prevent vaccine administration errors and vaccine storage and handling errors.

YOU CALL THE SHOTS  
Series of modules that explain the latest recommendations for vaccine use that include self-test practice questions

CURRENT ISSUES IN IMMUNIZATION NETCONFERENCE (CIINC)  
Live, 1-hour presentations via conference call including question and answer session

IMMUNIZATION COURSES  
Webcasts, and self-study education and training programs for healthcare personnel

PATIENT EDUCATION  
Educational materials that complement personal education and advice for patients

# What can healthcare providers do?

- Make an effective recommendation for HPV vaccination as cancer prevention for every 11- or 12-year-old patient
- Assess HPV vaccination coverage for each provider in your practice and develop an office-wide strategy to improve it
- Engage the entire practice—not just the health care providers—in committing to improve HPV vaccination coverage
- **Implement systems strategies to improve HPV vaccine coverage**

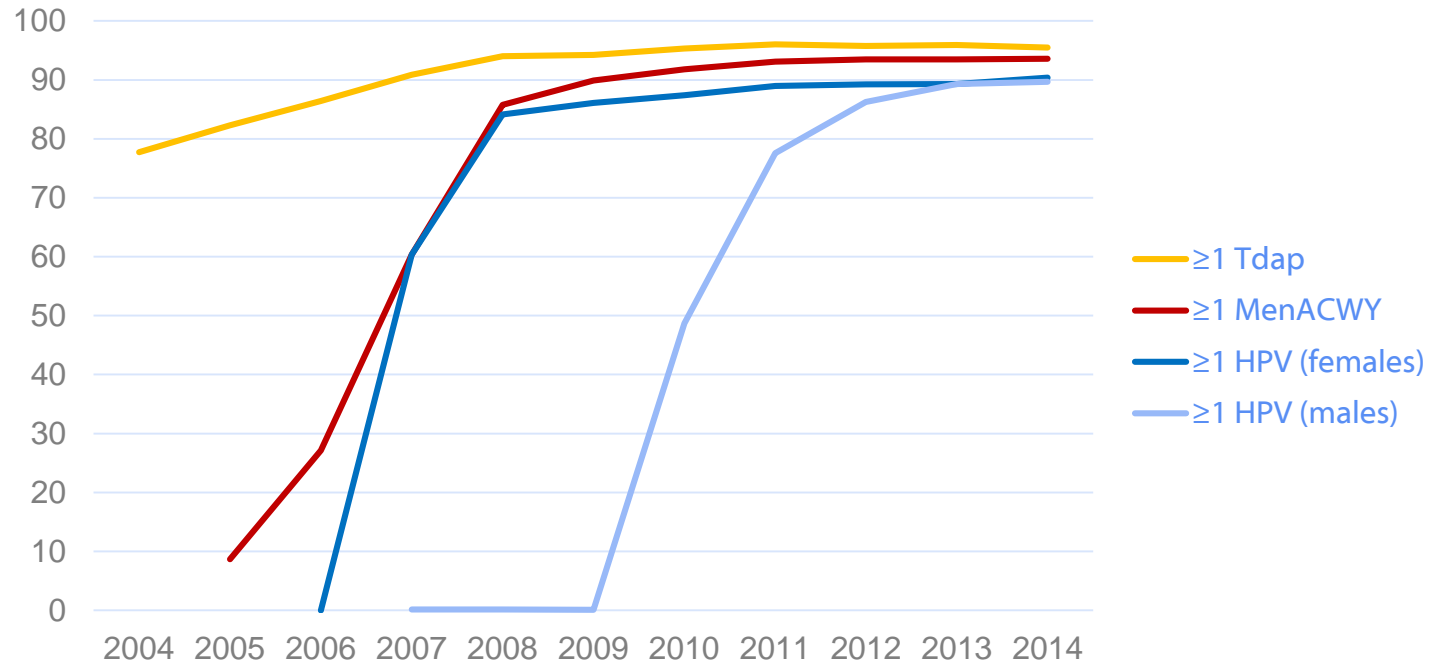
# Systems Strategies

- Establish standing orders for HPV vaccination beginning at age 11–12 years in your practice
- Conduct reminder/recall beginning at 11–12 years of age
- Assess HPV vaccination coverage at every visit and prompt clinical staff to give HPV vaccine at that visit
- Schedule return visit for next dose before the patient leaves the office
- Document each dose in the child's medical record and the state's immunization information system

# Tactics for Successful HPV Vaccine Delivery, Denver Health

- Routine use of a robust immunization registry for multiple functions, including recording vaccine history and recommended needed vaccines at every visit
- Medical assistants check vaccine registry for recommended vaccines at every visit
- Standing order for routine immunizations
- Vaccines are given early in the visit when possible
- Education for providers to present Tdap, MCV, and HPV as a standard “bundle” of adolescent immunizations
- Provider-level “report cards” with adolescent vaccination coverage rates
- Vaccination drives at school-based health centers

# Immunization Rates for Adolescents Denver Health, 2004-2014



Modified from Farmar et al, Pediatrics 2016



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# HPV VACCINATION FOR CANCER PREVENTION: Progress, Opportunities, and a Renewed Call to Action

A Report to the President of the  
United States from the Chair of the  
President's Cancer Panel

November 2018

Stakeholder resources: key report findings and graphics





## Partnerships and Collaborations are Essential

---

The coalescence of a critical mass of dedicated stakeholders has created momentum and opportunity to achieve the goals outlined in this report.

**Stakeholder collaborations and partnerships should continue in implementing proven strategies to increase vaccination rates among all populations to target levels.**

# CDC Supports Improving HPV Vaccine Coverage through the Comprehensive Cancer Control National Partnership

## Goal: Increase HPV Vaccination Uptake

- In 2016, CCCNP supported teams from 11 states at in-person workshop on evidence-based strategies and to develop state action plans, followed by post-workshop technical assistance
- In 2018, an additional 22 states participated in HPV workshops and are receiving post-workshop technical assistance through April 2019



National  
Cancer  
Institute

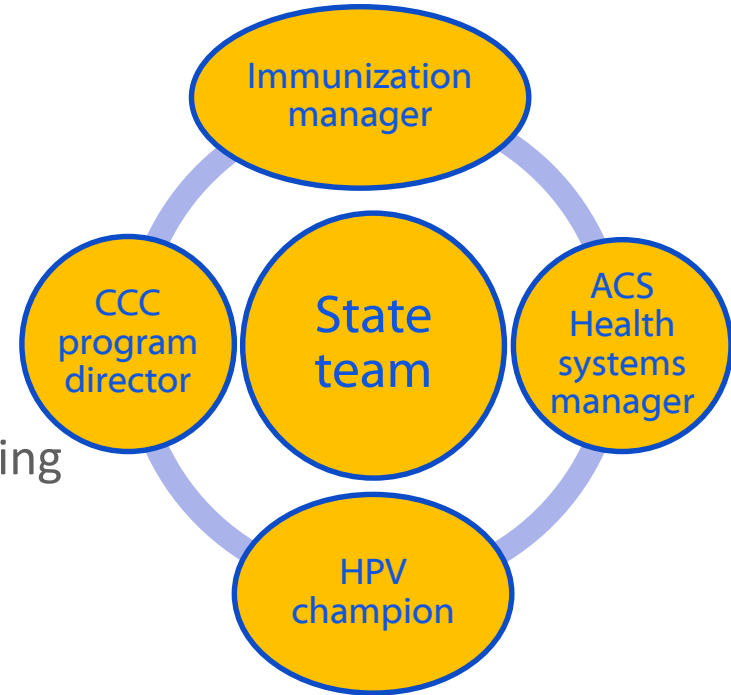


AMERICAN COLLEGE OF SURGEONS  
*Inspiring Quality: Highest Standards, Better Outcomes*

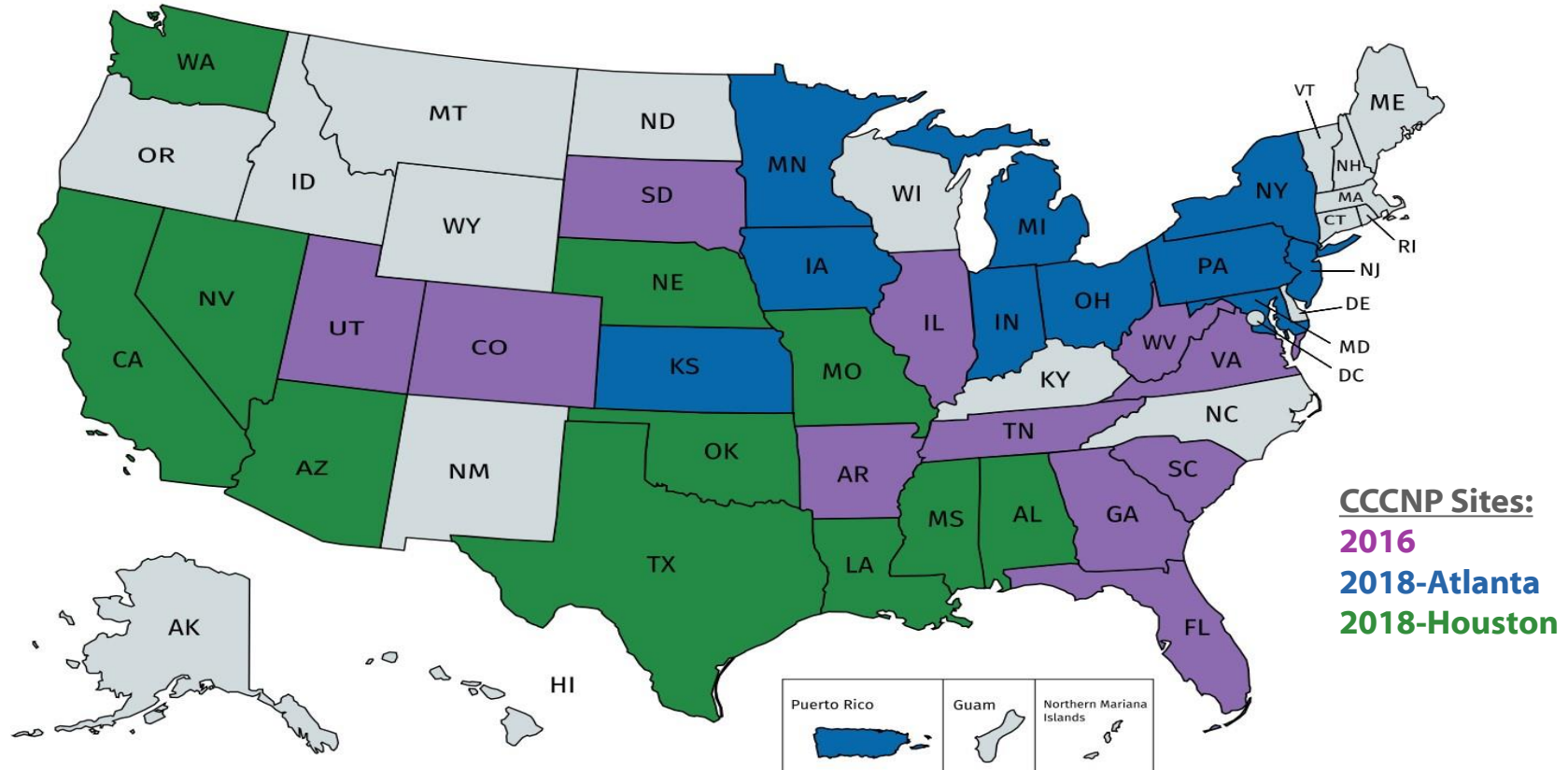
# CCCNP HPV Technical Assistance Workshops

## Objective:

- Develop **action plans** to increase HPV vaccination rates through evidence-based interventions
- Increase understanding of **proven strategies**
- Increase awareness of the availability of existing evidence-based **tools and resources**
- Share **real-life examples** of successful HPV vaccinations efforts
- Form new and strengthen existing **relationships**



# CCCNP Supported 33 State Teams through Workshops and Follow-up Technical Assistance



HPV is a common virus that infects teens and adults.



80%

of people will get an HPV infection in their lifetime.



HPV vaccination works.

↓ 71%

Infections with HPV types that cause most HPV cancers and genital warts have **dropped 71 percent** among teen girls.



HPV vaccination prevents cancer.

30,000



cases of cancer could be prevented with HPV vaccination each year.

Same as the average attendance for a baseball game.



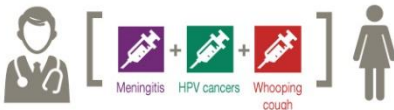
Preventing cancer is better than treating it.



HPV infections can cause **six types** of cancer, but doctors only routinely screen for cervical cancer. The other five types may not be detected until they cause health problems.



Your child can get protection from HPV cancers during the same visit they are protected against other serious diseases.



HPV vaccination provides safe, effective, and long-lasting protection.



doses distributed in the U.S., data continues to show HPV vaccine is safe and effective.



For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

