HPV Cancer Prevention: Give It a Shot (or 2)

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American Cancer Society
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Key Topics

- Vaccination for cancer prevention
- Why ages 11 or 12
- Current recommendations
- Information to help providers & parents
WHY FOCUS ON HPV?

We have a vaccine that prevents cancers

We need to vaccinate more kids

Success is achievable

Cancer and immunization need to work together
What is HPV?

Human Papilloma Virus

- >150 types
- About 15 types cause cancer
- VERY common
Can HPV cancers be prevented?

- Screen (cervical cancer only)
- Vaccinate (male and female HPV cancers)
HPV Vaccination is Cancer Prevention

PROTECTING MORE OF YOUR PATIENTS FROM HPV CANCERS

3 THINGS PARENTS SHOULD KNOW ABOUT PREVENTING CANCER

www.cdc.gov/vaccines/teens
Average Number of New Cancers Probably Caused by HPV, by Sex, United States 2008-2012

**Women (n = 19,200)**
- **Cervix**: 56%
- **Anus**: 16%
- **Vulva**: 13%
- **Vagina**: 10%
- **Oropharynx**: 9%
- **Rectum**: 3%

**Men (n = 11,600)**
- **Oropharynx**: 78%
- **Anus**: 14%
- **Penis**: 6%
- **Rectum**: 2%
- **Vagina**: 3%
- **Vulva**: 3%
Cervical Cancer:
>11,000 Women Diagnosed Each Year

Average Annual Number of Cervical Cancer Cases Linked to HPV, by Age Group

Incidence rates, 2008-2012
by state, for cervix
Per 100,000, age adjusted to the 2000 US standard population

Data Sources: North American Association of Central Cancer Registries (NAACCR), 2015
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CancerStatisticsCenter.cancer.org

4,120 cervical cancer deaths estimated in the U.S. in 2016
>1 Million Women Affected Each Year:

- **1.4 million** new cases of low grade cervical dysplasia

- **330,000** new cases of high grade cervical dysplasia (also known as “pre-cancer”)
Implications of Pre-Cancerous Lesions

- Treatment with cervical conization or LEEP (loop electrosurgical excision procedure)
- May be associated with adverse obstetric morbidity
  - Preterm delivery
  - Low birth weight
- Financial costs of care
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
Extrapolating the prior pyramid with projections of vaccine efficacy based on Australian data:

- **Cervical cancer**
  - 46% reduction in CIN2/3 requiring LEEP
  - 75% if vaccination by age 14
- 92% reduction in genital warts
- 35% reduction in CIN1
The Oropharynx
HPV-Associated Oropharyngeal Cancer: Increasing Incidence

Broader Protection Against More Cancers

Data accessed at: https://www.merckvaccines.com/Products/Gardasil9/9-types
Adolescent Vaccination Coverage
United States, 2006-2015

The chart shows the percentage coverage of various vaccination series in adolescents from 2006 to 2015. The categories include:

- ≥1 Tdap
- ≥1 Mening
- ≥1 HPV (F)
- ≥3 HPV (F)
- ≥1 HPV (M)
- ≥3 HPV (M)

The data indicates a consistent increase in coverage for all categories over the years.
HPV Vaccination Rates Remain Too Low

- Prevents 6 cancers
- Safe
- Underutilized
- Kids get other vaccines
- Rates lowest where cancers highest
BARRIERS: WE CAN CHANGE THESE!

- Not recommended
- Not sexually active
- Not needed
- Safety concerns
- Lack of knowledge
VACCINATING AT AGE 11-12
SHOW ME THE EVIDENCE
Many providers believe HPV vaccination can wait
But what if we can prove that age 11-12 is best ...and without talking about sex?
Why was age 11-12 recommended in the first place?
- Clinical trial inclusion
- Efficacy
- Exposure
- Duration of protection
- Adolescent platform
- Programmatic reasons
- Immune Response???
- Effectiveness
Types of Evidence

- Clinical Trial
- Observational/Ecological
- Linked
Effectiveness reduction in disease outcomes in a “real world” setting

<table>
<thead>
<tr>
<th>Age at vaccination</th>
<th>Vaccine effectiveness against CIN2+</th>
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<tbody>
<tr>
<td>&lt;17</td>
<td>75%</td>
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<tr>
<td>17-19</td>
<td>46%</td>
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<tr>
<td>≥20</td>
<td>22%</td>
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Herweijer et al 2016: register-based data, entire population of Sweden ages 13-29

Would you rather reduce your patients’ risk of getting cancer by 75% or 22%?
Preteens have 3 times as many preventive visits as adolescents.

Only 38% of adolescents (ages 12-17) had a preventive visit in the last year.
Temporary delays often become permanent
Becaus...
Change to 2 Doses

- Data from all 3 HPV vaccines
- Immunogenicity only
- Approved by FDA (October)
- Recommended by ACIP (October)
- Approved by CDC (October)
- Publication in MMWR (December)
- Revised HEDIS measure (pending)
Recommendation

- 1\textsuperscript{st} dose at 11-12 years old.
- 2\textsuperscript{nd} dose 6-12 months after 1\textsuperscript{st} dose.
- If 1\textsuperscript{st} dose given $\geq$15, need 3 doses.
- If 2\textsuperscript{nd} dose already given before 15\textsuperscript{th} birthday and <5 months after 1\textsuperscript{st} dose, need 3\textsuperscript{rd} dose.
- For people with weakened immune systems at any age, need 3 doses.
Message to Providers & Parents

- The HPV vaccine works even better than we expected!
- Extra incentive to vaccinate on time.
Human Papillomavirus Vaccination Guideline Update: American Cancer Society Guideline Endorsement

Debbie Siskow, PhD; Kimberly S. Andrews, BA; Deena Manasaram-Baptiste, PhD; Lacey Looner, MSPH; Kristina E. Lam, MD, MPH; Marcie Fisher-Borne, MPH, PhD; Robert A. Smith, PhD; Elizabeth T. H. Fontham, MPH, DPH
on behalf of the American Cancer Society Guideline Development Group

ABSTRACT: The American Cancer Society (ACS) reviewed and updated its guideline on human papillomavirus (HPV) vaccination based on a methodologic and content review of the Advisory Committee on Immunization Practices (ACIP) HPV vaccination recommendations. A literature review was performed to supplement the evidence considered by the ACIP and to address new vaccine formulations and recommendations as well as new data on population outcomes since publication of the 2007 ACS guideline. The ACS Guideline Development Group determined that the evidence supports ACS endorsement of the ACIP recommendations, with one qualifying statement related to late vaccination. The ACS recommends vaccination of all children at ages 11 and 12 years to protect against HPV infections that lead to several cancers and precancers. Late vaccination for those not vaccinated at the recommended ages should be completed as soon as possible, and individuals should be informed that vaccination may not be effective at older ages.

Keywords: American Cancer Society, Advisory Committee on Immunization Practices, guidelines, human papillomavirus (HPV), vaccines, cancer prevention

Practical Implications for Continuing Education

- HPV causes most cervical, vulvar, anal, and oropharyngeal cancers in females and most oropharyngeal, anal, and penile cancers in males. About 18,500 cancers could be prevented by HPV vaccination.
- Clinicians should strongly recommend that all of their patients be vaccinated against HPV at ages 11-12 years in accord with the other routine adolescent vaccines.

DISCLOSURES: The American Cancer Society (ACS) supported the development of the guideline through the use of general funds. Outside the submitted work, the ACS

Prevention of Cancers With Human Papillomavirus Vaccination

Facts About HPV and Cancer

- Human papillomavirus, or "HPV," is an extremely common virus. Almost everyone will be infected in their lifetime.
- Most people never know they have HPV, and it usually resolves on its own. However, in some people, HPV leads to cancer. There is no way to know if an infection will lead to cancer.
- HPV can cause cancers of the cervix, vulva, vagina, anus, and oropharynx (back of the throat).
- Every year, about 36,700 new women and 13,900 new men in the United States will receive a diagnosis of cancer caused by HPV—19,200 in women and 11,000 in men.
- Every year, over 2 million women in the United States have routine testing and biopsies to look for precancer or cancer of the cervix caused by HPV infection.

The American Cancer Society Recommendations

- Girls and boys should begin the HPV vaccine series at age 11 or 12 years. The vaccine can be given starting as early as age 9 years.
- Girls aged 13 to 26 years and boys aged 13 to 21 years who have not been vaccinated or who have not completed the series should get vaccinated.
- Men aged 22 to 26 years may get the vaccine. Health care providers should offer men and women aged 22 to 26 years who are getting the HPV vaccine at older ages to give effective dose increases.
- HPV vaccines are recommended through age 26 years for men who have sex with men and for women, men with increased sexual exposure or who they did not get vaccinated previously or if they did not complete the vaccine series.

Women who have been vaccinated should continue to follow cervical cancer screening recommendations.

Vaccine Cost

HPV vaccine costs are covered by major insurers, Medicaid, and the federal Vaccines for Children Program, which provides free vaccines for uninsured and underserved children and teens under age 19 years. 

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ACS HPV VACCINATION GUIDELINES

- Boys and girls
- At age 11 or 12 = ON TIME
- Can start at age 9
- Can vaccinate LATE at ages 13 to 26
- 2 doses, 6-12 month interval, if started before age 15
- Individuals ages 22 to 26 who were not previously vaccinated should be informed that vaccination at older ages is less effective in lowering cancer risk
Value Parents Place on the Vaccines

Provider estimations

Clinicians underestimate the value parents place on HPV vaccine

Give an Effective Recommendation to Receive HPV Vaccine at Ages 11 or 12

- An effective recommendation from you is the main reason parents decide to vaccinate

- Many moms in focus groups stated that they trust their child’s doctor and would get the vaccine for their child as long as they received a recommendation from the doctor

Unpublished CDC data, 2013.
What is an effective recommendation for HPV vaccination?
Same Way
Same Day
Make an Effective Recommendation

**Same way:** Effective recommendations group all of the adolescent vaccines
Recommend HPV vaccination the same way you recommend Tdap & meningococcal vaccines.

**Same day:** Recommend HPV vaccine today
Recommend HPV vaccination the same day you recommend Tdap & meningococcal vaccines.

Unpublished CDC data, 2013.
Your preteen needs three vaccines today to protect against meningitis, HPV cancers, and pertussis.
Some Parents Need Reassurance

- Many parents simply accept of this bundled recommendation
- Some parents may be interested in vaccinating, yet still have questions. Interpret a question as they need additional reassurance from YOU, the clinician they trust with their child’s health care
- Ask parents about their main concern (be sure you are addressing their real concern)

Unpublished CDC data, 2013.
Most clinicians wait too long to make strong recommendations for HPV vaccine

- 11-12 y.o. females: 51% Strongly recommend, 36% Recommend, but not strongly, 8% Recommend against
- 13-15 y.o. females: 79% Strongly recommend, 15% Recommend, but not strongly
- 16-18 y.o. females: 85% Strongly recommend, 10% Recommend against

HPV vaccination works best at the recommended ages of 11 or 12 years. That’s why I’d like for your son to start the HPV vaccine series today.
“Molly needs three vaccines today to protect against whooping cough, HPV cancers and meningitis. She will get those at the end of the visit.”
If a parent doesn’t say yes...

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<th><strong>Ask</strong></th>
<th>Clarify &amp; restate their concerns to make sure you understand.</th>
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<tr>
<td><strong>Acknowledge</strong></td>
<td>• Emphasize it is the parents’ decision.</td>
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<td>• Acknowledge risks &amp; conflicting info sources.</td>
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<td>• Applaud them for wanting what is best for their child.</td>
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<td></td>
<td>• Be clear that you are concerned for the health of their child, not just public health safety.</td>
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<tr>
<td><strong>Advise</strong></td>
<td>• Clarify their concerns: make sure you understand &amp; are answering the question they actually care about.</td>
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<td></td>
<td>• Allow time to discuss the pros &amp; cons of vaccines.</td>
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<td>• Be willing to discuss parents’ ideas.</td>
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<td>• Offer written resources for parents.</td>
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<td>• Tailor your advice using this presentation.</td>
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What Is ACS Doing about HPV?

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 actions include increased awareness, provider education, public education, system 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 education, strategy planning, and action. This collaboration 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 papillomavirus (HPV). HPV also玩耍 high rates of cancer of the vagina, vulva, anus, penis, and throat.

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:

- **Producers:** Strengthen HPV vaccination recommendations and decrease missed opportunities.
- **Parents:** Educate and raise awareness about the importance of vaccinating males age 11-12 to prevent cancer and to increase acceptance of vaccination for HPV infection.
- **System:** Address barriers such as inadequate reimbursement for vaccine administration and the lack of visual systems.
- **Policies:** Maximize access and cost for vaccination programs, especially those with uninsured patients.
- **Health Disparities:** For underserved populations, at highest risk for cervical and other HPV-associated cancers, address barriers including cultural factors, quality of the medical system, and limited access to healthcare.

To Find Out More

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cancer.org | 1.800.227.2345

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HPV VACs

Vaccinate Adolescents against Cancers

Taking Action to Save Lives

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 $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 utilisation of the HPV vaccine.

What We Will Do

- Provide direct clinician outreach and training activities through 20 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 clinicians 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?

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This project is supported in part by CDC Cooperative Agreement Number 5U18DP005510-02.
Vaccinate Adolescents against Cancers
The **HPV VACs** project 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 focus on adolescents ages 11 to 12.**

Supported by grant #NH23IP000953-02, funded by the Centers for Disease Control and Prevention

**ACS Health Systems Structure**

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<tr>
<th>Hospital Systems</th>
<th>Primary Care Systems</th>
<th>State Health Systems</th>
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<tbody>
<tr>
<td>• Cancer Centers</td>
<td>• Federally Qualified Health Centers</td>
<td>• Comprehensive Cancer Coalitions</td>
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<tr>
<td>• Oncologists</td>
<td>• Primary Care Associations</td>
<td>• State Health Depts.</td>
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<td>• Insurers</td>
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HPV VACs Resources

TOOLS:
Just the Facts
Provider Audience

HPV VACs
Vaccinate Adolescents against Cancers

FACT 1
The HPV vaccine is safe.

Scientists from both the CDC and the FDA continue to monitor and report any adverse events and side effects related to HPV vaccines. Monitoring in 2009 revealed that most side effects related to the vaccine were mild and were similar to those seen with any other vaccine. Several studies from 2011-2015 looking at over 2 million women and girls who have received the vaccine show that there is no relationship between HPV vaccines and autoimmune disorders, blood clots, or other serious disorders.¹

TALKING POINT: Over 200 million doses of vaccine have been distributed worldwide, with over 80 million doses in the US. The safety is continually monitored in 80 countries. No serious safety concerns have been identified.²

FACT 2
The HPV vaccine does not cause serious side effects.

In the US, over 80 million doses of the vaccine have been given, and all investigable adverse reactions have been studied and monitored.

All vaccines can have side effects. The reactions that people have had after the HPV vaccines have been mostly mild and similar to those from other vaccines.³

TALKING POINT: The vaccine was tested in numerous clinical trials and proved to be safe; it continues to be monitored for safety. No deaths have been causally linked to HPV vaccination.

The most common side effects are pain, redness, and/or swelling at the site of injection. Very rarely, more serious side effects such as anaphylactic (allergic) reaction can occur, usually if a person is allergic to an ingredient in the vaccine such as yeast.⁴
TOOLS:
Addressing Parent’s Top Questions about HPV VACCINE
Provider Audience
TOOLS:

You Are The Key Presentation Slide Deck

Provider Audience
http://www.cdc.gov/hpv/hcp/speaking-colleagues.html
Use a Road Map

Steps for Increasing HPV Vaccination in Practice: An Action Guide to Implement Evidence-based Strategies for Clinicians


Tested and improved by 30 FQHC Pilots

HPV VACs
Vaccinate Adolescents against Cancers

American Cancer Society®
Monitor and report system-wide vaccination rates

- Make sure providers know their vaccination rates.
- Provide evidence-based tools to help providers and practices make systematic changes.
Tools

Steps Action Guide,
bit.ly/HPVStepsActionGuide

AAP HPV Champion Toolkit
bit.ly/AAPHPVChampionToolkit

VACs Report Card
VACs Report Card

1. Review
2. Set a Goal
3. Recommend
National HPV Vaccination Roundtable

HPV Roundtable
Mission

a national coalition of organizations working together to prevent HPV-associated cancers & pre-cancers by increasing & sustaining U.S. HPV vaccination

Supported by grant #16IP922551, funded by the Centers for Disease Control and Prevention
What we do

Convene stakeholders

Increase exchange of information

Identify gaps & opportunities

Catalyze efforts
All HPV Roundtable resources are available at: http://bit.ly/HPVVaxSP
Are You In to Prevent HPV Cancer?

We’re In! Campaign


When you sign up, your organization will have access to English and Spanish versions of the “We’re In!” symbol along with a “Quick Action Guide” to get you started.

This symbol is meant to be an easy way for organizations to publicly show support for HPV cancer prevention.
Thank You