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HPV Vaccination is Cancer Prevention: Changing the Narrative to Improve Vaccination Rates

August 16, 2023

Featured Speakers

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  North Country Family Health Center
  Watertown, NY

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  Syracuse, NY
Conflict of Interest & Disclosure Statements

Manika Suryadevara, MD
- Principal Investigator - Institution receives research funding for work on vaccine confidence, HPV vaccination rates, RSV epidemiology for Merck Sharpe & Dohme Corp
- Principal Investigator - Institution received research funding for site to be involved with clinical trials for flu treatment for Hoffman LaRoche (completed 2022)
- Principal Investigator - Institution received research funding for site to be involved with clinical trials for RSV treatment for Janssen (completed 2022)

Jana Shaw MD, MPH
- Consultant for Pfizer

All relevant financial relationships have been mitigated for Dr. Suryadevara and Dr. Shaw

None of the other planners, moderator, and presenters have any financial arrangements or affiliations with any ineligible companies whose products, research or services may be discussed in this activity

Evaluations & CE Credits

Nursing Contact Hours, CME and CHES credits are available for a limited time.

Please visit www.phlive.org to fill out your evaluation and complete the post-test.
As a result of participation in this activity, the learners will increase and enhance knowledge and competence on how to make updated HPV vaccination recommendations using cancer prevention as a communication strategy.

By the end of the webcast, viewers will be able to:

- Discuss the burden of HPV disease and related cancers
- Explain the safety and efficacy of the HPV vaccine
- Describe communication techniques for talking with parents or patients about the HPV vaccine

### US STI Prevalence & Incidence

- **HPV**: 13 M (Prevalence), 18.6 M (Incidence)
- **HBV**: 572,000 (Prevalence)
- **Trichomoniasis**: 2.6 M (Prevalence), 6.9 M (Incidence)
- **Chlamydia**: 2.4 M (Prevalence), 4 M (Incidence)
- **HIV (ages 13 & older)**: 984,000 (Prevalence), 32,600 (Incidence)
- **Gonorrhea**: 209,000 (Prevalence), 1.6 M (Incidence)
- **Syphilis (ages 14 & older)**: 156,000 (Prevalence), 146,000 (Incidence)
- **HBV (ages unavailable)**: 103,000 (Prevalence), 8,300 (Incidence)

[Visit CDC website](https://www.cdc.gov/std/statistics/prevalence-2020-at-a-glance.htm) for more information.

Almost all individuals will be infected at some point during lifetime.
Impact of HPV-related Cancer

Number of cases/year in US

<table>
<thead>
<tr>
<th>Site</th>
<th>% by HPV</th>
<th># of cases</th>
<th>Site</th>
<th>% by HPV</th>
<th># of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oropharynx</td>
<td>72%</td>
<td>12,500</td>
<td>Cervix</td>
<td>91%</td>
<td>11,100</td>
</tr>
<tr>
<td>Anus</td>
<td>89%</td>
<td>2,200</td>
<td>Anus</td>
<td>93%</td>
<td>4,700</td>
</tr>
<tr>
<td>Penis</td>
<td>63%</td>
<td>900</td>
<td>Vulva</td>
<td>69%</td>
<td>2,900</td>
</tr>
<tr>
<td>Oropharynx</td>
<td>63%</td>
<td>2,300</td>
<td>Oropharynx</td>
<td>63%</td>
<td>2,300</td>
</tr>
<tr>
<td>Vagina</td>
<td>75%</td>
<td>700</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

> 47,000 new HPV cancers each year
HPV-Related Cancer Incidence in NYS

Source: NYS DOH. 2019

**HPV Oropharyngeal Cancer**

- HPV causes more OPC than tobacco/alcohol
- > 14,000 new cases/year
- Non-smokers, non-drinkers, younger age
- No screening
HPV Vaccination Prevents Infection & Cancer

HPV Vaccine Reduces Risk of High-grade Cervical Lesions Among Women in the US
Global Impact

- Post-licensure evaluations important to evaluate real-world vaccine effectiveness
- Population impact against early and mid outcomes reported in many countries, including:
  - *HPV prevalence*: Australia, Norway, Denmark, Sweden, Switzerland, UK, USA
  - *Genital warts*: Australia, Belgium, New Zealand, Denmark, Sweden, Germany, Quebec, USA
  - *Cervical lesions*: Australia, British Columbia, Denmark, Scotland, Sweden, USA

Worldwide Significance of HPV Vaccination in Combating Cervical Cancer

- **Australia**: Set to eliminate cervical cancer by 2035; HPV vaccination completion rate = 80.2%
- **Sweden**: Girls vaccinated before age 17 were 88% less likely to develop cervical cancer
- **Scotland**: Dramatic reduction in pre-invasive cervical disease
- **England**: The HPV immunization program has almost eliminated cervical cancer in women born since September 1995

Citations: See References Document
United States Vaccine Safety System

<table>
<thead>
<tr>
<th>System</th>
<th>Collaborators</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaccine Adverse Event Reporting System (VAERS)</td>
<td>CDC and FDA</td>
<td>Frontline, spontaneous reporting system to detect potential vaccine safety issues</td>
</tr>
<tr>
<td>Vaccine Safety Datalink (VSD)</td>
<td>CDC and 8 integrated health care systems</td>
<td>Large-linked database system used for active surveillance and research ~9.4 million members (~3% of US pop)</td>
</tr>
<tr>
<td>Clinical Immunization Safety Assessment (CISA) Project</td>
<td>CDC and 7 academic centers</td>
<td>Expert collaboration that conducts individual clinical vaccine safety assessments and clinical research</td>
</tr>
<tr>
<td>FDA's Biologics Effectiveness and Safety (BEST) System</td>
<td>FDA and collaborators</td>
<td>A system of electronic health records, administrative, and claims-based data for active surveillance and research.</td>
</tr>
</tbody>
</table>

HPV Vaccine Safety Carefully Monitored

- Reactions after vaccination may include:
  - Local: injection site pain, redness, and/or swelling
  - Systemic: fever, headaches
- Contraindications:
  - Allergic reaction to the HPV vaccine
  - Allergy to yeast
- Brief fainting spells (syncope) and related symptoms (such as jerking movements) can happen soon after any injection, including HPV vaccine
  - Remain seated (or lying down) during vaccination and 15 minutes following vaccination
HPV Vaccines Have Long-standing Safety Data

**NO increased risk for:**
- Anaphylaxis
- Death
- GBS
- Stroke
- Blood clots
- Appendicitis
- Seizure
- Autoimmune disorders
- Primary ovarian insufficiency
- Miscarriage or pregnancy termination

... and **NO RISK** of more than 60 other conditions

**US Teens Remain Under-vaccinated**

NIS-teen HPV data 2006-2019
- 71.5% initiated series
- 54.2% completed series
- 13 -17 years old
SUPPLEMENTARY TABLE 1. Estimated vaccination coverage with selected vaccines and doses* among adolescents aged 13–17 years† by HHS Region, state, selected local area, or territory — National Immunization Survey–Teen (NIS-Teen), United States, 2020

<table>
<thead>
<tr>
<th></th>
<th>HPV VI*</th>
<th>HPV VC*</th>
</tr>
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<tbody>
<tr>
<td>NYS Teens</td>
<td>79.1%</td>
<td>68.1%</td>
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3 of 10 NYS Teens Remain Under-vaccinated

2020 NYS HPV Vaccination Rates (13-17 yrs)

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HPV Vaccine Series Completion Among 13-year-old Teens In 2022

Counties in blue and green have the lowest on-time HPV vaccination completion rates

Range: 11.9% - 52.3%
Vaccine Schedules

Recommended Vaccination Schedule Guideline

**On Time**
- AGE 9-12
- 2 Doses
- 6-12 months apart

**Late**
- AGES 13-14
- 2 Doses
- 6-12 months apart

**Critical**
- AGES 15-26
- 3 Doses
- 1st dose at visit one
- 2nd dose 1-2 months later
- 3rd dose 6 months after 2nd

Start at 9!

Endorsed by:
- American Academy of Pediatrics
- American Cancer Society
- National HPV Roundtable
- New York State Department of Health
Why *Start at 9!*?

- More time for completion by 13 years
- Results in robust immune response
- Decreases association with sex
- Decreases questions re: school mandated vaccines
- Decreases number of shots per visit
- Acceptable to patients, parents, providers, systems
- Increases vaccine uptake → prevents HPV-cancers

How To Implement *Start At 9!*

- Provider and staff training
- Recommendation script
- Policy change
- EMR support
- Readily available printed resources
- Reminder recall systems
Clinicians Underestimate The Value Parents Place On HPV Vaccine

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Parent</th>
<th>Clinician's Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meningitis</td>
<td>9.4</td>
<td>9.2</td>
</tr>
<tr>
<td>Hepatitis</td>
<td>9.5</td>
<td>9.2</td>
</tr>
<tr>
<td>Pertussis</td>
<td>9.5</td>
<td>9.3</td>
</tr>
<tr>
<td>Influenza</td>
<td>9.3</td>
<td>7.0</td>
</tr>
<tr>
<td>HPV</td>
<td>9.3</td>
<td>5.2</td>
</tr>
<tr>
<td>Adolescent Vaccines</td>
<td>9.2</td>
<td>7.8</td>
</tr>
</tbody>
</table>

Median Values

Parents’ Reasons *Not* To Vaccinate

- Provider did not recommend it
- Concerns over long-term side effects of HPV vaccination
- "Vaccine is new"
- Mistrust with drug companies
- Concerns over short-term side effects
- "It’s unnecessary," "child not sexually active"
- Fear that vaccination may lead to an earlier onset of sexual activity
Communicating With Hesitant Parents
Two Effective Approaches

Begin with the *presumptive* approach, stating which vaccines the child will receive today. For example...

- “We’re scheduled to do some shots today. Your child needs tetanus, whooping cough, diphtheria, HPV, and meningococcal vaccines.”

- “Molly needs three vaccines today to protect against meningitis, HPV cancers, and whooping cough. She’ll get those at the end of the visit.”

Presumptive Recommendation Increases Compliance

Making an effective *presumptive* recommendation greatly increases compliance

HPV vaccine initiation rates

- 23%, if no recommendation
- 53%, if low-quality recommendation
- 73%, if high-quality recommendation
Communicating With Hesitant Parents
Two Effective Approaches

- Begin with the presumptive approach, stating which vaccines the child will receive today.

- If the parent voices concerns, transition to the “5-step approach,” addressing the parent’s concerns.

5-Step Approach is Effective

5-Step Approach can be used to effectively communicate with vaccine hesitant parents

1. Establish empathy and credibility
2. Briefly address specific concerns
3. Pivot to disease risk
4. Convey vaccine effectiveness
5. Give a strong and personalized recommendation
Let's Talk Shots

- Free, award-winning site for providers and patients
- Developed by Institute for Vaccine Safety at the Johns Hopkins Bloomberg School of Public Health
- Individually-tailored for smartphones, tablets, and computers
- Short animations and videos tailored to the user’s specific vaccine attitudes and beliefs
- Messaging consistent with the 5-step strategy

https://www.letstalkshots.com/

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 CDC Tip Sheet
- Educate staff about HPV vaccine recommendations, including schedule, administration, storage and handling

www.cdc.gov/hpv/hcp/for-hcp-tipsheet-hpv.pdf
Summary: Overcoming HPV Vaccination Barriers

- Make a strong, presumptive recommendation
- Talk about HPV vaccination as cancer prevention
- Offer empathy, advice, and real stories about the risks of not vaccinating
- Provide individually-tailored vaccine information

Additional Resources

vaccinateNY.org

PHLive.org
Evaluations & Continuing Education: CNE, CME and CHES continuing education credits are available for a limited time. Please visit www.phlive.org to fill out your evaluation and complete the post-test.

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