
Maribel Chavez-Torres, MPH, CHES
November 3, 2015

Presenter Disclosure

“No relationships to disclose”

HPV Infections

• US statistics
  – Currently infected: ~79 million
  – New infections/year: ~14 million
  – HPV infection is most common in people in their teens and early 20s
• HPV is the most common STI
  ...but most people never know that they have been infected -- unless a woman has an abnormal pap test with a positive HPV test

**HPV Transmission**

- HPV exposure can occur with any type of intimate sexual contact

- Among a cohort of adolescent women without prior vaginal intercourse (followed longitudinally):
  - HPV was detected in 46% of females prior to 1st vaginal sex
  - 70% of these women reported non-coital behaviors that may in part explain genital transmission

- Vaginal intercourse is not necessary to become infected

- Condoms do not completely stop HPV transmission

---

**Transmission During Intercourse**

- Nearly 50% of high school students have already engaged in sexual (vaginal-penile) intercourse
  - 1/3 of 9th graders and 2/3 of 12th graders have engaged in sexual intercourse
  - 24% of high school seniors have had sexual intercourse with 4 or more partners

- About 50% of people are infected with HPV within 12 months of sexual debut

---

**Average Number of New HPV-Associated Cancers by Sex, in the United States, 2005-2009**

<table>
<thead>
<tr>
<th>Sex</th>
<th>Cancers</th>
<th>Oropharynx</th>
<th>Penis</th>
<th>Cervix</th>
<th>Vagina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>n=20,413</td>
<td>n=3039</td>
<td>n=11279</td>
<td>n=1003</td>
<td>n=694</td>
</tr>
<tr>
<td>Men</td>
<td>n=12,002</td>
<td>n=1687</td>
<td>n=1863</td>
<td>n=187</td>
<td>n=2317</td>
</tr>
</tbody>
</table>
Quadrivalent vaccine: Routinely recommended for females

Bivalent vaccine: Routinely recommended for females

Quadrivalent vaccine: Routinely recommended for males

Quadrivalent vaccine: Permissively recommended for males

2015

Vaccine Coverage Levels among 13-17 years olds, US, NIS-Teen, 2006-2012

Tdap, MCV and HPV Vaccine Coverage among 13–17 year olds Chicago, NIS -Teen, 2010-2013

Source: MMWR. 2013;62;685-93
HPV vaccine coverage in VFC clinics has not increased as much as Tdap and MCV4 coverage.

Parents

- Do not appreciate costs/benefits of vaccines
- Do not consider HPV vaccine a priority
- Do not know about HPV disease or vaccines

Insurance coverage inconsistent

Feedback messaging not HPV-focused

HPV vaccine not required for school entry

Follow-up limited to written communication

Inventory management

Providers

- Uncomfortable making HPV recommendations
- Uncomfortable answering HPV questions
- Do not consider HPV vaccine a priority

CDPH staff with competing priorities

Providers not motivated

“Less is More” Intervention

- Feedback sessions - 30 to 45 minutes
- Required at least (1) healthcare provider
- Feedback reports were customized
  - main focused was HPV
  - other vaccines included
- One pager – key messages for HPV dialogue
- Peer educator (clinician-to-clinician)
- 6 month follow-up
Introduce all recommended adolescent vaccines as a single recommendation, similar to how you might recommend infant vaccines to a parent.

“Today Miraya is due for three routine vaccines which include meningitis vaccine, Tdap which is tetanus, diphtheria and whooping cough; and HPV which is Human Papillomavirus vaccine. The nurse will be right in to administer those vaccines and I look forward to seeing you next year.”
Had you used the “less is more approach” with patients?

If yes, have you found patients more likely to accept adolescent vaccines?

Have you used the talking points provided about HPV when talking with parents and patients?

Analysis

- **Objective**: Assess impact of “Less is More” intervention on HPV vaccination rates among Chicago clinics using Illinois Comprehensive Automated Immunization Registry Exchange (I-CARE) data
- **Methods**: Pre-intervention (3/1/2014) and post-intervention (1/1/2015) clinic-level HPV vaccine coverage rates obtained from I-CARE for teens aged 13-17 yrs were compared
- Clinics analyzed:
  - 42 Chicago clinics received the “Less is More” intervention
  - As a comparison group, 71 Illinois clinics located outside of the city of Chicago (>30 miles away) were chosen
    - Clinics were chosen from cities with population >50,000
    - Clinics had >200 patients aged 13-17 years

Results

HPV Vaccine Coverage Levels
Results
HPV vaccine coverage levels among females

<table>
<thead>
<tr>
<th></th>
<th>21 HPV doses</th>
<th>23 HPV doses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-intervention</td>
<td>Post-intervention</td>
</tr>
<tr>
<td>Chicago Clinics</td>
<td>58%</td>
<td>59%</td>
</tr>
<tr>
<td>Illinois Control Clinics</td>
<td>68%</td>
<td>55%</td>
</tr>
</tbody>
</table>

Limitations

• Other CDPH efforts to increase HPV vaccine awareness (state-wide webinars, billboard, bus, CTA advertising) may have reached providers and parents outside of Chicago
• Difficult to identify a comparison group for Chicago clinics (no other large urban area with similar demographics in Illinois)
• I-CARE data may not be complete
  – Not all Illinois clinics enter vaccination data in I-CARE

Stakeholders
Provider Education

- In-person and webinar training (22)
  - VFC providers underutilizing HPV vaccine
  - Professional organization members
  - Participants: >2,000
- Curriculum
  - Initiation of vaccine series
  - Adherence to schedule
- Stakeholder identified opportunities

HPV Vaccination Coverage Among 13-17 Year Olds, Chicago and US, NIS-Teen 2014
Conclusions

• “Less is more” approach when recommending the HPV vaccine to parents may improve vaccination coverage levels

• Multi-prong educational campaign may improve and have an impact on vaccination levels

Acknowledgements

Julie Morita, MD, Chicago Department of Public Health, Chicago, IL

Marcia Levin, MPH, Immunization Program, Chicago Department of Public Health, Chicago, IL

Elissa Jones, MS, Immunization Program, Chicago Department of Public Health, Chicago, IL

Rachel Caskey, MD, MAPP, Departments of Pediatrics and Internal Medicine, University of Illinois College of Medicine, Chicago, IL

Whitney Clegg, MD MPH, Illinois Department of Public Health, Chicago, IL

Craig Conover, MD MPH, Illinois Department of Public Health, Chicago, IL