HPV Vaccine Awareness, Use, and Attitudes
In a Diverse Parent Population

Findings from the 2007 Los Angeles County Health Survey

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Learning Objectives

- Describe the ACIP recommendations for HPV vaccination in children and teen girls
- Describe uptake of the HPV vaccine among minors in Los Angeles County, CA
- Understand parents’ concerns about HPV vaccination
Natural History of HPV Infection and Potential Progression to Cervical Cancer

Initial HPV Infection → Continuing Infection → CIN 1 → Cleared HPV Infection

0 – 1 Year

0 – 5 Years

1 – 20 Years

CIN 2/3 AIS

Invasive Cervical Cancer

HPV Vaccines Target this Endpoint: Prevention of High Grade Cervical Lesions and In Situ Disease

HPV as Sexually Transmitted Infection

- The most common sexually transmitted infection in the U.S.—estimated 20 million new infections/year
- Sexually active individuals 15–24 years of age most at risk
  - ~74% of new HPV infections occur in this age group
  - In studies of women <25 years of age, prevalence ranges from 28% to 46%
- *Infection common soon after sexual debut*
HPV Infection Rate After 1\textsuperscript{st} Intercourse: Young Women with 1 Male Partner

- 28% at 1 year
- 39% at 2 years
- 49% at 3 years

Winer: JID; 2008
Percent of Youth who Have Had Vaginal Sex, by Gender and Age: NSFG 2002

Mosher et al., 2005; Vital and Health Statistics: No. 362
Timing of HPV Vaccination

• Must be given before sexual debut for maximum efficacy

• 38% of males and 27% of females in the U.S. have sexual intercourse by the 9th grade (2007 Youth Behavior Risk Survey, CDC)

• Median age of coitarche in U.S. girls is 15 (Kaiser Family Foundation)

• Vaccine produces stronger immune response in females ages 10-14 compared to 15-25 year olds
Challenges to HPV Vaccine Implementation: Parental Acceptance

- Lack of awareness about HPV
- Misunderstandings about HPV
- Feelings that HPV is a different type of infection/disease than other vaccine-preventable illnesses
- Concerns about/denial of childrens’ potential sexual behaviors
- Physician recommendation of vaccine important to acceptance
HPV Vaccine Side Effects

- Most common: pain at injection site (84% vs. 49% injected with placebo)
- 25% swelling, erythema at injection site
- Fever, headache, dizziness, nausea
- Syncope → observe patient 15 minutes after vacc.
- As of June 08, VAERS received reports of 9,749 potential adverse events following HPV vaccination
  - 6% considered serious, compared to 10-15% for other vaccines
  - No proven causality
ACIP Recommendations for HPV Vaccine

- In June 2006, ACIP recommended that the prophylactic HPV vaccine be routinely given to girls 11-12 years old
- Allows for vaccination of girls beginning at 9 years old, at the discretion of the physician
- “Catch-up” vaccination of girls and women 13-26 years old
Federal Coverage for HPV Vaccine: Vaccines for Children Program

- Provides vaccines for eligible children < 19 years old
  - Medicaid eligible
  - Uninsured
  - Underinsured (health insurance doesn’t pay for vaccines) and receives care in Federally Qualified Health Clinic (FQHC) or Rural Health Clinic (RHC)
  - American Indian/Alaska Native
Methods:

Awareness and Use of HPV Vaccine

• 2007 Los Angeles County Health Survey
• Periodic, population-based, random digit dial computer-assisted telephone survey in 6 languages
• 5,728 parents of children 0-17 interviewed (43% in language other than English)
• Descriptive analyses
• Logistic regression analyses
  – Parental age, race/ethnicity, education, income, marital status, language, birthplace; Child’s gender, age, insurance, difficulty accessing care, regular source of care
HPV Vaccine Questions

• Brief description of cervical cancer vaccine
• Before today, had you heard of…?
• Where did you hear about the vaccine?
• For parents of girl 9-17, has daughter received any shots?
• If not, how likely is it that you will vaccinate her?
• If not likely, why not?
Study Population: Parent Characteristics

Race/Ethnicity

- White: 59.3%
- Latino: 22.9%
- Black: 8.6%
- API: 8.8%

Education

- Less than high school: 31.7%
- High school: 26.9%
- Some college or trade school: 21.5%
- College/Grad degree: 19.8%
## Results: Awareness of HPV Vaccine

<table>
<thead>
<tr>
<th>Parent Race-Ethnicity</th>
<th>Percent</th>
<th>Adjusted OR (95% CL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>88.0%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>Latino</td>
<td>62.2%</td>
<td>0.56 (0.41, 0.76)</td>
</tr>
<tr>
<td>African American</td>
<td>76.6%</td>
<td>0.49 (0.32, 0.75)</td>
</tr>
<tr>
<td>Asian/ Pacific Islander</td>
<td>57.2%</td>
<td>0.34 (0.23, 0.52)</td>
</tr>
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<tr>
<th>Education</th>
<th>Percent</th>
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<tr>
<td>College or post graduate degree</td>
<td>81.6%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>Some college or trade school</td>
<td>78.4%</td>
<td>0.95 (0.72, 1.26)</td>
</tr>
<tr>
<td>High school</td>
<td>66.1%</td>
<td>0.72 (0.54, 0.97)</td>
</tr>
<tr>
<td>Less than high school</td>
<td>54.6%</td>
<td>0.53 (0.39, 0.72)</td>
</tr>
</tbody>
</table>

*P trend*<0.0001

Adjusted for parental age, race/ethnicity, education, income, marital status, language, birthplace; child’s gender, age, insurance, difficulty accessing care, regular source of care.
## Awareness of HPV Vaccine

<table>
<thead>
<tr>
<th>Child Age Group</th>
<th>Percent</th>
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<tr>
<td>0-8 yrs</td>
<td>67.0%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>9-10 yrs</td>
<td>67.7%</td>
<td>1.04 (0.80, 1.34)</td>
</tr>
<tr>
<td>11-12 yrs</td>
<td>71.2%</td>
<td>1.28 (1.00, 1.65)</td>
</tr>
<tr>
<td>13-14 yrs</td>
<td>70.7%</td>
<td>1.21 (0.92, 1.59)</td>
</tr>
<tr>
<td>15-17 yrs</td>
<td>72.6%</td>
<td>1.31 (1.02, 1.68)</td>
</tr>
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</table>

**P trend = 0.013**

<table>
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<tr>
<th>Child Insurance</th>
<th>Percent</th>
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<tr>
<td>Private</td>
<td>81.1%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>No insurance</td>
<td>56.4%</td>
<td>0.70 (0.49, 0.98)</td>
</tr>
<tr>
<td>Medi-Cal</td>
<td>58.4%</td>
<td>0.75 (0.58, 0.96)</td>
</tr>
<tr>
<td>Healthy Families/ Healthy Kids</td>
<td>62.6%</td>
<td>0.90 (0.69, 1.19)</td>
</tr>
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Adjusted for parental age, race/ethnicity, education, income, marital status, language, birthplace; child’s gender, age, insurance, difficulty accessing care, regular source of care.
Where Did LA Parents Hear About HPV Vaccine?

- TV/ Radio: 67.4%
- Doctor/ Health care provider: 31.5%
- Newspapers/ Magazines: 15.4%
- Family/ Friends/ Co-workers: 11.8%
- Internet: 6.7%
- Other sources: 4.1%
Uptake of HPV Vaccine among Girls in LA County

- As of 2007, 22.7% of girls 11-17 had received at least one HPV vaccination
  - 32.6% of white girls
  - 20.3% of Latinas
  - 23.1% of Asian/Pacific Islander girls
  - 15.9% of African American girls
- 18.8% of girls 9-17 had received a shot
- 67.6% of parents whose 9-17 year old daughters had not received any shots said they were likely to have their daughters vaccinated against HPV
# Uptake of HPV Vaccine among Girls 9-17 Years Old

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<tr>
<td>White</td>
<td>24.6%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>Latino</td>
<td>16.7%</td>
<td>1.16 (0.67, 2.00)</td>
</tr>
<tr>
<td>African American</td>
<td>13.0%*</td>
<td>0.40 (0.18, 0.88)</td>
</tr>
<tr>
<td>Asian/ Pacific Islander</td>
<td>19.0%</td>
<td>1.25 (0.60, 2.59)</td>
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<td>1.0 (ref)</td>
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<tr>
<td>Some college or trade school</td>
<td>16.2%</td>
<td>0.54 (0.35, 0.85)</td>
</tr>
<tr>
<td>High school</td>
<td>14.2%</td>
<td>0.54 (0.29, 1.01)</td>
</tr>
<tr>
<td>Less than high school</td>
<td>16.4%</td>
<td>0.67 (0.34, 1.34)</td>
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* Unstable estimate

Adjusted for parental age, race/ethnicity, education, income, marital status, language, birthplace; child’s gender, age, insurance, difficulty accessing care, regular source of care.
Uptake of HPV Vaccine among Girls 9-17 Years Old

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<td>9-10 yrs</td>
<td>4.5%*</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>11-12 yrs</td>
<td>17.7%</td>
<td>5.86 (2.78, 12.4)</td>
</tr>
<tr>
<td>13-14 yrs</td>
<td>23.8%</td>
<td>10.0 (4.83, 20.7)</td>
</tr>
<tr>
<td>15-17 yrs</td>
<td>25.1%</td>
<td>10.2 (5.01, 20.7)</td>
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P trend <0.0001

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<td>1.0 (ref)</td>
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<tr>
<td>Medi-Cal</td>
<td>14.1%</td>
<td>0.68 (0.36, 1.30)</td>
</tr>
<tr>
<td>Healthy Families/ Healthy Kids</td>
<td>15.7%</td>
<td>0.90 (0.46, 1.74)</td>
</tr>
<tr>
<td>No insurance</td>
<td>7.3%*</td>
<td>0.31 (0.11, 0.89)</td>
</tr>
</tbody>
</table>

* Unstable estimates

Adjusted for parental age, race/ethnicity, education, income, marital status, language, birthplace; child’s gender, age, insurance, difficulty accessing care, regular source of care
Reasons Parents Cite for Not Vaccinating their Daughters against HPV (among those who do not intend to vaccinate)

- Concerned about side effects: 76.5%
- The vaccine is not required: 33.2%
- The vaccine will encourage kids to have sex: 30.3%
- Doctor has not recommended it: 26.8%
- High cost or no insurance coverage: 5.8%

22.7% of parents do not know if cost or insurance coverage would be an issue.

* Unstable estimates
HPV Vaccination in LA Girls: Conclusions

- Disparities in vaccine awareness among parents: Latino, African American, Asian/PI; parents with less education; parents whose kids lack insurance
  - Only 31% heard about vaccine from doctor
  - Culturally sensitive, multilingual educational efforts needed
  - Increase community awareness/understanding
HPV Vaccination in LA Girls: Conclusions

- Fewer disparities in vaccination rates in adjusted analyses
- Uninsured children remain vulnerable
- African American girls significantly less likely to be vaccinated
  - Access issues? African American parents cite same level of intention to vaccinate as other parental groups
  - Legacy of mistrust/fear?