Awareness and Use of the HPV Vaccine
Among Women in Los Angeles County

Findings from the 2007
Los Angeles County Health Survey

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Learning Objectives

• Identify the group of adult women for whom the ACIP currently recommends prophylactic HPV vaccination
• Describe utilization of the HPV vaccine and intention to get vaccinated among populations at ↑ risk for cervical cancer
• Understand barriers to widespread HPV vaccine implementation
Estimated Annual Burden of HPV-Related Diagnoses in the United States

- 11,070 new cases of cervical cancer
- 330,000 new cases of high-grade cervical dysplasia (CIN 2/3)
- 1 million new cases of low-grade cervical dysplasia (CIN 1)
- 1.4 million new cases of genital warts
- 3,870 deaths estimated in 2008

Cervical Cancer

- A preventable disease
- Worldwide burden: 493,000 cases/year
- Leading cause of cancer death for women in developing countries: 274,000 deaths/year
- Incidence in U.S. decreased dramatically in 20th century following introduction of routine Pap smears
- In U.S. disproportionately impacts low income women and women of color
Human Papillomavirus 101

- Necessary but insufficient cause of cervical cancer
- HPV DNA found in 99.7% of squamous cell cervical cancers, nearly as many adenocarcinomas
- The overwhelming majority of HPV infections are transient & do not result in cervical cancer or dysplasia
- Persistent HPV infection required for development of invasive or pre-invasive disease
Human Papillomavirus Types

- ~120 HPV types identified
- 30 - 40 infect the genital tract
- **Low-risk, non-oncogenic types**
  - Include 6 and 11, associated with anogenital warts (condyloma acuminata)
- **High-risk, oncogenic types**
  - 15 types, including 16 and 18, found in cancers and high grade intraepithelial lesions
  - Types 16 and 18 together responsible for ~70% of invasive cervical cancers worldwide
Prophylactic HPV Vaccine

- Bivalent vaccine includes HPV types 16 & 18
- Quadrivalent vaccine (available in U.S.) includes types 16, 18, 6, & 11
- Vaccines consist of “virus-like particles” based on coat protein; immunogenic but not infectious
- Efficacy preventing anogenital disease among women with no history of HPV 6/11/16/18 exposure – 100% (95% CI, 94 - 100%)

*For both prevention of condyloma and CIN*
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.
ACIP Recommendations for HPV Vaccine

- **Contraindication** to HPV immunization: immediate hypersensitivity to yeast or other component
- **Caution**: moderate or severe acute illness
- It is **appropriate** to vaccinate women with history of abnormal pap, CIN, or genital warts, immunosuppressed women, and lactating women
- **Vaccine not studied** in pregnant women—should be avoided (*but Category B based on data from animal studies showing no harm to fetus*)
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
- Of 7200 adult respondents, 2974 women 18 – 64
- Descriptive analyses
- Logistic regression analyses
  - Age, race/ethnicity, education, income, marital status, language, birthplace, insurance, regular source of care, access to care, sexual activity, Pap screening, HIV testing
Human papilloma virus, also called HPV, is a common sexually transmitted infection known to cause cervical cancer in women. A vaccine to prevent HPV infection is available and is called the cervical cancer vaccine, HPV shot, or Gardasil.

Before today, had you ever heard of a vaccine to prevent HPV and cervical cancer?
HPV Vaccine Questions

• Women 18 – 26: Have you received any HPV shots?

• How likely is it that you will get vaccinated?
  – Very likely, somewhat likely, not too likely, not at all likely

• Women 27 – 64: If the vaccine were available to you, how likely is it that you would get vaccinated?

• Women 18 – 64: If not likely, why not...?
Study Population

Race/ Ethnicity

- White: 31.0%
- Latino: 9.9%
- Black: 14.1%
- API: 0.3%
- AI & White/ AI: 44.7%

Household Income

- 0-99% FPL: 29.4%
- 100%-199% FPL: 12.1%
- 200%-299% FPL: 21.7%
- 300% or above FPL: 36.8%
# Results: Awareness of HPV Vaccine

<table>
<thead>
<tr>
<th>Race-Ethnicity</th>
<th>Percent</th>
<th>Adjusted OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>89.1%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>Latina</td>
<td>52.8%</td>
<td>0.48 (0.32, 0.74)</td>
</tr>
<tr>
<td>African American</td>
<td>77.9%</td>
<td>0.49 (0.30, 0.80)</td>
</tr>
<tr>
<td>Asian/ Pacific Islander</td>
<td>57.6%</td>
<td>0.50 (0.28, 0.91)</td>
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<thead>
<tr>
<th>Income (federal poverty level)</th>
<th>Percent</th>
<th>Adjusted OR (95% CI)</th>
</tr>
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<tbody>
<tr>
<td>300% or above FPL</td>
<td>86.6%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>200%-299% FPL</td>
<td>74.5%</td>
<td>0.80 (0.52, 1.22)</td>
</tr>
<tr>
<td>100%-199% FPL</td>
<td>60.9%</td>
<td>0.60 (0.39, 0.91)</td>
</tr>
<tr>
<td>0-99% FPL</td>
<td>45.9%</td>
<td>0.52 (0.33, 0.84)</td>
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P trend=0.0066

Adjusted for age, race/ethnicity, education, income, marital status, language, birthplace, insurance, regular source of care, access to care, sexual activity, Pap screening, HIV testing.
Uptake of HPV Vaccine and Interest in Getting Vaccinated

- Among women 18 – 26, only 5.0% report having received any doses of the vaccine.
- An additional 56.1% report that they intend to receive the vaccine.
- Among “older” women up to age 50, more reported interest in vaccine.
## Intention to Get Vaccinated

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percent</th>
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<tbody>
<tr>
<td>18-26 yrs</td>
<td>56.1%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>27-29 yrs</td>
<td>68.9%</td>
<td>3.11 (1.47, 6.57)</td>
</tr>
<tr>
<td>30-39 yrs</td>
<td>71.3%</td>
<td>3.58 (2.06, 6.22)</td>
</tr>
<tr>
<td>40-49 yrs</td>
<td>57.0%</td>
<td>2.56 (1.48, 4.43)</td>
</tr>
<tr>
<td>50-59 yrs</td>
<td>45.1%</td>
<td>1.77 (1.00, 3.16)</td>
</tr>
<tr>
<td>60-64 yrs</td>
<td>42.5%</td>
<td>1.82 (0.95, 3.47)</td>
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### Race-Ethnicity

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<tr>
<td>White</td>
<td>47.4%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>Latina</td>
<td>70.4%</td>
<td>1.61 (1.09, 2.36)</td>
</tr>
<tr>
<td>African American</td>
<td>59.1%</td>
<td>1.18 (0.74, 1.88)</td>
</tr>
<tr>
<td>Asian/ Pacific Islander</td>
<td>60.3%</td>
<td>2.20 (1.26, 3.81)</td>
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Adjusted for age, race/ethnicity, education, income, marital status, language, birthplace, insurance, regular source of care, access to care, sexual activity, Pap screening, HIV testing.
### Intention to Get Vaccinated

<table>
<thead>
<tr>
<th>Education</th>
<th>Percent</th>
<th>Adjusted OR (95% CL)</th>
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<tbody>
<tr>
<td>College or post graduate degree</td>
<td>51.0%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>Some college or trade school</td>
<td>56.1%</td>
<td>1.19 (0.85, 1.65)</td>
</tr>
<tr>
<td>High school</td>
<td>59.3%</td>
<td>1.18 (0.77, 1.83)</td>
</tr>
<tr>
<td>Less than high school</td>
<td>81.5%</td>
<td>2.84 (1.54, 5.22)</td>
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<tr>
<th>Language Used Most at Home</th>
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<tbody>
<tr>
<td>English</td>
<td>53.5%</td>
<td>1.0 (ref)</td>
</tr>
<tr>
<td>Spanish</td>
<td>74.2%</td>
<td>1.74 (1.00, 3.03)</td>
</tr>
<tr>
<td>Asian/ Pacific Islander languages</td>
<td>69.1%</td>
<td>2.94 (1.10, 7.87)</td>
</tr>
<tr>
<td>Other languages</td>
<td>54.2%</td>
<td>2.16 (0.70, 6.68)</td>
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P trend=0.0049

Adjusted for age, race/ethnicity, education, income, marital status, language, birthplace, insurance, regular source of care, access to care, sexual activity, Pap screening, HIV testing.
Reasons Women Do Not/Would Not Want to Receive HPV Vaccine

- Do not need the vaccine: 43.0%
- A health care provider has not recommended it: 18.2%
- Concerned about possible side effects: 17.2%
- The vaccine is too expensive: 3.0%
- Insurance does not cover it: 2.7%
- Concerns related to religious beliefs: 2.6%
- Some other reason: 28.6%
Conclusions

• Disparities in awareness of vaccine
  – Need for educational efforts targeting Latinas, Asians/Pacific Islanders, African Americans, low income women

• Very low uptake of vaccine among young women (18-26) eligible for vaccination
  – More study needed of this group to identify concerns/barriers
Conclusions

• Majority of women 18-26 intend to get vaccinated, but interest in vaccine is greater among women 27-49
  – Why is the target age group less interested in the vaccine?
  – How do we facilitate vaccination among young women who intend to get vaccinated?
  – Will the vaccine be recommended/appropriate for use in U.S. women over age 26?
Conclusions

• Women not interested in vaccination commonly cite “not needing” vaccine— is their perception correct?

• Interest in vaccination highest among population groups at high risk for cervical cancer:
  – Latinas, Asians/Pacific Islanders, women with little formal education