

# HPV Vaccine Initiation in High Risk Communities; Los Angeles, California, USA

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## BACKGROUND

- Human papillomavirus (HPV) vaccine holds promise for reducing the burden of cervical cancer and other HPV-related disease.
- The U.S. Advisory Committee on Immunization Practices recommends that HPV vaccine be routinely administered to all 11-12 year old girls with “catch-up” vaccination of 13-26 year old females.
- Though HPV vaccine is available to eligible girls age  $\leq 18$  through the federally funded Vaccines for Children program, understanding barriers to vaccination is critical to ensuring that those at high risk for HPV receive the vaccine.
- The study objectives were to determine vaccine uptake and to assess barriers to and facilitators of vaccination among adolescent girls attending public middle and high schools in Los Angeles with the highest chlamydia and teen pregnancy rates.

## METHODS

- During October 2007--June 2008, 512 telephone surveys were conducted in either English or Spanish with parents of 11-18 year old girls randomly selected from school rosters (response rate 48%).
- Main outcomes: HPV vaccine initiation (daughter received  $\geq 1$  dose) and intention to vaccinate within the next year among the unvaccinated.
- Associations of potential covariates with vaccination status and intention to vaccinate were evaluated in multivariate logistic regression models using stepwise selection.

## RESULTS

- Respondents were predominately Latino (82%), followed by African-American (16%). The majority were parents (86% mothers; 9% fathers). More than 70% preferred Spanish over English.
- Mean age of respondents was 41.7 +/- 7.4 (Range 22-71).
- The majority had a high school education or less (70%).
- Half of respondents' index daughters were age 14 or younger (52%).

### Access to Health Care and HPV Vaccine

- Almost all reported their daughter had seen a provider in the past year (93%).
- 30% reported that a doctor had recommended HPV vaccine.

### Vaccination and Intention to Vaccinate

- 23% of parents (116) reported that their 11-18 year old daughter had received at least one dose of HPV vaccine.
- Among parents with unvaccinated daughters (387) asked the likelihood of vaccinating their daughter within the next year:
  - 62% stated that they “probably/definitely” would
  - 18% “probably/definitely” won't
  - 21% were undecided or did not know

Multivariate analyses of factors associated with vaccine initiation (yes/no) and intent to vaccinate (yes/no)

Covariates	Vaccine Initiation		Intent to Vaccinate <sup>a</sup>	
	AOR (95% CI)		AOR (95% CI)	
Ethnicity & language	Spanish-speaking Latinos	1	1	
	English-speaking Latinos	1.16 (0.30, 4.53)	0.98 (0.43, 2.26)	
	African-Americans	0.60 (0.17, 2.08)	1.00 (0.49, 2.03)	
	Other ethnicities	0.12 (0.02, 1.00)	1.10 (0.31, 3.91)	
Respondent Age (continuous; range 22-71)	1.02 (0.96, 1.07)		0.97 (0.94, 1.00)	
Gender	Female	1	1	
	Male	3.31 (0.90, 12.22)	0.41 (0.21, 0.81)**	
Education level	Less than high school	1	1	
	Some high school or more	1.04 (0.39, 2.82)	0.56 (0.31, 0.99)*	
Age of daughter	11 to 14	1	1	
	15 to 18	0.66 (0.31, 1.39)	0.74 (0.47, 1.17)	
<b>Awareness</b>				
Heard of HPV before today <sup>b</sup>		--	--	
Heard of HPV vaccine before today <sup>b</sup>		2.59 (1.14, 5.90)**	--	
Know someone with HPV disease <sup>b</sup>		--	1.96 (1.13, 2.40)*	
<b>Access to health care</b>				
Daughter had 1 or more preventive visits in last year <sup>b</sup>		--	--	
Daughter has regular source of care <sup>b</sup>		--	--	
<b>Attitudes/Beliefs</b>				
Negative attitudes toward the vaccine <sup>c</sup>		0.22 (0.05, 0.91)*	0.54 (0.32, 0.91)*	
Belief in vaccine effectiveness <sup>d</sup>		2.90 (1.28, 6.55)**	2.35 (1.47, 3.73)**	
Belief that more info is needed <sup>e</sup>		0.08 (0.04, 0.18)**	--	
<b>Physician Variable</b>				
Doctor recommended vaccine <sup>a</sup>		48.54 (21.13, 111.50)**	--	

Note: Demographics were forced into the model. Where cells have no values, the covariate did not enter the stepwise logistic model.

<sup>a</sup>Intend to vaccinate; “probably/definitely” would vaccinate within the year among those reporting no vaccination.

<sup>b</sup>Dichotomous; “No” is reference category

<sup>c</sup>Based on dichotomous split, 6 questions about attitudes toward HPV vaccine grouped by factor analysis (daughter too young for STD vaccine, may be more likely to have sex, unsafe, being pushed by drug companies, too expensive, don't believe in vaccines).

<sup>d</sup>Based on dichotomous split, “I believe the HPV vaccine works well”.

<sup>e</sup>Based on dichotomous split, 2 questions about attitudes toward HPV vaccine grouped by factor analysis (not enough information and so new want to wait a while before deciding).

\*p<.05

\*\*p<.01

## CONCLUSIONS

- The reported HPV vaccine coverage in this high risk community was similar to that found in the nationally representative National Immunization Survey—Teen (25%) as well as the population-based California Health Interview Survey (26%) during a similar time period.
- Provider recommendation was critical to vaccine initiation. An important strategy to increase vaccination rates should include outreach to providers about the importance of their recommendations.
- A substantial proportion of parents were still undecided about the vaccine and needing more information about HPV vaccine predicted daughters not being vaccinated. Thus, barriers to vaccination appear to be surmountable with educational campaigns in both Spanish and English. Campaigns should address vaccine effectiveness and dispel negative attitudes related to safety, sexual disinhibition, and age of vaccination.