Parents who refuse or delay HPV vaccine: Differences in behavior, concerns, and communication preferences

Melissa B. Gilkey¹, PhD, William A. Calo², PhD, & Noel T. Brewer², PhD

¹ Harvard Medical School
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Disclosures

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BACKGROUND

What do we know about parental refusal and delay of HPV vaccine?
Clinic systems function to
- Identify eligible patients
- Use reminder/recall
- Make appointments
- Document vaccines

Parent/patient
- Knowledge, attitudes, demographics

Provider
- Knowledge, attitudes, motivation, skills

Clinic systems function to
- Identify eligible patients
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Determinants

Behaviors
- Parent/patient Consents
- Provider Recommends

Context
- Limited time in visit
- Staff turnover
- Clinic size & specialty
- Publicly-funded vaccine programs
- School entry requirements
- Geographic region

Conceptual model of low HPV vaccine coverage

HPV vaccine delivery
Conceptual model of low HPV vaccine coverage

Determinants

- Parent/patient
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HPV vaccine delivery

- School entry requirements
- Geographic region
Lessons from early childhood immunization

• Few parents categorically reject vaccines

• However, many refuse or intentionally delay vaccines selectively

• Concerns about vaccines are common, even among parents who adhere to guidelines
Which vaccines do parents refuse?

Note. Data from 2011 NIS & 2010 NIS-Teen. *HPV vaccine refusal assessed for females only.
Study aims

1. Estimate the national prevalence of HPV vaccine refusal and delay among parents of adolescents

2. Compare parents’ vaccination behaviors, beliefs, and communication preferences by refusal/delay status
Parent Communication Study, 2015

Cross-sectional, national online survey

Response rate: 61%

1,484 parents of 11- to 17-year-old adolescents

• 58% White, 12% Black, 17% Hispanic
• 51% male
• 48% reported HPV vaccine initiation for child
Measures

Refusal
Has there ever been a time when you refused or decided not to get the HPV vaccine for [NAME]?

Delay
Has there ever been a time when you delayed or put off getting the HPV vaccine for [NAME]?

(Adapted from 2010 NIS Teen)
**Aim 1**

Estimate the national prevalence of HPV vaccine refusal and delay
HPV vaccine refusal/delay

<table>
<thead>
<tr>
<th></th>
<th>Full sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=1,484)</td>
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<tr>
<td></td>
<td>Girls, ages 13-17</td>
</tr>
<tr>
<td></td>
<td>(n=535)</td>
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<tr>
<td></td>
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<td></td>
<td>(n=4,103)</td>
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## HPV vaccine refusal/delay

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## HPV vaccine refusal/delay

|                | Full sample  
|----------------|----------------|
|                | \((n=1,484)\) | Girls, ages 13-17  
|                | \((n=535)\)    | 2010 NIS-Teen     |
| Refusal        | 28\%           | 30\%             | 20\%              |
| Delay          | 8\%            | 12\%             | 11\%              |
| Neither        | 64\%           | 58\%             | 69\%              |
## HPV vaccine refusal/delay

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Aim 2

Compare parents’ vaccination behaviors, beliefs, and communication preferences by refusal/delay status
HPV vaccination behavior & intention

**Refusal**
- Vaccinated (≥1 dose): 27%
- Intended to vaccinate: 10%
- Did not intend to vaccinate: 63%

**Delay**
- Vaccinated (≥1 dose): 59%
- Intended to vaccinate: 27%
- Did not intend to vaccinate: 14%

**Neither**
- Vaccinated (≥1 dose): 56%
- Intended to vaccinate: 16%
- Did not intend to vaccinate: 28%

**HPV vaccination status**
- Vaccinated (≥1 dose)
- Intended to vaccinate
- Did not intend to vaccinate
Correlates of HPV vaccine refusal

<table>
<thead>
<tr>
<th></th>
<th>% reporting refusal</th>
<th>RRR</th>
<th>(95% CI)</th>
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<tbody>
<tr>
<td><strong>Effectiveness</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>36%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>23%</td>
<td>0.68</td>
<td>(0.50-0.91)*</td>
</tr>
<tr>
<td><strong>Harms</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>21%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>50%</td>
<td>3.49</td>
<td>(2.65-4.60)**</td>
</tr>
<tr>
<td><strong>Uncertainty</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>28%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>37%</td>
<td>1.05</td>
<td>(0.78-1.41)</td>
</tr>
<tr>
<td><strong>Confidence</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>42%</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>28%</td>
<td>0.66</td>
<td>(0.48-0.91)*</td>
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*Note. Model controlled for child’s age, sex, and race/ethnicity.*

*p<0.05, **p<0.01
## Correlates of HPV vaccine delay

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<td>1</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>11%</td>
<td>1.18</td>
<td>(0.77-1.83)</td>
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<td>Low</td>
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<td>1</td>
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<tr>
<td>High</td>
<td>10%</td>
<td>0.79</td>
<td>(0.45-1.28)</td>
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<td>Low</td>
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<td>1</td>
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<tr>
<td>High</td>
<td>14%</td>
<td>1.76</td>
<td>(1.08-2.85)*</td>
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<tr>
<td><strong>Confidence</strong></td>
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<td>Low</td>
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<td>1</td>
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</tr>
<tr>
<td>High</td>
<td>11%</td>
<td>1.07</td>
<td>(0.59-1.94)</td>
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*p<0.05, **p<0.01*
Correlates summary

**HPV vaccine refusal**
- Low perceived effectiveness
- High perceived harms
- Low vaccination confidence

**HPV vaccine delay**
- High uncertainty
Perceived helpfulness of clinical information

*Refusal

*Delay

*Neither

*p<0.01
Key findings

• HPV vaccine refusal was common among parents of adolescents and may have increased relative to previous estimates

• Parents who refused HPV vaccine differed from those who delayed
  o Behaviors
  o Beliefs
  o Communication preferences
Implications

- Targeted communication strategies may be relevant to addressing HPV vaccine hesitancy

- Providers who encounter HPV vaccine hesitancy should keep trying
Thank you

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