Adolescent AFIX Study: A PHSSR Approach to Improving the Delivery of HPV Vaccine

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Overview

• Background
  ▫ HPV vaccination in the U.S.
  ▫ CDC’s AFIX model

• Adolescent AFIIX Study
  ▫ Formative research
  ▫ Material development
  ▫ RCT progress to date

• PHSSR facilitators & challenges
HPV Vaccination in the U.S.

“Increasing HPV uptake must be a national priority.”

--President’s Cancer Panel
HPV vaccination guidelines

- Routine administration
  - Males and females, ages 11-12

- Catch up
  - Females and MSM to age 26
  - Other males to age 21

- Concomitant vaccination
  - Tetanus, diphtheria, pertussis (Tdap)
  - Meningococcal vaccine
U.S. adolescent immunization coverage

Data from National Immunization Survey-Teen
U.S. adolescent immunization coverage

Data from National Immunization Survey-Teen

Healthy People 2020 Goal

53,000 preventable cervical cancers
Conceptual Model of Low HPV Vaccine Uptake

**Determinants**
- **Parent/patient**
  - Knowledge, attitudes, demographics
- **Provider**
  - Knowledge, attitudes, motivation, skills
- **Clinic systems function to**
  - Identify eligible patients
  - Use reminder/recall
  - Make appointments
  - Document vaccines

**Behaviors**
- **Parent/patient**
  - Consents
- **Provider**
  - Prioritizes
  - Recommends

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

**HPV vaccine delivery**
Role of parents

- Reasons for not getting HPV vaccine vary

<table>
<thead>
<tr>
<th>Reason</th>
<th>Girls (%)</th>
<th>Boys (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of knowledge</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Not needed</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>Not recommended</td>
<td>13%</td>
<td>23%</td>
</tr>
<tr>
<td>Safety/side effects</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td>Not sexually active</td>
<td>11%</td>
<td>8%</td>
</tr>
</tbody>
</table>

National Immunization Survey – Teen, 2013 (Stokley et al., 2014)
Role of healthcare providers

National Immunization Survey – Teen, 2013 (Stokley et al., 2014)
Recommendations need improvement

- No recommendation
  - 36% of girls and 58% of boys, ages 13-17, have not received a recommendation

- Weak recommendation
  - >60% of providers prefer to recommend HPV vaccine as “optional” for 11- to 12-year-olds

(Stokley et al., 2014; McRee et al., 2014)
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Odds ratio = 18
CDC’s AFIX Model
Theory and prior evaluation
CDC’s AFIX Model

- Informed by Continuous Quality Improvement
  - Data-driven approach
  - Use of short, PDSA cycles
  - Spirit of experimentation, collaboration
Coverage change for 15 studies of “assessment and feedback,” 1997-2007

Study design: ◆ RCT  ■ observational  ▲ low quality design

Groom, Hopkins, Lawrence, & Cruse, 2008
NC AFIX Pilot: 3-arm RCT with 91 clinics

In-person consultation
• Face-to-face meetings in clinics

Webinar consultation
• Online meetings using video conferencing software

Control
• No intervention
Vaccine coverage changes at 5 months, ages 11-12
Additional findings

- AFIX impact disappeared by 12 months
- AFIX did little to improve catch-up vaccination for older adolescents, ages 13-18, at either time
UNC Adolescent AFIX Study

Aims, progress, and next steps
Goal: Increase HPV vaccination coverage

1. Develop an improved adolescent AFIX consultation, focusing specifically on HPV vaccination
2. Assess the longitudinal impact of consultations on adolescents’ vaccination status
3. Compare the effectiveness of in-person and webinar delivery of AFIX consultations
<table>
<thead>
<tr>
<th>Finding</th>
<th>Intervention component</th>
</tr>
</thead>
</table>
| 1. AFIX visits vary substantially in content, length, and participant role | • AFIX intervention protocol  
  • AFIX training guide                                                 |
| 2. Physicians rarely participate                                      | • Goal to schedule with physicians and other vaccine providers |
| 3. Incentives are likely inadequate                                    | • CMEs for participation                                    |
| 4. Clinicians do not see HPV vaccination as a QI priority              | • Immunization report card  
  • Academic detailing on HPV vaccination                             |
| 5. Competing demands overshadow AFIX                                  | • QI action plan  
  • Coaching emails w/ progress reports  
  • Separation of AFIX and VFC visits                                  |
Immunization report card

• Communicate the problem
• Set a goal
• Give a solution
## REVIEW

**your clinic’s adolescent vaccine coverage.**

ABC Pediatrics                VFC 12345678                3/20/15

<table>
<thead>
<tr>
<th>Your clinic has...</th>
<th>HPV</th>
<th>Meningococcal, ≥1 dose</th>
<th>Tdap</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Males, ≥1 dose</td>
<td>Females, ≥1 dose</td>
<td></td>
</tr>
<tr>
<td>567 patients, age 11-12</td>
<td>20 %</td>
<td>45 %</td>
<td>68 %</td>
</tr>
<tr>
<td>756 patients, age 13-17</td>
<td>31 %</td>
<td>60 %</td>
<td>79 %</td>
</tr>
</tbody>
</table>

Coverage estimates are for patients in our state's immunization registry.
<table>
<thead>
<tr>
<th>HPV Goal</th>
<th>Progress at 3 months</th>
<th>Progress at 6 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>57 patients, age 11-12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>76 patients, age 13-17</td>
<td></td>
<td></td>
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Goals represent 10% of male and female patients in your clinic with records in our state's immunization registry. A typical clinic may give the first dose of HPV vaccine to 5% of their adolescent patients in 6 months. The goal is to double this rate.

2 SET A GOAL to improve HPV vaccine coverage in the next 6 months.
2. **Set a goal** to improve HPV vaccine coverage in the next 6 months.

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<th>Progress at 3 months</th>
<th>Progress at 6 months</th>
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<tr>
<td>57 patients, age 11-12</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>76 patients, age 13-17</td>
<td>46</td>
<td></td>
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3 month follow up
QI action plan

Primary strategy
- Share HPV vaccination coverage estimates
- Discuss giving strong HPV vaccination recommendations

Secondary strategy
- Review CDC guidelines
- Train front desk staff
- Encourage physicians to sign standing orders
- Give educational materials to parents

Communication plan
- Share hard copies of Immunization Report Card
- Deliver a presentation during a staff meeting
- Provide e-mail addresses to state vaccination specialist
Pilot

- Each state delivered 1 in-person and 1-webinar AFIX consultation
- Research team refined intervention based on feedback
Recruitment to date

- **Clinics**: Contacted, Recruited, Completed
- **Contacted**
  - In-person
  - Webinar
- **Recruited**
  - In-person
  - Webinar
- **Completed**
  - In-person
  - Webinar
<table>
<thead>
<tr>
<th>Evaluation component</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vaccination coverage at 0-, 3-, 6-, 9-, and 12-months</td>
<td>• State immunization registries</td>
</tr>
<tr>
<td>A. HPV vaccine (≥1 dose)</td>
<td></td>
</tr>
<tr>
<td>B. Other adolescent vaccines</td>
<td></td>
</tr>
<tr>
<td>2. Fidelity</td>
<td>• Participant observation of webinar consultations</td>
</tr>
<tr>
<td>3. Participant satisfaction, self-efficacy, engagement</td>
<td>• Online surveys of healthcare providers</td>
</tr>
<tr>
<td>4. Delivery cost</td>
<td>• State partner time logs and invoices</td>
</tr>
<tr>
<td>5. State partner feedback</td>
<td>• Weekly TA calls</td>
</tr>
</tbody>
</table>
PHSSR lessons learned

Challenges

- Limitations in capacity for state health departments
- Lack of standardization in state vaccine registries
- Balancing “light touch” with impact

Facilitators

- Creative, highly-dedicated, supportive partners
- National movement for HPV vaccine quality improvement
Commentary and questions

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