Presented by Melissa Gilkey, PhD, Assistant Professor of Population Medicine at Harvard Medical School and Harvard Pilgrim Health Care Institute

“Research Project Update: AFIX Program Strategies for Improving HPV Vaccination Rates in the Field”

Presentation to the Association of Immunization Managers, hosted by the Centers for Disease Control and Prevention

May 19, 2016

(https://cc.readytalk.com/cc/s/meetingArchive?eventId=aqwpptdbl5b)
Research Update: HPV Vaccine AFIx Study

Research Team
Melissa Gilkey, William Calo, Jennifer MacKinnon, Jennifer Leeman, Jennifer Moss, & Noel Brewer

Practice Teams
Chrystal Averette, Nicole Freeto, Wendy Bowman, Steffen Burney (Washington)
Susan Williams, Linda Kasebier, Tiffany Fuller (Illinois)
Stephanie Sanchez, Rachel Potter (Michigan)
HPV Vaccination in the U.S.

“Increasing HPV uptake must be a national priority.”

--President’s Cancer Panel
HPV vaccination guidelines

- On-time
  - Males and females, ages 11-12

- Late
  - Females and MSM to age 26
  - Other males to age 21
U.S. adolescent immunization coverage

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

Healthy People 2020 Goal

53,000 preventable cervical cancers

Data from National Immunization Survey-Teen
Role of parents

• Reasons for not getting HPV vaccine vary

- Lack of knowledge: 16% (Girls) 16% (Boys)
- Not needed: 15% (Girls) 18% (Boys)
- Not recommended: 13% (Girls) 23% (Boys)
- Safety/side effects: 14% (Girls) 7% (Boys)
- Not sexually active: 11% (Girls) 8% (Boys)

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

- Among those who received first dose:
  - Provider recommendation:
    - None
    - Low-quality
    - High-quality

(Gilkey et al., Vaccine, 2016)
Recommendations need improvement

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

- Weak recommendation
  - 51% of physicians report using 2 or more lower-quality HPV vaccine recommendation practices

(Stokley et al., 2014; Gilkey et al., 2016)
Clinic systems function to
Identify eligible patients
Use reminder/recall
Make appointments
Document vaccines

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

HPV vaccine delivery
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

---

HPV vaccine delivery
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

- **HPV vaccine delivery**
AFIX

Theoretical basis and prior evaluation
CDC’s AFIX Model

- **Assessment** of immunization coverage
- **Feedback** of the assessment results
- **Incentives** to improve coverage levels
- **Exchange** of information and resources
Continuous Quality Improvement

- Data-driven approach
- Use of short, PDSA cycles
- Spirit of experimentation, collaboration
2011 AFIX Pilot: 3-arm RCT w/ 91 clinics

- **In-person visit**
- **Webinar visit**
- **Control**
  - No AFIX
Vaccine coverage changes at 5 months, ages 11-12

(Gilkey et al., Pediatrics, 2014)
HPV Vaccine AFIX Study

Aims, intervention development, and evaluation
Study goal: Raise HPV vaccination coverage

1. Identify key challenges to HPV vaccination quality improvement in primary care clinics
2. Develop tools and strategies to address those challenges during AFIx visits
3. Assess the impact of modified AFIx visits on adolescents’ HPV vaccination status
Formative research

Interviews with AFIX stakeholders

- State health department staff who deliver AFIX
- Vaccine providers who receive AFIX
- AFIX leaders at CDC
QI Challenge 1

Some providers see low HPV vaccination coverage as normal.
QI Challenge 1

Some providers see low HPV vaccination coverage as normal.

Goal

Communicate the problem, motivate QI, build skills & confidence.
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.
# 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.
**SET A GOAL**

to improve HPV vaccine coverage in the next 6 months.

<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>
</tr>
</tbody>
</table>

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.

---

Initial visit
2 SET A GOAL
to improve HPV vaccine coverage in the next 6 months.

<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>38</td>
<td></td>
</tr>
<tr>
<td>76 patients, age 13-17</td>
<td>46</td>
<td></td>
</tr>
</tbody>
</table>

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.

3 month follow up
**SET A GOAL**

to improve HPV vaccine coverage in the next 6 months.

<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>38</td>
<td>60</td>
</tr>
<tr>
<td>76 patients, age 13-17</td>
<td>46</td>
<td>80</td>
</tr>
</tbody>
</table>

Goals represent 10% of male and female patients in your clinic with records in your 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.

6 month follow up
YOUR IMMUNIZATION REPORT CARD

1 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.

2 SET A GOAL
to improve HPV vaccine coverage in the next 6 months.

<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>
</tr>
</tbody>
</table>

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 34% of their adolescent patients in 6 months. The goal is to double this rate.

3 RECOMMEND
HPV vaccination for adolescents, starting at age 11.

Offer HPV vaccine in the same direct way you recommend other vaccines. Try saying:

“Your child needs three shots today: meningitis, HPV, and Tdap vaccines.”

Your recommendation is the single biggest influence on parents’ decisions to get HPV vaccine for their children. The vaccine produces a better immune response in younger adolescents. Vaccinating in the preteen years is best.

EARN FREE CMEs
on HPV vaccine communication: www.cdc.gov/vaccines/ed/hpv/
QI Challenge 2

Incentivizing provider participation in AFIX necessary, but difficult.
Incentivizing provider participation in AFI X necessary, but difficult.

Goal

Identify low-cost incentives that are meaningful to providers.
Strategies for involving providers

- CME credit to attend AFIX visit
  - 1.0 Hour of AMA Category 1 Credit
  - Accredited by the American Academy of Family Physicians
  - One-time fee of $600
- Didactic PPT presentation on HPV vaccine QI
- Quality improvement action plan
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 Report Card
- Deliver a presentation during a staff meeting
- Provide e-mail addresses to AFIX specialist
QI Challenge 3

Competing demands can overshadow AFIX.
QI Challenge 3

Competing demands can overshadow AFIX.

Goal

Create opportunities to keep in touch with providers and maintain their focus.
Strategies for maintaining focus

- Interim progress report
- Email coaching
  - Educational resources
  - Immunization report cards at 0-, 3-, and 6-months
Putting it all together

Schedule clinics
- CMEs to incentivize provider participation

Deliver AFIX visits
- Report card to communicate problem, set QI goal
- PPT slides to improve knowledge, skills
- Action plan to facilitate communication within clinic

Conduct follow-up
- Interim progress reports to inform further QI effort
- Email coaching to maintain providers’ focus
Assessing impact
Ongoing randomized controlled trial
Study team
3-arm RCT with 250 primary care clinics

- **In-person visit**
- **Webinar visit**
- **Control**
  - No AFIX
## Assessments

<table>
<thead>
<tr>
<th>Evaluation component</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vaccination coverage at 0-, 3-, 6-, 9-, 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>Observation of AFIX visits</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>
Satisfaction ratings (preliminary)

Facilitation
Convenience
Ease of understanding

Our definition of success

In-person
Webinar
Intermediate outcomes (preliminary)

- HPV QI is important
- HPV coverage is lower than I'd like
- Our clinic can improve
- I can help

Bar chart showing performance before and after a visit.
Stay tuned for data on…

Outcomes
  ▫ Impact of AFIX consultations on HPV vaccination coverage

Delivery mode
  ▫ Comparison of webinar versus in-person delivery on cost, satisfaction, and effectiveness
Research team conclusions

- AFIX is an opportunity
- Creative solutions to QI challenges are needed
  - Communicating the problem of low coverage
  - Incentivizing and maintaining provider participation
  - Setting measurable goals
Thank you

Melissa B. Gilkey, PhD
Harvard Medical School & Harvard Pilgrim Health Care Institute
Phone: 617.867.4896 | Email: Melissa_Gilkey@hphc.org