Adolescent AFI X: A Multi-state RCT to Increase Adolescent Immunization through Vaccine Provider Best Practices

Research In Progress Webinar
Thursday, September 14, 2017 12:00-1:00pm ET/ 9:00am-10:00am PT

Funded by the Robert Wood Johnson Foundation
Agenda

Adolescent AFIX: A Multi-state RCT to Increase Adolescent Immunization through Vaccine Provider Best Practices

Welcome: Rick Ingram, DrPH, Assistant Professor, University of Kentucky College of Public Health

Presenters: Melissa Gilkey, PhD, Assistant Professor, Department of Health Behavior gilkey@email.unc.edu and Jennifer MacKinnon, MPH, Project Coordinator, heislerm@email.unc.edu, School of Global Public Health, University of North Carolina at Chapel Hill

Commentary: Phil Huang, MD, MPH, S4A National Advisory Committee Member; Medical Director and Health Authority, Austin/Travis County Health & Human Services Department
Chrystal Averette, MPH, AFIX & QI Coordinator, Washington State Department of Health

Questions and Discussion
Presenters

Melissa Gilkey, PhD
Assistant Professor, Department of Health Behavior
UNC Gillings School of Global Public Health
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Jennifer MacKinnon, MPH
Project Coordinator
UNC Gillings School of Global Public Health
University of North Carolina at Chapel Hill
heislerm@email.unc.edu
HPV AFIX: A public health systems approach to improving HPV vaccine delivery

**UNC Research Team**
Melissa Gilkey, William Calo, Jennifer MacKinnon, Jennifer Leeman, Marcy Boynton, Jennifer Moss, & Noel Brewer

**SHD Practice Teams**
Chyrystal Averette, Nicole Freeto, Wendy Bowman, Steffen Burney (Washington)
Susan Williams, Linda Kasebier, Tiffany Fuller (Illinois)
Stephanie Sanchez, Rachel Potter (Michigan)
Background
HPV vaccination in the U.S.
HPV vaccination schedule

On-time

- Males and females, ages 11-12

Late

- Females to age 26
- Males to age 21
Adolescent immunization coverage, ages 13-15

- Tdap
- Meningococcal
- HPV (3 doses, females)
- HPV (3 doses, males)

Data from National Immunization Survey-Teen
Role of healthcare providers

**Graph:**

- **Y-axis:** % vaccinated
- **X-axis:** HPV vaccination status
- **Bars:**
  - ≥1 dose
  - 3 doses*
- **Colors:**
  - None (blue)
  - Low-quality (red)
  - High-quality (green)

Provider recommendation:
- None
- Low-quality
- High-quality

*Among those who received first dose

(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

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

(Stokley et al., 2014; Gilkey et al., 2016)
CDC’s AFIX Model

- **Assessment** of immunization coverage
- **Feedback** of the assessment results
- **Incentives** to improve coverage levels
- **eXchange** of information and resources
AFIX as intervention

- Uses provider assessment and feedback, an evidence-based strategy
- Shown to be effective for increasing coverage for early childhood vaccines
- Has evolved over time
AFIX as system
Interactive Systems Framework

Funding

Implementing prevention—Prevention delivery system
- General capacity use
- Innovation-specific capacity use

Supporting the work—Prevention support system
- General capacity building
- Innovation-specific capacity building

Distilling the information—Prevention synthesis and translation system
- Synthesis
- Translation

Macro policy

Climate

Existing research and theory

Wandersman et al., 2008
Interactive Systems Framework

Wandersman et al., 2008

Primary care providers

Implementing prevention—Prevention delivery system
- General capacity use
- Innovation-specific capacity use

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Climate
Interactive Systems Framework

Wandersman et al., 2008

Primary care providers

Researchers
Interactive Systems Framework

Wandersman et al., 2008
2011 AFIX Pilot: 3-arm RCT w/ 91 clinics

- In-person visit
- Webinar visit
- Control
  No AFIX
HPV vaccine coverage changes (≥1 dose), girls ages 11-12

(Gilkey et al., Pediatrics, 2014)
HPV 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 settings
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
Our partners
HPV AFIX Intervention

Schedule clinics

• CMEs to incentivize provider participation
HPV AFIX Intervention

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
HPV AFIX Intervention

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
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</th>
<th>Tdap</th>
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<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>
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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>
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<tbody>
<tr>
<td>57 patients, age 11-12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>76 patients, age 13-17</td>
<td></td>
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</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 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/
3-arm RCT w/ 224 clinics

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

<table>
<thead>
<tr>
<th>Clinic location</th>
<th>n</th>
<th>(%)</th>
</tr>
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<tbody>
<tr>
<td>Illinois</td>
<td>92</td>
<td>(41)</td>
</tr>
<tr>
<td>Michigan</td>
<td>43</td>
<td>(19)</td>
</tr>
<tr>
<td>Washington</td>
<td>89</td>
<td>(40)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size (# of patients ages 13-17)</th>
<th>n</th>
<th>(%)</th>
</tr>
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<tbody>
<tr>
<td>500-1000</td>
<td>94</td>
<td>(42)</td>
</tr>
<tr>
<td>1001-1500</td>
<td>58</td>
<td>(26)</td>
</tr>
<tr>
<td>&gt;1500</td>
<td>72</td>
<td>(32)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clinic type</th>
<th>n</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pediatrics</td>
<td>134</td>
<td>(60)</td>
</tr>
<tr>
<td>Family medicine</td>
<td>90</td>
<td>(40)</td>
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</tbody>
</table>
# Assessments

<table>
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<tr>
<th>Evaluation component</th>
<th>Data source</th>
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<td>1. HPV vaccination coverage at 0-, 6-, 12-months</td>
<td>State immunization information systems</td>
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## Assessments

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<tr>
<td>1. HPV vaccination coverage at 0-, 6-, 12-months</td>
<td>State immunization information systems</td>
</tr>
<tr>
<td>2. Fidelity</td>
<td>Observation of AFIX visits</td>
</tr>
<tr>
<td>3. Provider 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 calls</td>
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</table>
HPV vaccine coverage changes (≥1 dose), ages 11-12

<table>
<thead>
<tr>
<th>Follow-up</th>
<th>Control</th>
<th>In-person</th>
<th>Webinar</th>
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<tbody>
<tr>
<td>6 months</td>
<td>10%</td>
<td>15%</td>
<td>10%</td>
</tr>
<tr>
<td>12 months</td>
<td>20%</td>
<td>25%</td>
<td>20%</td>
</tr>
</tbody>
</table>

*p < .05
Provider satisfaction

Our goal

Facilitation | Convenience | Ease of understanding

In-person | Webinar
Intermediate outcomes

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

* *p<.05
## Other delivery mode findings (average/clinic)

<table>
<thead>
<tr>
<th>In-person</th>
<th>Webinar</th>
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<tbody>
<tr>
<td>Reached 9 providers</td>
<td>Reached 5 providers</td>
</tr>
<tr>
<td>Cost $733 to deliver</td>
<td>Cost $461 to deliver</td>
</tr>
<tr>
<td>Required 12.6 staff hours</td>
<td>Required 9.0 staff hours</td>
</tr>
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</table>
Discussion

• In-person HPV AFIX had a modest, but sustained impact on HPV vaccination coverage

• Webinar delivery demonstrated lower effectiveness, perhaps due to more limited reach

• More research is needed to understand which clinics benefit most from AFIX as well as dose needed
Next steps

- Disseminate findings and resources (HPVIQ.org)
- Assess strategies to efficiently increase AFIX impact
Commentary

Phil Huang, MD, MPH
Systems for Action National Advisory Committee Member
Medical Director and Health Authority, Austin/Travis County Health & Human Services Department, TX
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Chrystal Averette, MPH
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Washington State Department of Health
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Questions and Discussion
# Upcoming Webinars

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Topic</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>Wednesday, Oct. 11</td>
<td>12-1pm ET</td>
<td>The Comprehensive Care, Community, and Culture Program</td>
<td>David Meltzer, MD, PhD, Center for Health and the Social Sciences, and Harold Pollack, PhD, School of Social Service Administration, The University of Chicago,</td>
</tr>
<tr>
<td>Wednesday, Oct. 18</td>
<td>12-1pm ET</td>
<td>Financing and Service Delivery Integration for Mental Illness &amp; Substance Abuse</td>
<td>William Riley, PhD, College of Health Solutions, and Michael Shafer, PhD, College of Public Service and Community Solutions, Arizona State University</td>
</tr>
<tr>
<td>Thursday, Nov. 2</td>
<td>12-1pm ET</td>
<td>Testing a Community Complex Care Response Team to Improve Geriatric Public Health Outcomes</td>
<td>Carolyn E. Ziminski Pickering, PhD, MSN, BSN, University of Texas Health Science Center, San Antonio; and Christopher Maxwell, PhD, School of Criminal Justice, Michigan State University</td>
</tr>
<tr>
<td>Wednesday, Nov. 15</td>
<td>12-1pm ET</td>
<td>Implementing a Culture of Health among Delaware’s Probation Population</td>
<td>Daniel J. O’Connell, PhD, and Christy Visher, PhD, Department of Criminal Justice, Center for Drug &amp; Health Studies, University of Delaware</td>
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</table>
Thank you for participating in today’s webinar!

Twitter: @Systems4Action

#Sys4Act

www.systemsforaction.org

For more information about the webinars, contact:
Ann Kelly, Project Manager  Ann.Kelly@uky.edu  859.218.2317
111 Washington Avenue #201, Lexington, KY 40536
Acknowledgements

*Systems for Action* is a National Program Office of the Robert Wood Johnson Foundation and a collaborative effort of the Center for Public Health Systems and Services Research in the College of Public Health, and the Center for Poverty Research in the Gatton College of Business and Economics, administered by the University of Kentucky, Lexington, Ky.
Melissa Gilkey, PhD, is an Assistant Professor in the Department of Health Behavior at the University of North Carolina Gillings School of Global Public Health. With research interests in adolescent health, cancer prevention, and health services research, Dr. Gilkey studies individual and organizational approaches to improving the delivery of adolescent vaccines, with a special focus on human papillomavirus (HPV) vaccine.

Jennifer Heisler-MacKinnon, MPH, is a Project Manager at the UNC Gillings School of Global Public Health with a focus on health communications and cancer prevention and control.

Chrystal Averette, MPH, is the AFIX and Quality Improvement Coordinator in the Washington State Department of Health, Office of Immunization and Child Profile. Ms. Averette coordinates all aspects of the early childhood and adolescent immunization quality improvement efforts across the state, including training staff, developing materials, and coordinating AFIX visits.

Philip Huang, MD, MPH, has served as the Medical Director and Health Authority for Austin Public Health since April 2008. He formerly served as Medical Director for Chronic Disease Prevention at the Texas Department of State Health Services for more than 15 years. Dr. Huang served two years as a CDC Epidemic Intelligence Service (EIS) officer assigned to the Illinois Department of Public Health, where he conducted infectious disease outbreak investigations and epidemiologic studies in chronic disease. He is Board Certified in Family Medicine, and is an author or co-author of numerous publications related to public health, chronic disease, and tobacco use prevention.