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

“Optimizing AFIX for HPV Vaccine Quality Improvement”

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# Optimizing AFIX for HPV Vaccine Quality Improvement

Melissa B. Gilkey<sup>a</sup>, PhD, William A. Calo<sup>b</sup>, PhD, Jennifer Leeman<sup>b</sup>, DrPH, Jennifer MacKinnon<sup>b</sup>, MPH, & Noel T. Brewer<sup>b</sup>, PhD

<sup>a</sup> Harvard Medical School & Harvard Pilgrim Health Care Institute; <sup>b</sup> University of North Carolina

## Background

### HPV vaccination

Only 42% of 13- to 17-year-old girls and 28% of boys complete the 3-dose HPV vaccine series, according to the 2015 National Immunization Survey-Teen. Furthermore, coverage varies widely, ranging from 68% in Rhode Island to just 24% in Mississippi. Given geographic disparities, state-based approaches to improving coverage may be especially important.

### CDC's AFIX program

One successful state-based approach for increasing immunization coverage is the Centers for Disease Control and Prevention's (CDC) AFIX model. Delivered to primary care providers by state health departments, AFIX includes four components:

- **Assessment.** A quality improvement specialist uses provider records to estimate clinic-level coverage for priority vaccines.
- **Feedback.** The specialist shares these findings with clinicians and offers recommendations about how to improve coverage.
- **Incentives.** The specialist recognizes and rewards the use of immunization best practices.
- **eXchange.** The specialist provides training and other resources to support improvement.

Currently implemented in all 50 states, AFIX raises early childhood immunization coverage by 4% to 7%. **A modified version of AFIX might similarly improve HPV vaccination.**

## Study aims

1. Develop a modified, HPV vaccine-specific AFIX visit ("HPV AFIX").
2. Evaluate the impact of HPV AFIX on providers' perceptions of HPV vaccine quality improvement.
3. Assess the acceptability of HPV AFIX.

## Methods

We randomized primary care clinics to receive one:

- In-person HPV AFIX visit (78 clinics); or
- Webinar HPV AFIX visit (72 clinics).

We delivered HPV AFIX visits in partnership with health departments in three states: Washington, Michigan, and Illinois. Each clinic received a single 60-90 minute visit. **In-person visits** consisted of on-site, face-to-face meetings. **Webinar visits** consisted of online meetings conducted in real-time using conferencing software. We assessed provider perceptions before and after visits using online surveys.

## Results

### Modified, HPV vaccine-specific AFIX visits

#### Assessment and Feedback

- Based on formative research, we designed tools, including an Immunization Report Card (**Figure 1**), to communicate the problem of low HPV vaccination coverage.
- We asked providers to set a goal to improve their clinics' HPV vaccination coverage by 10% over 6 months.
- We delivered updated reports at 3- and 6-months after the visit to help providers track their progress.

#### Incentives

- We offered providers 1.0 hour of continuing medical education (CME) credit to incentivize their participation in the visit.

#### eXchange

- We developed a didactic training session, including PowerPoint slides, to give providers more information about HPV vaccination, including the rationale for vaccinating adolescents at ages 11-12.

Figure 1. Adolescent Immunization Report Card



### Impact of HPV AFIX on provider perceptions

- We found that HPV AFIX improved providers' quality improvement-related perceptions on 3 of 4 key intermediate outcome measures (**Figure 2**).
- After the visit, providers were more often aware that their clinic's low HPV vaccination coverage was a problem.
- Providers also reported higher levels of self-efficacy related to their clinic's and their own ability to improve low coverage.

### Acceptability of HPV AFIX

- Providers rated HPV AFIX visits highly on **convenience** (mean=4.4 of 5), ease of **understanding** (mean=4.6), and quality of **visit facilitation** (mean=4.5).
- Acceptability did not differ by delivery mode (all  $p > .05$ ).

## Discussion

We designed a modified, HPV vaccine-specific AFIX visit to address challenges that health department staff reported facing when conducting HPV vaccination quality improvement activities in primary care settings. Our visits included several innovations, such as an Immunization Report Card to communicate the problem of low HPV vaccination coverage and CME credit to incentivize provider participation.

We found that HPV AFIX was effective in improving primary care providers' awareness and self-efficacy related to HPV vaccination quality improvement. Providers rated HPV AFIX highly on key measures of acceptability, including convenience and ease of understanding. Interestingly, acceptability did not differ by delivery mode, with webinar and in-person visits performing equally well.

## Implications

The CDC's national AFIX program offers a low-intensity, up-stream approach to improving healthcare quality for the many adolescents who access primary care services each year. We found that HPV vaccine-specific AFIX visits were well-received by primary care providers and associated with improvements in key intermediate outcome measures. Ongoing research will establish the impact of HPV AFIX on HPV vaccination coverage. In the meantime, this study provides new evidence that webinar delivery is a promising approach to expanding health departments' options for achieving high-quality AFIX programs.

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Figure 2. Pre-/post-visit changes in provider perceptions

