## The Effect of Provider Communication about Vaccination on Mothers' Willingness to Vaccinate Their Children Against HPV and Influenza: A Randomized Trial of Illustrated Health Messaging Vignettes

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#### BACKGROUND

- HPV and influenza vaccination rates among adolescents fall well below U.S. national targets.
- Recommendation from a health care provider (HCP) is a primary reason that parents vaccinate their adolescents.
- Parents' health beliefs and perceived norms can also promote or hinder adolescent vaccination.
- Research targeting methods for improving HCP communication may help increase vaccination rates.
- Previous studies indicate that health messages about vaccination can affect parent willingness to vaccinate.

## **OBJECTIVES**

- To understand the effect of a health messaging intervention focused on provider communication about vaccination on mothers' willingness to vaccinate children against HPV and influenza:
- Can mothers' willingness to vaccinate their children be influenced by viewing illustrated vignettes depicting an interaction between a healthcare provider and a mother?
- If so, would this effect remain after adjusting for mothers' pre-existing beliefs about the benefits of vaccination?

#### **METHODS**

Sample: Mothers of 9-13-year-olds living in U.S. (n=2,476).

Data Collection: Via Web-based survey in August 2014

Study Design: 2 x 3 x 2 between-subjects design (target vaccine group x strength of recommendation x safety information); ANCOVA analysis

- Mothers randomized to one of two groups targeting either HPV or influenza vaccine.
- Mothers whose child had *not* received target vaccine (i.e., zero doses of HPV vaccine/no prioryear administration of influenza vaccine) randomized into health messaging intervention conditions.

Outcome: Mothers' willingness to have child receive target vaccine, measured on a scale of 0-100.

Covariates: Perceived benefits of vaccination, assessed prior to viewing intervention; and child sex

#### **METHODS**

Intervention: Mothers viewed illustrated vignettes consisting of the following:

• One of three levels of provider recommendation strength:

> Brief Mention:





• Presence or absence of information regarding daily activities.



#### **RESULTS**



#### RESULTS Vaccine History: 1+ Dose 34.9% 0 Doses 65.1% HPV Strong Recommendation: **Did Not Receive** Season 56.3% Last Season 43.7% Flu Today your daughter is due to receive the Tdap, HPV, flu, and Perceived Benefits of Vaccination: that she receives these accines during today's Mean 3.53, SD 0.78 (5 items; Likert scale; 1= Strongly Disagree; 5= Strongly Agree; Higher scores reflect stronger beliefs in benefits of vaccination) Mean Willingness to Vaccinate: Personal Disclosure: • "How willing would you be to get [child's name] In fact, I've even made sure vaccinated against [HPV/the flu] during this visit, if hat my own daughter has the vaccine was free and available at the healthcare provider's office?" (0= Definitely would not; 100= Definitely would) • HPV target group: Mean 59.7, SD 35.4 • Influenza target group: Mean 50.6, SD 35.9 Intervention Effects by Group (ANCOVA): *relative safety* of vaccination compared to common • HPV target group • Main effect of presence of safety information *F*(1,681)=6.997, *p*=.008 For example, kids are actually at higher risk for harm (through an injury) when playing a • No main effect of strength of recommendation team sport like soccer or basketball than they are getting a vaccine. No significant interaction between safety information and strength of recommendation • Perceived benefits significantly related to willingness *F*(1,681)=214.895, *p*< .001 Child sex not associated with outcome. Influenza target group No main effect of presence of safety information • No main effect of strength of recommendation 11 18.1% 13 13.6% No significant interaction between safety information and strength of recommendation Male 43.3% • Perceived benefits significantly related to willingness *F*(1,459)=104.787, *p*<.001 Minority 34.8% Child sex not associated with outcome. South 23.4% Midwest 20.7%



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### **SUMMARY**

• Among mothers whose children had not yet received any doses of the HPV vaccine:

- Provider communication about relative safety of vaccination compared to common daily activities increased willingness to vaccinate against HPV.
- Strength of the provider's recommendation for vaccination had no effect on willingness to vaccinate against HPV.
- Among mothers whose children did not receive the seasonal influenza vaccine during the previous flu season:
  - Health messages had no effect on willingness to vaccinate against seasonal influenza

 Mothers' pre-existing beliefs about the benefits of vaccination were significantly associated with willingness to vaccinate against both HPV and influenza.

### **IMPLICATIONS**

Mothers' willingness to vaccinate their children against HPV may be influenced by viewing illustrated health messaging vignettes between a healthcare provider and a mother.

• This effect remained after adjusting for mothers' pre-existing attitudes regarding the benefits of vaccination.

Further research is needed to explore whether the content of in vivo provider communication about HPV vaccination can influence parent willingness to vaccinate and/or vaccine uptake.

Provider communication about vaccination may need to be tailored to the vaccine in question in order to increase parent willingness to vaccinate.

A next step to increasing coverage for both HPV and influenza vaccines may be an intervention aimed at increasing mothers' perceived benefits of vaccination

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