

# The Work Environment and Healthcare Provider Recommendation of the HPV Vaccine

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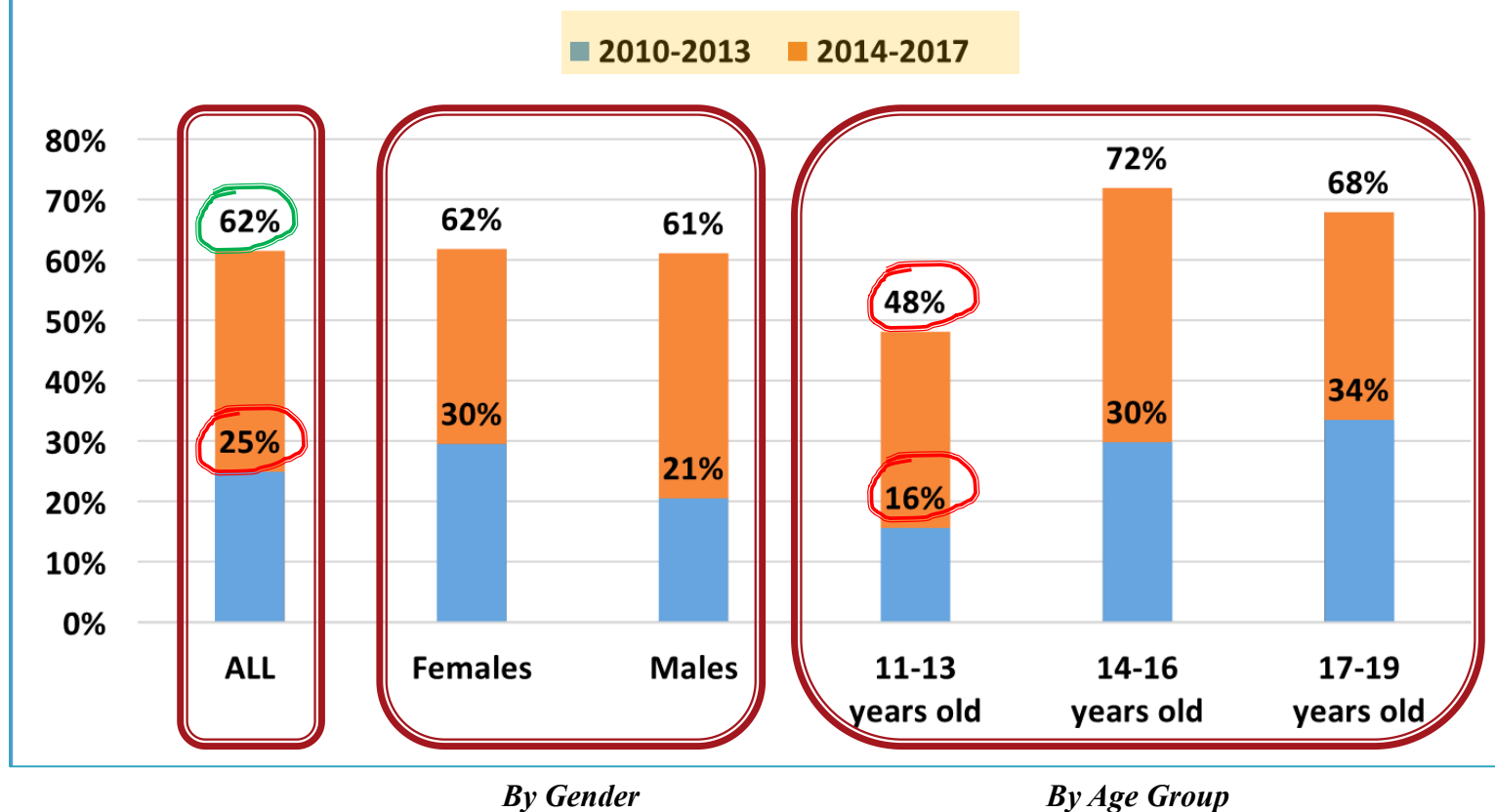
# Disclosures

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Author:	Rula Btoush
Employer:	Rutgers University
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Conflict of Interest:	None

# Background – *HPV Vaccination*

- ▶ The CDC recommends routine use of HPV vaccine for females and males beginning at age 11 years
- ▶ The President's Cancer Panel's (PCP) report on accelerating HPV vaccine uptake:
  - First goal: reduce missed clinical opportunities to recommend and administer HPV vaccine
- ▶ *Healthy People 2020:*
  - *80% HPV vaccine uptake among female adolescents*
- ▶ Nationally, HPV vaccine initiation is 66% among adolescents 13–17 years old (2017 NIS–Teen survey)

## Receiving of One Dose of HPV Vaccine in New Jersey For All Adolescents, by Gender, and by Age Group



*Note: Rates are based on data from the New Jersey Immunization Information System (NJIIS)*

# Background – *Role of HCPs*

- ▶ The importance of healthcare providers' (HCPs) recommendation in the HPV vaccine decision-making process
- ▶ Yet, HCPs are not discussing the HPV vaccine with parents
- ▶ Studies are still lacking in understanding factors that influence HCP's recommendation, particularly in samples that represent HCP specialties and professions

# Study Purpose and Questions

- ▶ The purpose of this study was to examine HCP recommendation of the HPV vaccine and their knowledge, beliefs, perceived barriers, and cues to action for recommending the HPV vaccine.
- ▶ Research questions:
  1. What are the HCP's knowledge and beliefs about the HPV vaccine?
  2. What are the most common perceived barriers for HCP's HPV vaccine recommendation?
  3. Which combination of predictors are associated with HCP recommendation for HPV vaccination?

# Methods

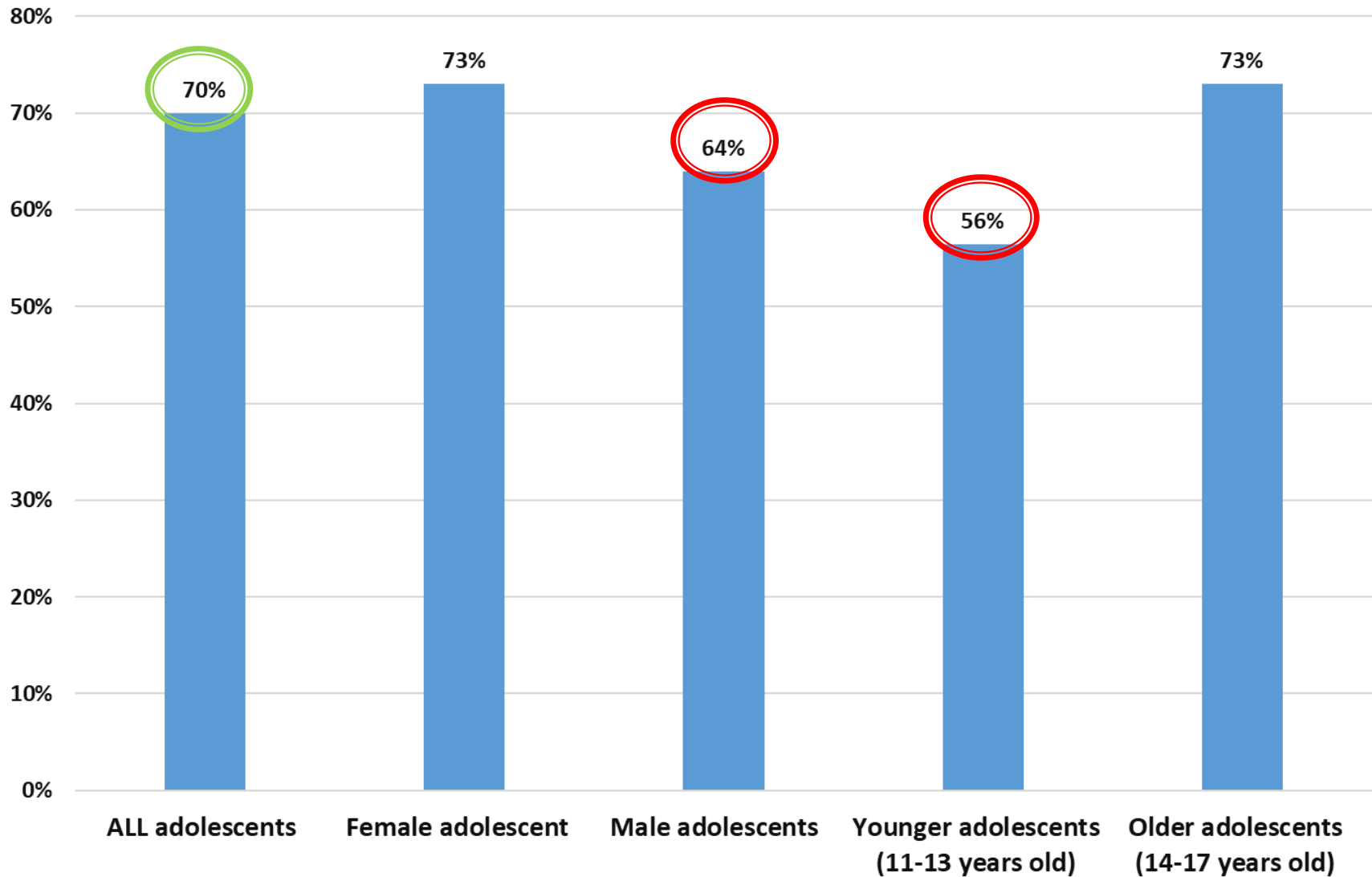
- ▶ Online survey of 389 HCPs in New Jersey
- ▶ Survey questions on:
  - HCP recommendation of the HPV vaccine
  - Knowledge and beliefs about the vaccine
  - Barriers (parent-related and system-related barriers)
  - Cues to action (facilitators) for recommending the HPV vaccine
- ▶ Email announcements via VFC program, NJAAP, APN-NJ, and other collaborators and through word of mouth

# Survey Participants (N=389)

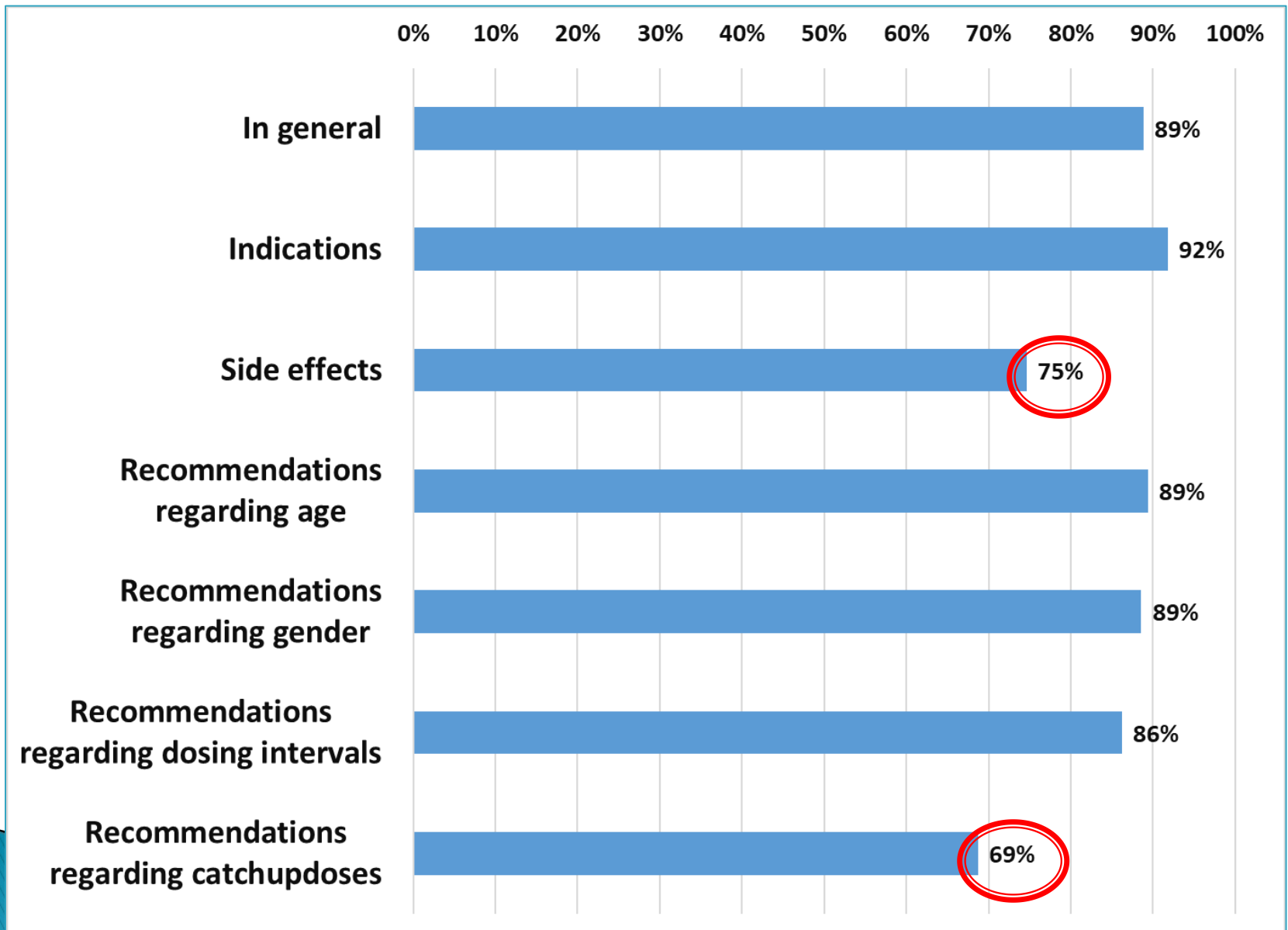
Gender	Male	28%
	Female	72%
Specialty	Pediatrics	62%
	Women's Health or OB/GYN	18%
	Family Medicine/Health	20%
Healthcare Profession	Physician	75%
	Nurse Practitioner	25%
Practice Type	Private Practice	58%
	Public Clinic	16%
	FQHC	13%
	Other	13%



## Rates of HCPs "Always" Recommending HPV Vaccine (>75% of the time)



# HCP's Knowledge about the HPV Vaccine



# HCP's Beliefs about the HPV Vaccine

0% 10% 20% 30% 40% 50% 60% 70% 80%

**HPV vaccine is effective in preventing several cancers.**

73%

**HPV vaccine is effective in preventing genital warts.**

64%

**HPV vaccine saves lives.**

66%

**Concern about HPV vaccine safety.**

6%

**Worry that HPV vaccine may cause health problems for kids in the future.**

5%

**Concern that the HPV vaccine is being pushed by drug companies to make money.**

5%

**Giving HPV vaccine is like performing an experiment on patients.**

2%

**Worry that HPV vaccine may discourage routine gynecologic examinations and Pap tests.**

3%

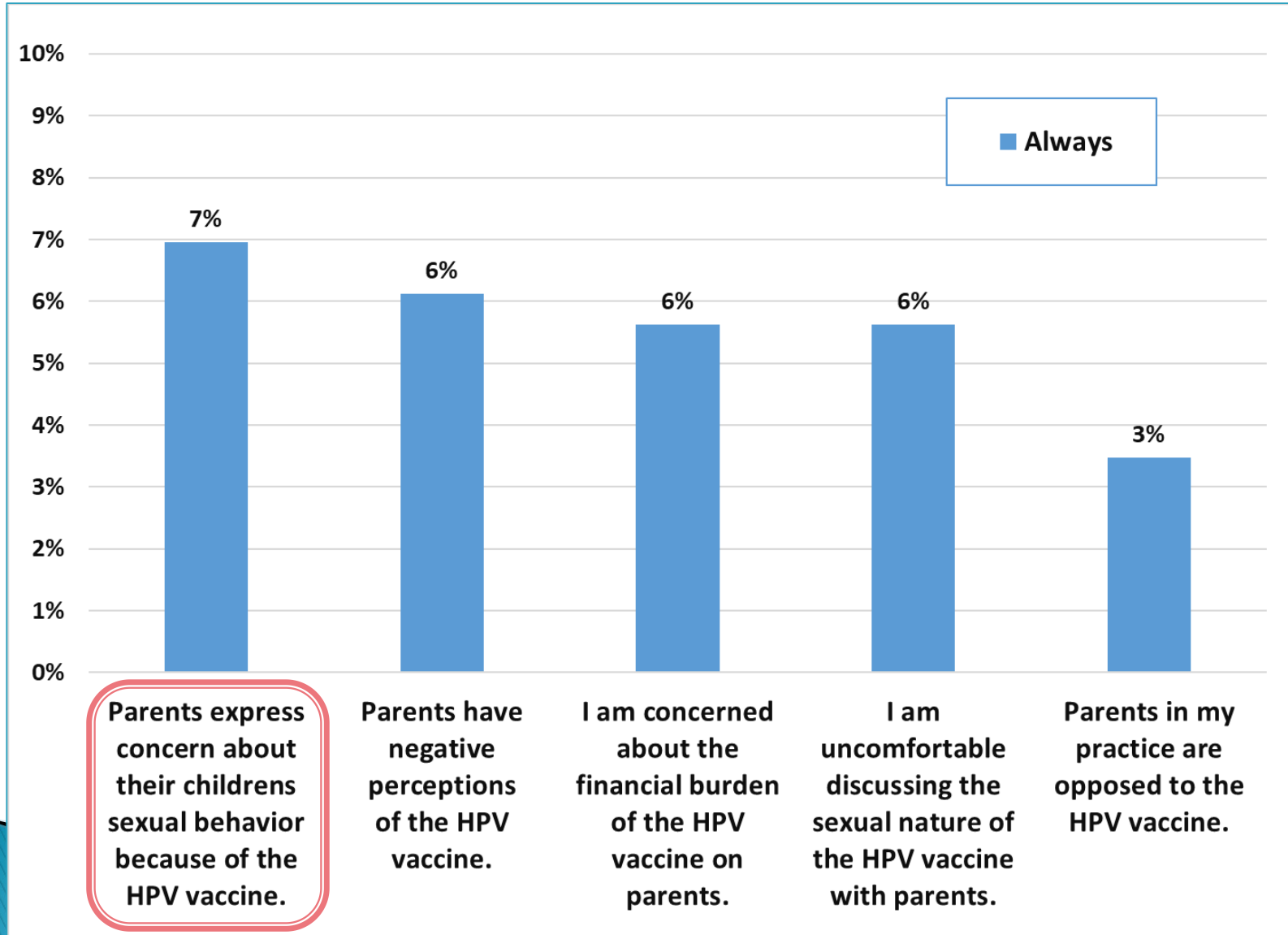
**Concern that HPV vaccine will increase sexual promiscuity.**

3%

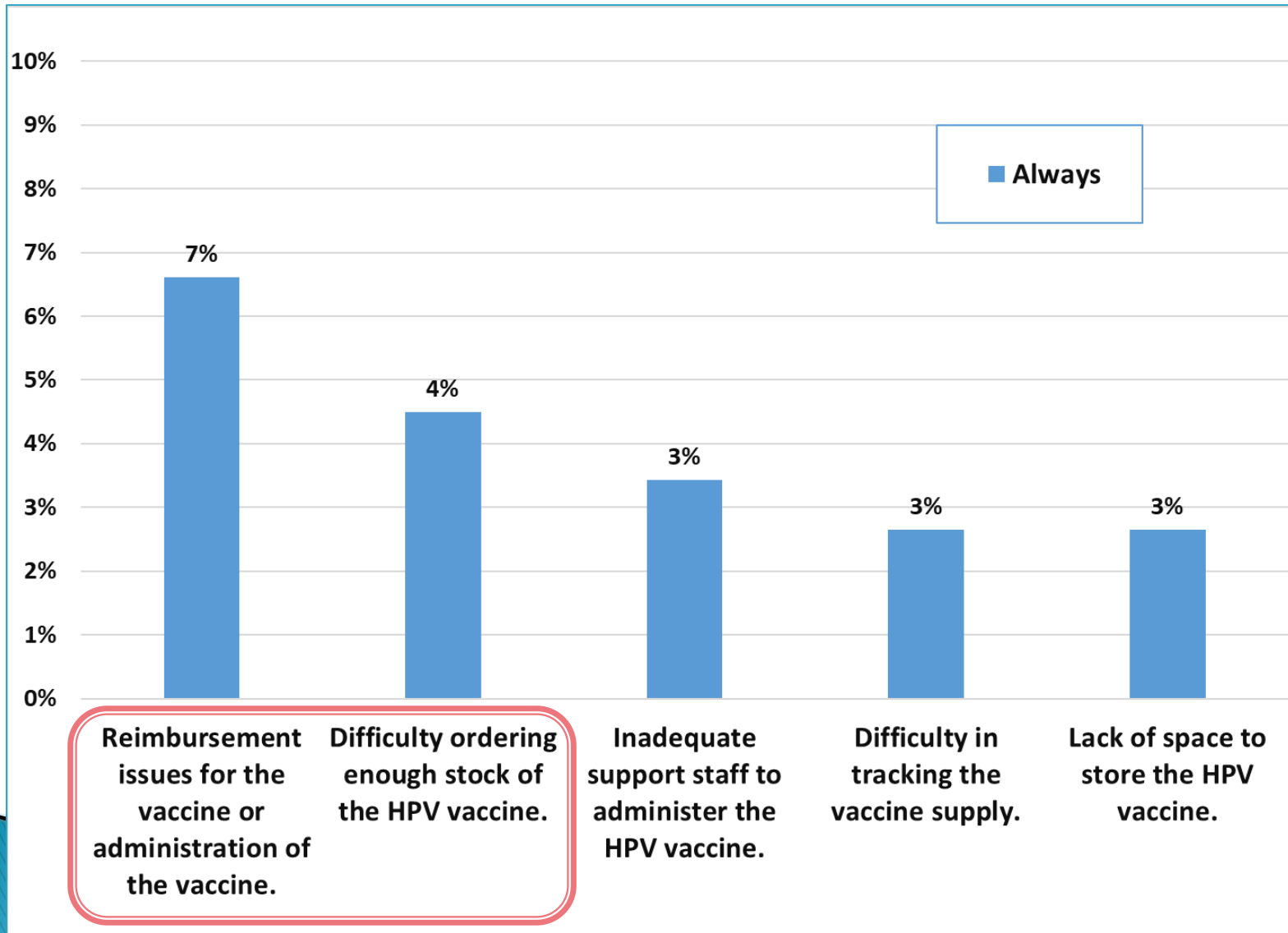
**Concern that HPV vaccine will decrease condom use.**

3%

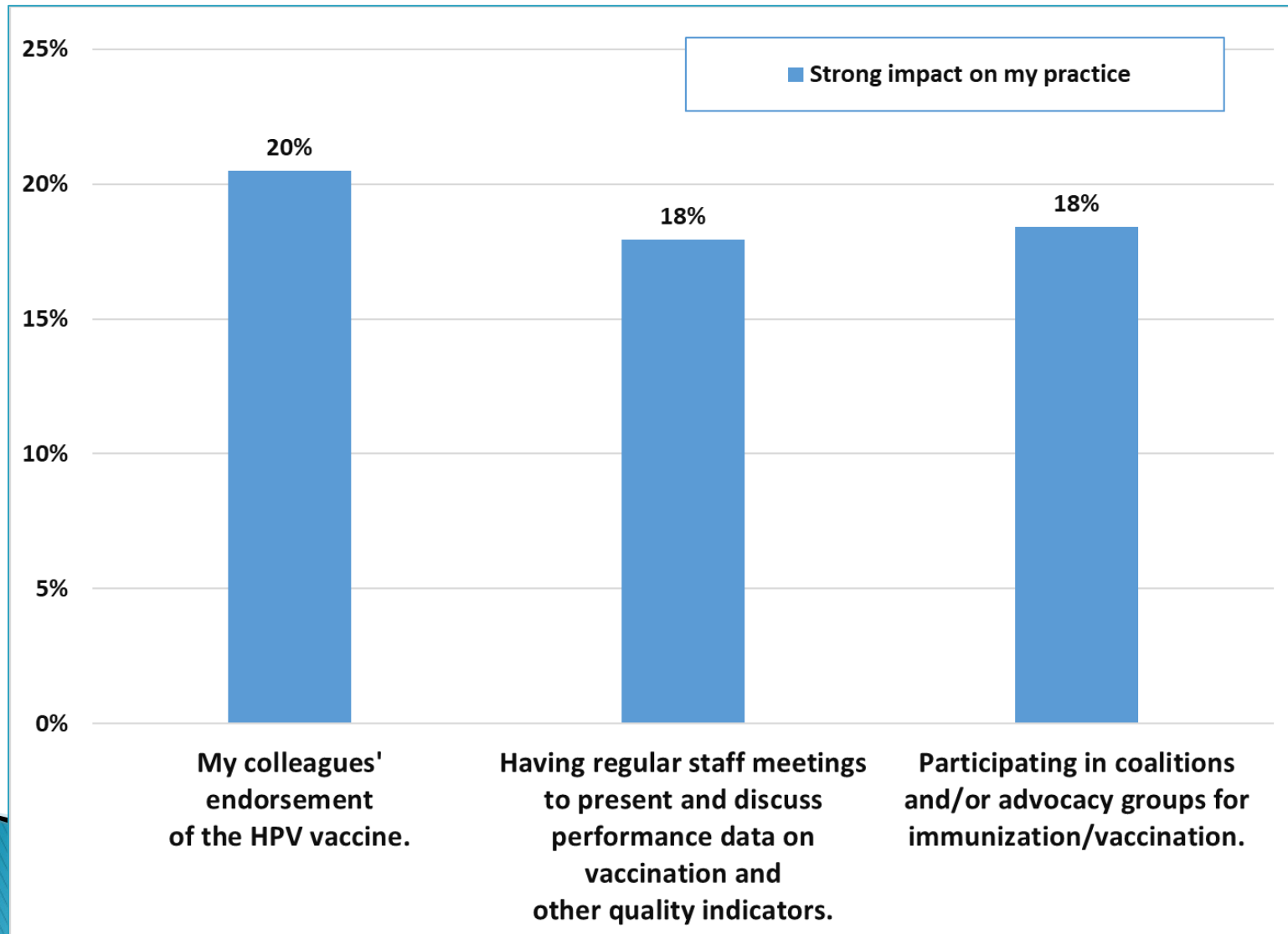
# Parent-Related Barriers for HCP's Recommendation of the HPV Vaccine



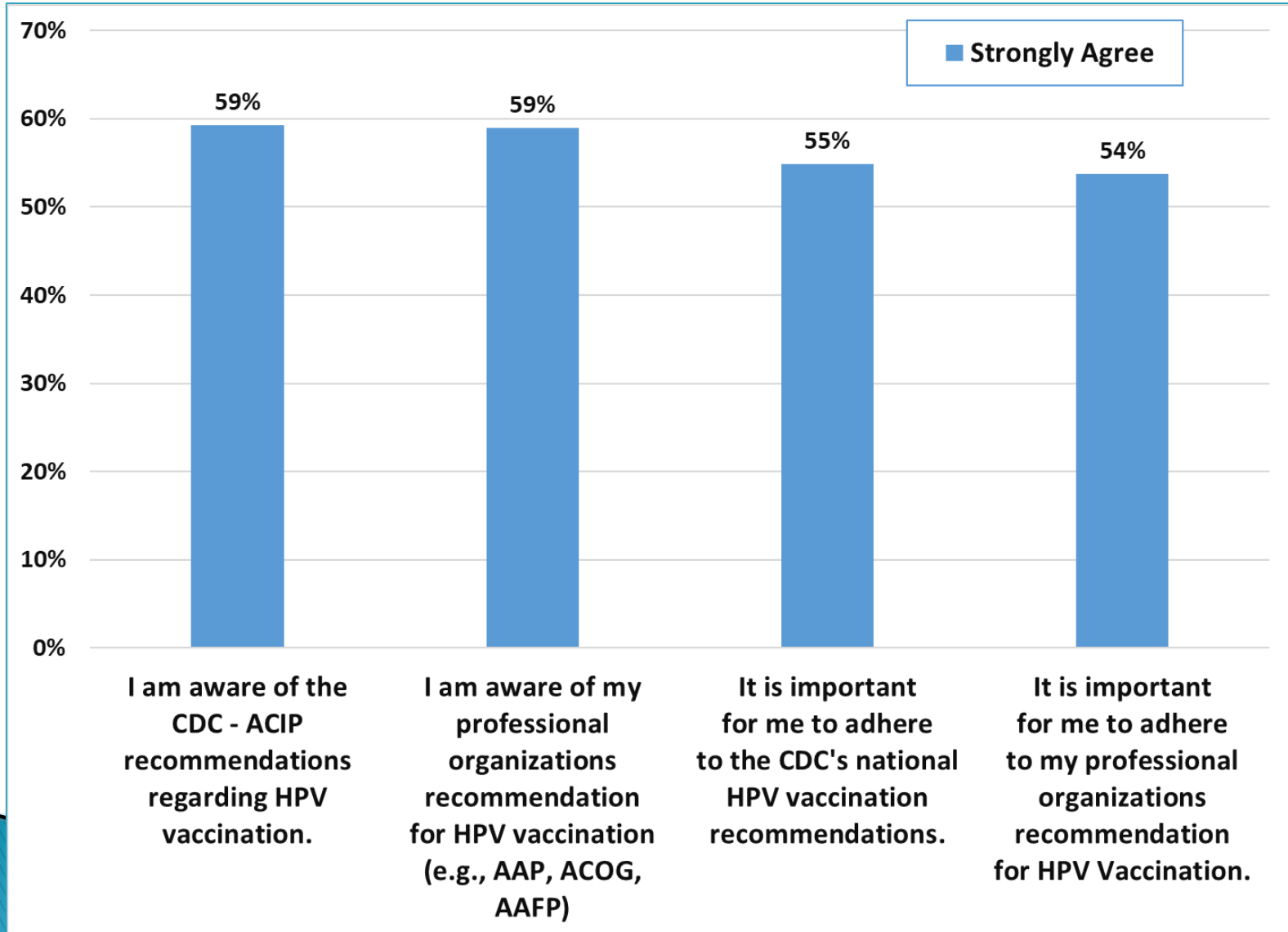
# System-Related Barriers for HCP's Recommendation of the HPV Vaccine



# Cues to Action (facilitators) for HCP's Recommendation of the HPV Vaccine



# Cues to Action (facilitators) for HCP's Recommendation of the HPV Vaccine



## Logistic regression analysis of HCP's recommendation of HPV vaccination

Predictors - Patient Characteristics (N=351)	OR	95% CI
% of male patients in your practice	.989	.974 - 1.005
% HPV-vaccine eligible patients	1.009	1.001 - 1.017
% of younger adolescents (11-13 years old)	1.015	1.001 - 1.029
% of Black patients	1.022	1.003 - 1.041
% of Hispanic patients	1.032	1.014 - 1.050
% of patient with private insurance	1.034	1.019 - 1.050
% of VFC recipients	1.017	1.004 - 1.030
<i>Constant</i>	.034	
<i>Omnibus Tests of Model Coefficients: <math>X^2</math> (P)</i>		56.666 (<0.001)
<i>Model Summary: -2 Log likelihood; Nagelkerke <math>R^2</math></i>		362.795; 21.4%
Predictors – HCP's Characteristics (N=383)	OR	95% CI
Specialty (pediatric vs. non-pediatric)	2.484	1.450 - 4.255
Knowledge	9.210	3.452 - 24.574
Perceived effectiveness	1.435	.889 - 2.316
Perceived concerns	.483	.294 - .793
Perceived barriers - communicating with parents	.959	.321 - 2.863
Perceived barriers - system-related	.524	.237 - 1.157
Cues to action	1.686	.907 - 3.134
<i>Constant</i>	.001	
<i>Omnibus Tests of Model Coefficients: <math>X^2</math> (P)</i>		120.722 (<0.001)
<i>Model Summary: -2 Log likelihood; Nagelkerke <math>R^2</math></i>		345.665; 38.4%



## Logistic regression analysis of predictors for HCP's recommendation of HPV vaccination, using backward stepwise Wald method (N=345)

Surviving Predictors:	OR	95% CI
% of Black patients	1.030	1.009 - 1.052
% of Hispanic patients	1.043	1.022 - 1.065
% of patient with private insurance	1.019	1.006 - 1.032
HCP's specialty (pediatric vs. non-pediatric)	2.656	1.460 - 4.831
HCP's knowledge	10.390	3.314 - 32.576
HCP's perceived concerns	.397	.236 - .669
HCP's perceived system-related barriers	.415	.174 - .988
HCP's cues to action	2.128	1.089 - 4.158
<i>Constant</i>	.000	
<i>Omnibus Tests of Model Coefficients: <math>X^2</math> (P)</i>	124.197 (<0.001)	
<i>Model Summary: -2 Log likelihood; Nagelkerke <math>R^2</math></i>	289.392; 43.3%	

# Factors that Influence HCP's Recommendation of the HPV Vaccine

- ▶ Higher rates HCPs recommending HPV vaccination among/with:
  - Pediatric vs. non-pediatric providers
  - Higher levels of knowledge
  - Lower levels concerns about the HPV vaccine
  - Lower levels of system-related barriers
  - Higher levels of cues to action (facilitators)

# Implications

- ▶ HCP interventions on HPV vaccination have the potential for long-term reductions in HPV-related cancers
- ▶ The need for integrated, comprehensive communication strategies for HCPs and for improving the work environment to optimize patient outcomes related to HPV vaccination
- ▶ The study findings inform the development of interventions and strategies to establish healthy working practices and environments in order to reach *Healthy People 2020's* objective of 80% coverage for HPV vaccination among adolescents

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