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Physicians' Current Use and Preferences for Male HPV Vaccine-Related Patient Education Materials

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Abstract

Understanding physician preferences for educational materials to support male HPV vaccination is critical to improving vaccine uptake. Pediatric (Peds) and Family Medicine (FM) physicians in Florida completed a survey from May–August, 2014 assessing current use of male-specific HPV vaccination patient education materials, and preferences for materials to increase HPV vaccination uptake. Peds and FM responses were compared with chi-squared or nonparametric tests. Most participants were FM (53.2%), White (66.6%), non-Hispanic (74.1%), and provided male patients/parents with HPV educational materials (59.1%). More than half (55.5%) provided a CDC factsheet for parents. Peds were more likely to indicate they provide educational materials ($p<0.0001$) than FM. The preferred source was the CDC (77.8%). Peds preferred using a factsheet as the medium of information more often than FM (85.6% vs. 68.0%; $p<0.0001$). When asked about preferences for targeted materials, 74.8% of providers indicated they would prefer materials targeted towards patients, 63.2% preferred information targeted towards parents, and 20.7% indicated they prefer non-targeted materials. Future research should focus on the development and testing of new HPV vaccine-specific materials and communication strategies for Peds and FM physicians.

Keywords

Health communication; human papillomavirus vaccines; males; physicians; primary care; education

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Introduction

The Advisory Committee on Immunization Practices (ACIP) currently recommends routine human papillomavirus (HPV) vaccination of all males ages 11-12 years, catch-up vaccination for males ages 13-21 years, and vaccination for men who have sex with men ages 22-26[1]. However, in 2015, HPV vaccine initiation rates for males aged 13-17 was approximately 49.8% nationally and 45.3% in Florida. Three-dose series completion for males in this group was 28.1% nationally and 19.8% in Florida [2]. While 2015 vaccination rates are higher than in 2014, the gap between male vaccination rates in Florida and the national average increased [3]. Provider recommendation is critical to vaccine uptake [4-6]. Some studies suggest that adequate, clear, and accessible information for parents may enhance acceptance of a provider's recommendation and improve confidence and trust in the system [7-9]. However, little is known about physicians' current use of or preferences for educational materials regarding HPV vaccination. As part of a larger study of physician recommendation of HPV vaccination for males, this sub-study used survey data from Pediatric (Ped) and Family Medicine (FM) physicians in Florida to assess: (1) current use of educational materials regarding male HPV vaccination, and (2) preferences for HPV vaccination patient educational materials.

Methods

Participant recruitment and the survey are detailed elsewhere [10, 11] and briefly summarized below.

Recruitment and Study Population

A mailing list of Florida-based Peds and FM physicians was obtained from the American Medical Association Physician Masterfile. Physicians were randomly selected based on proportional representation in the Florida physician primary care workforce (n=770). After receiving institutional review board approval, a six-wave mailing recruitment approach occurred between May and August 2014. After accounting for undeliverable surveys (n=36), ineligible respondents (n=10), the overall response rate was 50.7%; 367 surveys were returned. After excluding physicians who did not list (n=5) or indicated "other" for specialty (n=21), or indicated they did not provide care for males ages 9-26 (n=12), 329 surveys were included in the final analysis. There were no statistically significant differences between responding physicians compared to the population of physicians in Florida regarding age, sex, and clinical specialty (all $p > .05$) [10, 11].

Measures

The full survey contained 49 questions assessing physicians' current use of patient educational materials regarding HPV vaccination for males, their current preferences for educational materials regarding HPV vaccination with respect to format, informational source, and targeting.

Data Analysis

Responses to questions regarding current use of and preferences for educational materials were described using frequencies. Chi-squared tests or Fisher's exact tests were then used to compare use and preferences for educational materials between Peds and FM physicians.

Results

Sample Description

As shown in Table 1, 46.8% (n=154) of participants were Peds and 53.2% (n=175) were FM physicians. The majority identified as White (66.6%) and non-Hispanic (74.1%). Almost half (47.7%) were VFC providers and were in practice an average of 17.1 years (range: 0-38 years). Table 2 provides the exact wording, response options, and results for current use of and preferences for educational materials.

Current Use of Educational Materials for Males

Overall, most (59.1%) reported providing their male patients/parents of male patients with HPV vaccination educational materials. Peds were more likely to indicate they provide their male patients/parents of patients with educational materials than FM (83.6% vs. 37.4%; $p<0.0001$). The majority (90.1%) provided those materials during the patient visit. The largest portion (55.5%) provided their male patients and/or parents with a factsheet for parents from the Centers for Disease Control and Prevention (CDC). Peds were also more likely to report providing their patients/parents with a CDC factsheet (70.2% vs. 40.7%; $p<0.0001$). FM physicians were significantly more likely to use information from a professional organization than Peds (6.0% vs 0.0%; $p=0.002$) or another resource (9.3% vs. 3.3%; $p=0.035$).

Preferences for Educational Materials for Males

The most preferred medium for information was a factsheet (76.3%) and the least was a video (3.7%). Peds preferred using a factsheet more often than FM (85.6% vs. 68.0%; $p<0.0001$). Most physicians indicated the CDC was the preferred source of patient education materials (77.8%) followed by a professional organization (59.1%). This varied by specialty, and a larger proportion of Peds than FM indicated their preferred information source was the CDC (85.0% vs. 71.5%, respectively; $p=0.004$), but FM still preferred information from the CDC more than from other professional organizations (60.5%). When asked about preferences for parent- or patient-targeted materials specific to gender, age, race, or ethnicity, most (74.8%) indicated they would prefer materials targeted towards male patients and 63.2% preferred information targeted towards parents. Only 15.8%, 14.6%, and 16.1% preferred materials targeted towards Black, White, and Hispanic patients respectively. FM preferred materials targeted specifically towards male patients compared to Peds (92.3% vs. 83.9%; $p=0.032$). Similarly, FM more frequently indicated preferences for materials targeted by race and ethnicity with 28.8% ($p=0.013$), and 28.9% ($p=0.013$) of FM physicians preferring materials that are targeted toward Black and Hispanic patients, respectively. The majority indicated they would like materials targeted to 13-17 and 18-21 year old patients

(55.6% and 59.3% respectively). About one-fifth (20.7%) prefer non-targeted materials and 43.2% prefer evidence-based materials.

Discussion

Over three-quarters of physicians in our study indicated they preferred using a factsheet as a resource when talking to their male patients/parents of male patients about HPV vaccination. While this was the resource that was most preferred, recent systematic reviews examining ways to increase HPV vaccine uptake show studies that use factsheets alone do not facilitate an increase in HPV vaccination intent or uptake [12, 13] and therefore are not recommended to be used in isolation by the Community Preventive Services Task Force [14]. Therefore, vaccine uptake may increase if physicians are provided with other strategies or materials to use in conjunction with fact sheets, such as client and provider reminders [14]. However, as previously reported, only 31% of providers in the current study indicated using any reminders, suggesting a substantial area for improvement [10]. Furthermore, most physicians in our study (regardless of specialty) indicated a preference for CDC materials in stark contrast to the very low preferences for materials from professional organizations. This difference may stem from the familiarity with and availability of Vaccine Information Statements produced by the CDC that have been required to be distributed to parents before administering each dose of the vaccine as part of the National Childhood Vaccine Injury Act [15]. In contrast, toolkits to improve HPV vaccination rates from professional organizations, such as AAP, were developed within the last five years and may be more widely used in the future as they are disseminated in routine clinical practice [16].

While the majority of physicians also stated they preferred materials targeted to their patients, informational tools for physicians to provide to their patients from both the CDC [17] and the AAP [16] are targeted almost exclusively to parents [18]. Furthermore, most of the HPV-specific information is more targeted toward females than males [16-18]. Though only a few participants stated they wanted materials targeted by race and ethnicity, recent research suggests caregivers from minority groups may prefer different communication channels and content [19]. For instance, one study examining disparities in how parents hear about the HPV vaccine found African American parents were more likely to hear about HPV from a broadcast informational source than White parents [19]. Although research suggests that parents are the primary decision makers for adolescent vaccination and the strongest predictor of vaccine uptake is provider recommendation, some data indicate adolescents may also have a role in vaccine decision-making [20]. Therefore, more information is needed about whether targeted educational materials to improve patient/parent/provider communication are effective in increasing vaccine uptake.

While our study provides significant new information on physicians' informational preferences, there are some limitations. The physicians surveyed were from a single state, which limits the generalizability of the findings. Physicians may also have provided answers they viewed as socially desirable; however, the survey anonymity likely reduced this bias. Despite these limitations, this study adds substantially to the literature.

Conclusions

Our findings show that Peds and FM physicians have different preferences for materials; therefore it may be beneficial to develop materials for each specialty. Future research should focus on the development of new materials and assessing their effectiveness, in combination with other effective strategies for Peds and FM physicians in order to increase HPV vaccine uptake.

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Table 1

Sample Characteristics (N=329)

	n (%)	Mean (Range)
Age		48.7 (30–65)
Gender		
Male	159 (48.9)	
Female	166 (51.1)	
Race		
White/Caucasian	213 (66.6)	
Black/African American	22 (6.9)	
Asian	37 (11.6)	
Other	48 (15.0)	
Ethnicity		
Non-Hispanic	238 (45.1)	
Hispanic	83 (25.9)	
Years Practicing Medicine		17.1 (0–38)
Clinic Specialty		
Pediatrics	154 (46.8)	
Family Medicine	175 (53.2)	
VFC Provider		
Yes	157 (47.7)	
No	139 (42.2)	
I don't know	33 (10.0)	

Table 2
Survey questions regarding physician practices and preferences for educational materials for their male patients

Question	Response Options	Total % choosing this response	% Peds ^d choosing this response	% FM ^b choosing this response	p-value
Do you provide your male patients/parents of male patients with educational materials about HPV vaccination? (mark one)	Yes	59.1	83.6	37.4	<0.0001
	No	40.9	16.4	62.6	
At what point in time do you provide educational materials about HPV vaccination to patients? (mark all that apply) ^c	Before scheduled visit	13.9	17.8	6.8	0.030
	During scheduled visit	90.1	92.2	86.3	0.174
	After scheduled visit	25.2	27.1	21.9	0.413
	American Academy of Pediatrics fact sheet for parents	32.9	45.7	20.0	<0.0001
What resources, if any, do you use to supplement your discussion of HPV vaccination with male patients/parents of male patients? (mark all that apply) ^c	CDC fact sheet for parents	55.5	70.2	40.7	<0.0001
	Other fact sheet	10.0	13.2	6.7	0.057
	Booklet or brochure	18.3	24.5	12.0	0.005
	Professional organization	3.0	0.0	6.0	0.002
	A website	3.0	4.0	2.0	0.315
	A video	0.0	0.0	0.0	n/a
	Other resource	6.3	3.3	9.3	0.035
	I do not discuss HPV vaccination with male patients/parents	14.6	4.0	25.3	<0.0001
	Centers for Disease Control and Prevention (CDC)	77.8	85.0	71.5	0.004
	Professional organization (AAFP, AAP)	59.1	57.5	60.5	0.589
	Pharmaceutical company	15.4	15.0	15.7	0.868
	Developed by my practice	4.9	6.5	3.5	0.205
Regardless of whether you currently use materials, what is your preferred source for patient education materials regarding HPV vaccination? (mark all that apply) ^c	Other	6.8	6.5	7.0	0.875
	Fact sheet	76.3	85.6	68.0	<0.0001
	Booklet	22.2	25.5	19.2	0.172
	Brochure	37.5	35.3	39.5	0.431
	Video	3.7	3.3	4.1	0.702
Regardless of whether you currently use materials, what is your preferred medium of patient education materials regarding HPV vaccination? (mark all that apply) ^c					

Question	Response Options	Total % choosing this response	% Peds ^a choosing this response	% FM ^b choosing this response	p-value
When providing educational materials regarding HPV vaccination for your male patients and/or their parents, would you prefer that these materials be targeted to any of the following? (mark all that apply) ^c	Website	22.2	21.6	22.7	0.811
	Other	4.9	7.2	2.9	0.075
	Targeted for male patients	74.8	83.9	92.3	0.032
	Targeted for parents of male patients	63.2	77.4	71.8	0.288
	Targeted for Black patients	15.8	15.4	28.8	0.013
	Targeted for parents of Black patients	12.5	13.7	21.2	0.129
	Targeted for Hispanic patients	16.1	15.5	28.9	0.013
	Targeted for parents of Hispanic patients	12.5	13.8	20.7	0.162
	Targeted for White patients	14.6	15.7	26.1	0.052
	Targeted for parents of White patients	12.5	14.8	20.9	0.228
	Targeted for 11–12 year old patients	46.8	65.6	57.6	0.193
	Targeted for parents of 11–12 year old patients	46.5	61.1	61.9	0.898
	Targeted for 13–17 year old patients	55.6	74.6	65.6	0.110
	Targeted for parents of 13–17 year old patients	51.1	67.4	61.5	0.319
	Targeted for 18–21 year old patients	59.3	74.6	80.6	0.251
	Targeted for parents of 18–21 year old patients	39.5	56.6	47.3	0.142
	I prefer non-targeted materials	20.7	39.5	34.0	0.435
	I prefer evidence-based materials	43.2	77.9	75.0	0.642

^aPediatricians^bFamily Medicine^cDue to missing data in questions that allowed participants to select more than one response, the categories do not always add up to 100%. Boldface indicates statistical significance (p<0.05)