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Short Communication

"You're never really off time": Healthcare providers' interpretations of optimal timing for HPV vaccination

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ABSTRACT

Healthcare providers have a strong influence on human papillomavirus (HPV) vaccination decisions, yet they often fail to recommend the vaccine to the 11- and 12-year-olds who are targeted by practice guidelines. We sought to understand how providers interpret and value age-based guidelines.

We conducted a secondary analysis of data from two qualitative studies of healthcare providers' HPV vaccination attitudes and practices. Participants were physicians, nurse practitioners, and physician assistants in Minnesota (n = 27) and in Washington (n = 17) interviewed in 2012 and 2014 respectively. Verbatim transcripts from each study were analyzed independently using content analysis, and collective findings were then jointly analyzed. The research team worked via consensus to derive codes and describe representative themes.

A high proportion of providers reported either a lack of concern about HPV vaccine completion, or concern beginning several years past the recommended target age. Many providers perceived a gradient of HPV vaccination timeliness ranging from age 12 to 26. Instead of age-based recommendations, providers timed recommendations based on perceptions of access to care and patient risk. They often offered "gentle" recommendations and deferred vaccination discussions as a tool to building trust with families.

Interventions aimed at helping providers deliver effective recommendations for timely HPV vaccination are needed. Our findings suggest that changing the norm of provider culture to one in which "catch-up" schedules are seen as a suboptimal way to achieve vaccine uptake may be an important goal.

1. Introduction

Rates of HPV vaccine initiation and completion are well below national goals (Stokley et al., 2014). The Centers for Disease Control and Prevention's (CDC) recommended schedule is for routine HPV vaccination at ages 11 and 12, with catch-up vaccination up to age 26 for females and age 21 for males (Markowitz et al., 2014). A healthcare provider's recommendation is the strongest known predictor of initiation and completion the 3-dose HPV vaccine series (Dorell et al., 2012; Kessels et al., 2012; Reiter et al., 2013a). However, many adolescents do not receive a recommendation (Reiter et al., 2013b; Vadaparampil et al., 2011). Previous research suggests that providers may be hesitant to discuss HPV vaccination with parents of young adolescents and more often deliver recommendations to older adolescents than to those ages 11 to 12,(Vadaparampil et al., 2011; McRee et al., 2014) suggesting that providers may not be interpreting guidelines as intended. We sought to understand how providers interpret and value age-based guidelines in their clinical practice, with attention to the timing of vaccination during the target age range for routine recommendation.

2. Material and methods

2.1. Data

We used data from two qualitative studies of HPV vaccination attitudes and practices among clinicians who provide preventive care, including vaccinations, to adolescents.

Data for study 1 (Minnesota) were collected through semi-structured, in-depth, face-to-face interviews with health care providers (n = 27) who saw adolescent patients in Minneapolis and St. Paul, MN between July and September 2012. We employed a purposive sampling strategy to ensure a diversity of perspectives based on clinician training, specialty, and clinic setting. We enrolled new participants and conducted interviews, meeting regularly to discuss findings, until we determined that interviews were no longer yielding new information

Abbreviation: HPV, human papillomavirus.

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(saturation) (Glaser and Al, 1967). The interview guide included two questions to explore providers' HPV vaccine recommendation practices for 11–14 year old patients: "How do you counsel patients and their parents about HPV vaccine?". This item included a probe asking how strongly providers recommend the vaccine, and "How do you discuss the vaccine with a parent who might be hesitant to get their son or daughter vaccinated against HPV?" Participants received $40 at the completion of the interview. Study protocols were approved by the Institutional Review Board at the University of Minnesota.

Data for study 2 (Washington) were collected during November and December 2014 through individual telephone interviews with a purposive sample of primary care physicians (n = 17) in Group Health Cooperative, a regional integrated care system in Washington State that serves almost 600,000 people. We conducted interviews and reviewed the transcripts to discuss findings until we reached saturation. To explore providers' perspectives on vaccination timeliness, we asked providers: "At what point do you worry that your patients won't complete the HPV vaccine series?" Physicians did not receive any compensation. The Group Health Research Institute Institutional Review Board determined that this study was not human subject research.

2.2. Analysis

The two datasets remained independent. Interviews from both studies were transcribed verbatim. Transcripts were analyzed using content analysis methods, searching for specific references to HPV vaccine recommendation practices and how the vaccination schedule age-based recommendations were being interpreted in clinician practice. In the Minnesota dataset, two investigators (ALM, MBG) analyzed all the interviews with a targeted search. In the Washington dataset, two investigators (NBH, LT) analyzed the answers to the "when do you worry" question and also the remainder of the interview text. We then jointly analyzed the collective findings from both datasets through a series of analysis meetings, working via consensus to put the relevant results into meaningful descriptive categories. We identified exemplar quotes from each dataset.

3. Results

We analyzed interviews from a total of 44 providers (Table 1). For the Minnesota study, we approached 38 providers and conducted interviews with 27 (71%). The sample included 17 physicians and 10 nurse practitioners or physician assistants. Eighty-one percent (81%) were female, about half (48%) reported a pediatric specialty, and the most common practice setting was public clinic or community health center (48%). About half (48%) of providers reported spending at least 10 h per week providing clinical care to male or female adolescent patients.

In the Washington study we approached 31 physicians and conducted interviews with 17 (55%). The sample was 65% female and three quarters (76%) pediatricians. The mean time since medical school graduation was 30 years. Providers reported seeing between 2 and 60 adolescents per week.

3.1. Providers described a gradient of on-time HPV vaccination ranging from age 12 to age 26

The overarching theme in both samples was a perceived age gradient, not just for allowable vaccination, but for timely vaccination. Providers in neither sample interpreted age 12 as a hard rule for on-time HPV vaccination. Rather, increasing age was commonly described as a gradually pressing prompt toward recommendation of the vaccine. In the Washington sample, the only sample in which the question was asked directly, 13 of 17 providers (76%) reported that they do not worry about HPV vaccine series completion by age 12. Of these, nine (53%) reported not worrying at all and 4 (24%) reported not worrying until age 16 or later. Age 16 was the earliest age at which providers reported feeling urgency to initiate or complete the series, and some reported not feeling urgency until patients' 20s ("you're supposed to be able to finish it anytime, I think"). In the Minnesota sample several providers referred to a similarly extended window in which their patients were eligible for HPV vaccine, suggesting a common perception that "you are never really off time" for the vaccine. Exemplar quotes are presented in Table 2.

Table 1
Participant characteristics, Minnesota (2012) and Washington (2015), USA.

	Minnesota sample (n = 27)		Washington sample (n = 17)	
	n	(%)	n	(%)
Sex				
Female	22	(81)	11	(65)
Male	5	(19)	6	(35)
Profession[a]				
MD	17	(63)	17	(100)
NP/PA	10	(37)	–	
Specialty				
Pediatrics	13	(48)	13	(76)
Family medicine	14	(52)	4	(24)
Practice affiliation[b]				
Public clinic/community health center	13	(48)	–	
Hospital/medical center	2	(7)	–	
Practice network/HMO	5	(19)	100	(100)
Private, independent practice	7	(26)	–	
	Minnesota sample (n = 27)		Washington sample (n = 17)	
	mean	(range)	mean	(range)
No. years post-training[c]	7	(2–49)	30	(9–42)

[a] Only MDs were interviewed for the WA sample.
[b] All clinicians in the WA sample were part of a single practice network.
[c] Post residency/training for MN sample, post medical school graduation for WA sample.

3.2. Providers refined their recommendations based on their perceptions of patients' access to care and sexual risk

Instead of following a solely age-based recommendation, providers reported an individualized approach to timing their vaccine recommendations in which increasing age might be but one factor. Many providers reported either relaxed approach earlier in adolescence ("I know I'll see them again") or a more urgent recommendation as their patients approach transition out of high school or pediatric care as they may be "less likely to get [all of the shots]" once in college. Further, several providers in both samples reflected on their judgments of individual patients' risk of sexual debut or of the sexual risk of their "patient population" more broadly, and a feeling that continued sexual naiveté justified delayed vaccination.

3.3. Providers perceived that a "gentler" recommendation honors parent preferences and builds long-term trust

As a logical progression from a perception of the "true" window for HPV vaccination extending to age 26, providers often reported deferring discussions or recommendations until subsequent visits, giving parents "permission to delay." One provider reported "I would rather have them come in and have the discussion than not have them come in at all." Several providers viewed the delay of HPV vaccine discussion as a way to build trust or "give control" to families with vaccine concerns, making the HPV vaccine decision one that extends over multiple visits. Some providers described wanting to avoid "a strong arm approach to vaccinating" and implied they would prefer to maintain a long-term, trusting relationship with families than potentially lose that relationship because of a disagreement about HPV vaccine.