

**Addressing Human Papillomavirus (HPV) Vaccine Hesitancy in a Pediatric Primary Care
Clinic**

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Doctor of Nursing Practice

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Executive Summary

- 128 patients aged 11-21 completed a questionnaire; 72 participants were eligible. Of those individuals, 48 received the HPV vaccine during their visit.
- 66.7% of eligible patients received the HPV vaccine during the 12-week implementation period, indicating favorable vaccination rates compared to 35% total completion at the clinic.
- The most common hesitancy reported, at 37.5%, was concerns about the vaccine's safety and side effects.
- 75% of providers who completed the post-implementation survey found that they were likely to continue the communication strategies implemented during the project.
- 75% of providers who completed the post-implementation survey reported improved communication with patients and parents regarding HPV vaccination.

Background and Purpose

The human papillomavirus (HPV) is a sexually transmitted infection (STI) that affects a vast number of people worldwide and is associated with several different cancers, including oropharyngeal, cervical, anal, and vaginal (Zheng et al., 2021). Although this is a widespread infection, an active vaccine is available for primary prevention. Research indicates that Gardasil-9 is highly effective and elicits a strong immune response and is targeted for females and males starting as early as nine years old (Restrepo et al., 2023). However, vaccination rates remain low, and vaccine hesitancy remains a significant challenge (Cadeddu et al., 2021).

A private pediatric practice with two locations in central North Carolina found that its HPV vaccination completion rate was below the Healthy People 2030 benchmark of 80% (U.S. Department of Health and Human Services, n.d.). The site liaison ran a list of eligible patients who were vaccinated in the North Carolina Immunization Registry on June 16, 2025. They found that 34% of their patients aged 9-21 had received at least one dose of the HPV vaccine (Site Champion, personal communication, June 16, 2025). The targeted audience was pediatric primary care providers, nurses, and medical assistants who discuss HPV vaccinations in practice.

The purpose of this Doctor of Nursing Practice quality improvement project was to enhance healthcare providers' communication skills through increasing their satisfaction with targeted and presumptive communication styles, addressing patient-specific hesitancies, and promoting vaccine education during patient interaction. Additionally, the project aimed to improve patient education by providing comprehensive information to facilitate informed decision-making, with the ultimate goal of increasing HPV vaccination rates at the two pediatric clinics. Then, with the intent of improving vaccination rates across multiple pediatric primary care clinics through the implementation of this standardized communication protocol.

Methodology

This quality improvement project followed a 13-week implementation period from January 19, 2026, through April 20, 2026. The first week was remote and assessed provider confidence through online completion of pre- and post-surveys after reviewing an informational PowerPoint; scores were measured on a Likert scale. One of the five participating providers completed the pre- and post-surveys (20% completion rate). Five providers (one pediatrician and four pediatric nurse practitioners), their nurses and medical assistants, and two clinical site managers participated in the remaining 12 weeks of implementation. Collectively, they

distributed questionnaires to age-eligible patients during the intake and vitals portion of their appointments. This included individuals, male or female, aged 11 through 21 who presented to the clinic for reasons other than an acute illness. Along with the questionnaires, an infographic based on credible information and including websites with further information on the HPV vaccine was distributed to the patient or their parents.

The questionnaire specified the reason for hesitation if the patient declined the vaccine. This information facilitated targeted communication between the patient and provider during the visit. The completed questionnaires were collected at the end of the visit by the provider or their medical assistant. Vaccination results were recorded on tally sheets by two of the providers, or a report was run for three of the providers at the other site. Completed questionnaires and vaccination numbers were collected weekly at each site. At the end of implementation, a post-survey was completed by four of the five providers. This assessed satisfaction with the project and the likelihood of continuing past the 13 weeks using a Likert scale.

Data was analyzed using descriptive statistics. This approach was useful for summarizing findings on patient-specific hesitancy regarding the HPV vaccine, vaccination rates, and provider satisfaction with the communication styles used during implementation. By analyzing the data this way, trends in vaccine hesitancy, vaccination uptake, and provider satisfaction were identified during the 13 weeks of implementation.

Results

A total of 128 patients aged 11-21 completed a questionnaire; those who were acutely ill or up to date on vaccination were excluded; 72 were eligible. Of those who completed the questionnaire, 24 declined vaccination. The most common reasons for refusing vaccination during the visit were side effects and safety concerns (37.5%) and religious or cultural reasons

(16.7%). A combined total of 20.8% of respondents needed more discussion with other family members not present for the appointment or would have preferred to defer until a later date. The other 48 participants accepted the HPV vaccination during their appointment. This represented a 66.7% acceptance rate for eligible patients during the project implementation. Lastly, four of the five providers who participated in the project completed the post-implementation survey. 75% reported being likely to continue using the communication strategies initiated during the project. Also, 75% of respondents reported improved communication regarding the HPV vaccine compared to pre-implementation. The remaining 25% reported neutral responses to both questions due to limited participation in the project.

Strengths

- The project showed a favorable HPV vaccine acceptance for the five participating providers.
- Weekly check-ins enabled real-time feedback and frequent Plan-Do-Study-Act cycles every 2-4 weeks.
- The project site and site champion are familiar from previous clinicals, which facilitated open conversation and increased willingness to participate among two of the five providers.
- The project aligns with Healthy People 2030 initiatives to increase HPV vaccination.
- Infographics provided to patients and parents support informed decision-making.
- Included a Spanish-speaking infographic to broaden patient demographics.

Limitations

- Inconsistent provider participation and survey distribution to eligible patients, as reported by three of the five providers, resulted in a small patient population.

- Inclement weather-related cancellations/closures resulted in three of the 12 weeks with no patients aged 11-21 visiting the five participating providers.
- The current political climate surrounding vaccination created parent hesitancy when discussing the HPV vaccine, which is optional.
- Excluding patients aged 9 and 10 from the project's patient population, a decision made by the clinic's owner due to limited engagement from that age group, introduced potential provider bias.

Implications and Conclusion

The project found implications for practice, beginning with the individual patient and extending to a more community scale. Providing patients with the infographics containing pertinent information supports informed decision-making among adolescents and their families. Also, having a questionnaire and consistent counseling from participating providers promotes standardized communication strategies for discussing HPV vaccination across all providers at the clinical site. Nurses and providers are pivotal contributors to educating and advocating for evidence-based health promotion for adolescents and their families. Lastly, from a community standpoint, improving counseling and education promotes primary prevention by increasing vaccination rates of HPV, which would help in the prevention of disease diagnoses related to HPV-related cancers.

Overall, the project successfully obtained information pinpointing the exact reasons for hesitancy, enabling targeted communication between providers and patients, fostering greater engagement with the HPV vaccine, and addressing the need for continued provider communication and vaccinating all age-eligible patients.

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