

Social marketing to promote HPV vaccination in pre-teenage children: Talk about a sexually transmitted infection

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A significant barrier to the delivery of HPV vaccine is reluctance by both healthcare providers and parents to vaccinate at age 11 or 12, which may be considered a young age. This barrier has been called “vaccine hesitancy” in recent research. In this commentary, we suggest using social marketing strategies to promote HPV vaccination at the recommended preteen ages. We emphasize a critical public health message of a sexually transmitted infection (STI) as preventable and vaccination against HPV as a way to protect against its consequences. The message tackles the issue of vaccine hesitancy head on, by saying that most people are at risk for HPV and there is a way to prevent HPV’s serious consequences of cancer. Our approach to this conversation in the clinical setting is also to engage the preteen in a dialog with the parent and provider. We expect our emphasis on the risk of STI infection will not only lead to increased HPV vaccination at preteen ages but also lay important groundwork for clinical adoption of other STI vaccines in development (HIV, HSV, Chlamydia, and Gonorrhea) as well as begin conversations to promote sexual health.

Strong evidence for the benefits of routine vaccination against human papillomavirus (HPV) at ages 11–12 has existed for years.^{1–3} Completion of the 3-dose vaccination series is best before any opportunity for exposure to the sexually transmitted virus.^{1–3} Preteens are unlikely to be exposed to HPV infection so are more likely to have the full benefit of the vaccine.^{1–3} HPV vaccination has a higher

immune response for 11–12 year olds than for older females and males.^{1–3} HPV can be transmitted by genital contact other than sexual intercourse, and a child’s timing of his or her sexual debut is often unknown by providers or parents.^{1–3} However, opportunities for HPV vaccination as part of the recommended adolescent platform of vaccines (Tdap, meningococcal, influenza) are often missed and even avoided.^{1–3}

A significant barrier to the delivery of HPV vaccine is reluctance by both healthcare providers and parents to vaccinate at age 11 or 12, which may be considered a young age.³ This barrier has been called “vaccine hesitancy” in recent research.^{4–6} Vaccine hesitancy means that some providers have difficulty talking about sex and sexual health with their patients, or that parents are opposed to the vaccine and reluctant to talk about sexual health with their children. Studies show that pediatricians and family physicians are less likely to recommend HPV vaccine for preteen patients than for older teens because of parental refusal and reluctance to discuss sexual issues.^{7–9} The strength of recommendations by many pediatricians and family physicians at these optimal ages remains weak.²

From our own research and that of others, some key barriers to HPV vaccination at ages 11–12 include: (1) parents’ concerns that preteen children are too young to get vaccinated and are not sexually active yet, that the vaccine is not safe, and they do not have a vaccine recommendation from their doctor; (2) preteens’ dislike of shots and being minimally involved in the vaccination decision, and (3)

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providers' concerns about vaccine cost and duration.¹⁰⁻¹² The public health question is how to address these complicated issues and raise the level of HPV vaccination at the recommended ages of 11-12. In an effort to boost the HPV vaccination rates, some public health leaders have suggested limiting the conversation with parents and preteens to the possibility of cancer if not vaccinated against HPV.¹³ We offer another resonating theme with parents, that of discussing the reality of sexually transmitted infections (STIs) and how to prevent them.

In North Carolina, we have used social marketing strategies based on formative research with parents of preteens and healthcare providers who serve them to boost HPV vaccination rates in targeted areas.¹⁴⁻¹⁷ Social marketing includes promoting (educational materials) a product (HPV vaccine) in a place (clinical setting) for an attractive price (cost, access, perception of safety).^{18,19} In focus groups and interviews, parents thought a message about their child being at risk of getting an STI at some point in their life (*One in 2 people will get HPV, which can lead to genital warts and cancer*) was the most motivating message to get HPV vaccination.¹⁴ This emphasis on discussing the risk of getting HPV incorporates a critical public health message of an STI as preventable and vaccination against HPV as a way to protect against its consequences.^{3,20} The message tackles the issue of vaccine hesitancy head on, by saying that most people are at risk for HPV and there is a way to prevent HPV's serious consequences of cancer. The message builds on that recommended by the President's Cancer Panel of 2013, to frame HPV vaccines as a way to prevent cancers, yet focuses on the source, a sexually transmitted infection.³ HPV vaccine is commonly known to prevent cervical cancer, but the quadrivalent vaccine (HPV4) that is licensed in males and females has extremely high efficacy for the prevention of anal, vaginal and vulvar cancers as well.³

Our approach to this conversation in the clinical setting is also to engage the

preteen in a dialog with the parent and provider. We expect that conversations at preteen ages – and prior to actual sexual activity – will lead to greater buy-in from all 3 decision makers. In a North Carolina study, we examined HPV vaccination message preferences among middle school students ($n = 43$) through 7 focus groups and 2 in-class surveys.²¹ Informed by theoretical concepts from the Health Belief Model and message design studies, we assessed students' knowledge of HPV vaccine, use of text messaging via cell phone, and preferences for text messages and sources. The text message with the best composite score ($M = 2.33$, $SD = 0.72$) for likeability, trustworthiness, and motivation to seek more information emphasized a positive outcome of reduced HPV infection and disease if vaccinated. Text messages with lower scores from the students emphasized a negative threat of HPV-related disease if not vaccinated. The student's doctor was preferred by 68% as their information source for HPV vaccination. We concluded that text messaging to adolescents, especially with emphasis on positive rather than negative outcomes, may be a strategy to boost vaccination.

Practice-based communication strategies are needed to establish a clinical norm for HPV vaccination at the preteen ages when the vaccine can have the greatest effect. An HPV vaccine with 9 types of oncogenic HPV is in development and may be recommended for clinical use.²² We expect our emphasis on the risk of STI infection will not only lead to increased HPV vaccination at preteen ages but also lay important groundwork for clinical adoption of other STI vaccines in development (HIV, HSV, Chlamydia, Gonorrhea) as well as begin conversations to promote sexual health.²³ Although this focus may be on vaccine decision-making at the developmental ages 11-12, we also anticipate a "ripple effect" to younger and older age groups. Increased HPV vaccination coverage will result in reduced HPV infection and associated cancers.

Public health interventions often take years to be broadly adopted and sustained

in practice settings,²⁴ and the HPV vaccine is no different. One widely quoted study said it takes 17 years to get only 14% of original research into patient care.^{25,26} The quadrivalent vaccine was evaluated for many years in efficacy and effectiveness trials and finally in 2006 was approved by the Food and Drug Administration (FDA) for use in the general population of females, ages 9-26. After six years of marketing by the vaccine manufacturer and recommendations by the Centers for Disease Control and Prevention (CDC) and professional medical societies, completion of the vaccine series with 3 doses in 2013 was only 37.6% among females and 13.9% among males.¹ Adoption of this innovative and effective disease prevention vaccine has been disappointingly slow.²⁷ Engaging the communities of providers, parents and preteens to normalize this innovation at the ages intended is essential.

Disclosure of Potential Conflicts of Interest

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