

Preventing human papillomavirus—related cancers: we are all in this together



Sarah Dilley, MD, MPH; Isabel Scarinci, PhD, MPH; David Kimberlin, MD; J. Michael Straughn Jr, MD

Background

There was a drastic reduction in the rate of cervical cancer after widespread adoption of the Pap test in the United States. Now with a better understanding of the natural history of cervical cancer and its link to HPV, we have an opportunity to further reduce cervical cancer and other HPV-related diseases (including cervical dysplasia and genital warts) through primary prevention with the HPV vaccine. Over 12,000 women are diagnosed with and >4000 die of cervical cancer every year, and >90% of those cancers are attributable to HPV.¹ While the rate of cervical cancer is not increasing, the rate of overall HPV-related cancers (including cervical, vulvar, vaginal, anal, and oropharyngeal cancers) is on the rise in the United States, with >38,000 men and women estimated to be diagnosed with HPV-related cancers every year.² In 2006 the HPV vaccine became available to prevent these devastating conditions, yet despite its proven efficacy and safety 10 years after its introduction, vaccination rates lag behind the Healthy People 2020 goal of 80% vaccination completion rate for girls and boys ages 13–15 years.^{3–6} As of 2015 in the United States, only 62.8% of eligible girls complete the first dose of the HPV vaccination, 52.2% complete 2

THE PROBLEM: Human papillomavirus (HPV) vaccination rates are low, leading to missed opportunities for the prevention of HPV-related diseases.

THE SOLUTION: Obstetrician-gynecologists (OBGYNs) and other women's health care providers have an important role to play in the prevention of HPV-related diseases and can incorporate multiple strategies to help increase vaccination rates.

doses, and 41.9% finish the 3-doses series. Despite the recommendation to vaccinate boys in 2011, only 49.8% of eligible boys complete the first dose, 39.0% complete 2 doses, and only 28.1% finish the series.⁵ In contrast, uptake of the meningococcal and tetanus, diphtheria, and acellular pertussis vaccines, the 2 other vaccines routinely given in adolescence, are much higher with 86.4% of adolescents receiving the tetanus, diphtheria, and acellular pertussis vaccine and 81.3% receiving the first dose of the meningococcal vaccine.

While much of the burden of HPV vaccination falls on pediatricians and primary care providers, OBGYNs and other women's health providers must share responsibility for vaccination of eligible patients. In this call to action, we discuss the challenges that have impeded widespread adoption of this vaccine, the unique perspective OBGYNs have as providers who care for women affected by HPV-related conditions, and the strategies that OBGYNs and other women's health care providers can use to maximize HPV vaccination in their patients and communities.

Challenges to HPV vaccination

Low HPV vaccine uptake is a multifactorial problem that can be attributed in part to pharmaceutical marketing, multidosed vaccination schedules, safety concerns, and parental attitudes surrounding the vaccine's association with a sexually transmitted infection.⁷ Furthermore, parental attitudes toward

vaccination are changing, with 87% of pediatricians in 2013 reporting parental vaccine refusals in their practices, compared to 74% in 2006.^{7,8} Rather than recognizing that the HPV vaccine is a cancer prevention vaccine, parents are often worried that it is a license for unfettered sexual intercourse or believe that their child does not need the vaccine prior to sexual debut.^{9–11} Others have been swayed by the scientifically inaccurate antivaccination attacks seen in print and social media.¹² The data clearly reflect that this vaccine is safe, does not lead to changes in sexual behavior, and is most beneficial if given before exposure to HPV.^{13–15}

Public policy changes are potential opportunities for increasing vaccine access and uptake. The HPV vaccine is already available at no cost through the Vaccines for Children Program for patients age <19 years who do not have health insurance or Medicaid.¹⁶ Publicly funded school- and clinic-based vaccine programs in other countries have been successful at increasing vaccination rates and decreasing the incidence of cervical dysplasia.^{17–19} However, school entry HPV vaccination mandates in the United States have not increased vaccination rates thus far, in part due to lenient opt-out policies.²⁰ Finally, the multidosed vaccination regimen has been cited as a barrier to full immunization coverage for many patients. The new Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices recommendation to shorten the series to 2 doses for adolescents age <15 years will

From the Divisions of Gynecologic Oncology (Drs Dilley and Straughn), Preventive Medicine (Dr Scarinci), and Pediatric Infectious Diseases (Dr Kimberlin), University of Alabama at Birmingham, Birmingham, AL.

Received Jan. 4, 2017; revised Feb. 12, 2017; accepted Feb. 14, 2017.

The authors report no conflict of interest.

The content of this article is solely the responsibility of the authors and does not necessarily represent the official views of the Association of American Medical Colleges.

0002-9378/\$36.00

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<http://dx.doi.org/10.1016/j.ajog.2017.02.026>

hopefully increase rates of vaccine course completion; however, patients age ≥ 15 years still require 3 doses.²¹

In the face of barriers to HPV vaccination, provider recommendation is demonstrated to be the most important factor that can influence a patient's or parent's decision to vaccinate.¹¹ Unfortunately, some studies have shown inconsistent messaging and a lack of urgency from providers.²² While pediatricians and primary care providers are at the frontline of childhood vaccination, other providers must take responsibility as well. As physicians who see the tremendous disease burden from genital warts, cervical dysplasia, and cancers of the lower genital tract, OBGYNs and other women's health care providers have a responsibility to vaccinate their patients from these diseases. Several professional organizations including the American Congress of Obstetrics and Gynecology (ACOG),²³ Society of Gynecologic Oncology,²⁴ and American Society of Clinical Oncology²⁵ released position statements and calls to action to increase HPV vaccination uptake. ACOG made HPV vaccination a priority, publishing committee opinions on the importance of vaccination, and an online tool kit for promoting the vaccination in clinical practice.^{23,26,27}

The primary goal is for patients to receive the HPV vaccine in pediatric or primary care offices in early adolescence, prior to exposure to HPV. However, due to the large percentage of patients not vaccinated in this setting, women's health care providers are essential for maximizing efforts to vaccinate patients who are eligible up to age 26 years. There are data to suggest there is room for improvement when it comes to OBGYNs' provision of the vaccine. One study showed that pediatricians were significantly more likely to recommend the HPV vaccine to eligible patients than were OBGYNs or family medicine providers.²⁸ Another study demonstrated that patients are much more likely to receive the vaccine from pediatricians and family medicine providers than from OBGYNs.²⁹ While the onus of providing the vaccine does and should fall on providers who care primarily for

TABLE	
HPV vaccination promotion strategies for women's health care providers	
In the office	<ul style="list-style-type: none"> • Counsel patients who are mothers about vaccinating their children • Provide vaccines to eligible patients between ages 9-26 y <ul style="list-style-type: none"> - Incorporate new ACIP 2-dose schedule for adolescents ages 9-14 y²¹ • Use opt-out approach when recommending vaccine • Provide clear messaging about HPV vaccine as cancer prevention vaccine • Vaccinate postpartum women age <26 y when they have guaranteed access to health care • Utilize ACOG HPV vaccination tool kit at immunizationforwomen.org/HPV²⁷ • Integrate vaccine into standing orders for nurse visits and provide script for nursing staff to utilize when providing vaccine • Promote vaccination through educational activities for nurses and medical assistants in clinic
In the community	<ul style="list-style-type: none"> • Speak with local pediatricians and primary care providers both formally and informally to promote vaccine <ul style="list-style-type: none"> - Use "You are the key" presentation provided by CDC³⁶ • Debunk myths and destigmatize HPV vaccine online and in person • Conduct and participate in research on promotion and provision of HPV vaccine
<small>ACIP, Advisory Committee on Immunization Practices; ACOG, American Congress of Obstetrics and Gynecology; CDC, Centers for Disease Control and Prevention; HPV, human papillomavirus.</small>	
<small>Dilley. Preventing HPV-related cancers. <i>Am J Obstet Gynecol</i> 2017.</small>	

children, women's health providers must also maximize their efforts.

The role of the OBGYN

There are many strategies that OBGYNs and other women's health care providers (including family medicine physicians, certified nurse midwives, and other advanced practice providers) can use to decrease the burden of HPV-related disease in their clinics and communities. Provider recommendation is paramount, with the most successful recommendations coming in the form of clear, concise messages focused on cancer prevention and an opt-out approach to HPV vaccination.³⁰ OBGYNs can use this approach with adolescents and young women who present for annual exams or problem visits, and use that opportunity to provide the vaccine at the same time. When caring for women who are the mothers or grandmothers of adolescent boys and girls, they can talk about how the HPV vaccine will benefit their children and grandchildren. Cervical cancer screening visits are opportune times for this counseling. To improve buy-in from clinic staff, they can

lead educational sessions and incorporate the vaccine into standing orders for eligible patients to give nurses autonomy over administering the vaccine. Nursing staff should be provided a clear-cut script for introducing the vaccine to patients. OBGYNs can look to the experiences of pediatricians and family medicine providers for guidance when implementing HPV vaccination in their clinics by using systems that are proven to work well such as automated telephone calls or text message reminders^{18,31} and using resources provided by the American Academy of Pediatrics such as "Countering vaccine hesitancy."³²

Studies looking at postpartum vaccination programs have shown high patient and provider acceptance of this practice, and highlighted the opportunity to vaccinate women who may only have access to preventive services while pregnant. Pregnancy is a time when most women are intimately engaged in the health care system, and many women who are uninsured have access to care under Medicaid during pregnancy. While the HPV vaccine is not approved for use in pregnancy, it is safe for

postpartum women. Despite being eligible for the vaccine, very few postpartum women who are commercially insured are receiving it.³³ Groups in Texas and New York described successful postpartum HPV vaccination programs, with a focus on minority (especially Hispanic/Latina) and publicly insured patient populations. Both groups reported high rates of vaccine acceptability by patients and providers, with significantly increased vaccine completion rates from baseline.^{34,35} With many states foregoing Medicaid expansion and with the uncertain future of the Affordable Care Act, the importance of capturing patients while they have reliable coverage is of utmost importance.

Women's health care providers can also have an impact on their communities—through research, advocacy, and multidisciplinary communication. As leaders in the medical community, women's health care providers have the opportunity to pass along the message of urgency from experiences caring for women with HPV-related diseases to family medicine and pediatrics colleagues. This can occur either informally in the halls of the hospital, or through formal educational events such as multidisciplinary grand rounds. One convenient resource is the “You are the key” presentation available through the CDC.³⁶ They must also continue to conduct research to elucidate the gaps in vaccine coverage and develop innovative ways to increase vaccine uptake. Finally, community outreach to patients and parents through the thoughtful use of social media, websites, and blogs could counteract some of the negative attention and false information being propagated about the HPV vaccine. The strategies listed above are briefly summarized in the [Table](#).

We have the opportunity to improve HPV vaccination rates and reach the Healthy People 2020 goal of 80% uptake by using a clear, concise message of cancer prevention when promoting vaccination among our patients. By incorporating the new CDC recommendation for a 2-dose series for patients initiating vaccination at age <15

years in this messaging, these goals may now be more achievable for pediatricians and primary care providers. OBGYNs and other women's health care providers are uniquely situated, as they are involved in the prevention and treatment of HPV-related diseases, and should feel empowered to support the efforts of increasing HPV vaccination rates. Women's health care providers can provide the vaccine to all eligible patients in their clinics, encourage their patients to vaccinate their children and grandchildren, and provide education and leadership in their communities on the primary prevention of HPV-related diseases. With a combined effort from all providers, we can save lives. ■

ACKNOWLEDGMENT

Thank you to Dr Charles A. Leath III of the Division of Gynecologic Oncology, University of Alabama, for his support and review of the manuscript.

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ABSTRACT

Preventing human papillomavirus—related cancers: we are all in this together

Human papillomavirus—related cancers, which include cervical, vulvovaginal, anal, and oropharyngeal cancers, are on the rise in the United States. Although the human papillomavirus vaccine has been on the market for 10 years, human papillomavirus vaccination rates are well below national goals. Research identified many barriers and facilitators to human papillomavirus vaccination, and provider recommendation remains the most important factor in parental and patient decisions to vaccinate. While much of the burden of human papillomavirus vaccine provision falls on pediatricians and primary care providers, they cannot do it alone. As clinicians who care for a large

proportion of human papillomavirus—related conditions, obstetrician-gynecologists and other women's health care providers must share the responsibility for vaccination of eligible patients. Obstetrician-gynecologists can support the efforts to eradicate human papillomavirus—related disease in their patients and their families via multiple avenues, including providing the human papillomavirus vaccine and being community leaders in support of vaccination.

Key words: cancer prevention, cervical cancer, cervical dysplasia, human papillomavirus, human papillomavirus vaccination