

# Physicians Must Encourage HPV Vaccine

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Despite overwhelming evidence indicating vaccines are safe and effective at preventing diseases,<sup>1</sup> physicians are still faced with the dilemma of convincing patients to receive their recommended vaccinations. The topic comes up regularly on television talk shows; presidential debates; or in new documentary films, such as “Vaxxed: From Cover-up to Catastrophe,” which was pulled from the Tribeca Film Festival in March 2016.<sup>2</sup> The central debate over vaccines traces back almost 20 years to the study published in *The Lancet* regarding the measles-mumps-rubella vaccine and the link to autism. Although the article was retracted in 2010 and no evidence has been found linking vaccines with autism,<sup>1,3</sup> vaccination coverage gaps still exist. These gaps can leave communities vulnerable to vaccine-preventable diseases.<sup>4</sup> This lack of protection is especially glaring for the human papillomavirus (HPV) vaccine, putting health care professionals including dermatologists in the position of educating parents and guardians to have their children immunized.

More than 10 years after the federal government approved the first vaccines to fight the cancer-causing HPV, less than half of adolescent girls and only a fifth of adolescent boys are getting immunized. The reasons for the low vaccination rates are particularly complicated because they play not only into fears over vaccines but also over a perceived risk the vaccine may encourage sexual activity in adolescents, which has not been proven.<sup>5</sup> Another factor is reluctance on the part of physicians to discuss the vaccine with patients and to fully embrace its lifesaving potential. A recent study showed how physicians are contributing to the low rate.<sup>6</sup> “The single biggest barrier to increasing HPV vaccination is not receiving a health care provider’s recommendation,” said Harvard University researcher Melissa Gilkey.<sup>7</sup>

According to the Centers for Disease Control and Prevention (CDC), as of 2014, only 40% of

adolescent girls aged 13 to 17 years had completed the 3-dose course of the HPV vaccine and just 22% of adolescent boys,<sup>8</sup> which is short of the 80% public health goal set in 2010 by the federal government.<sup>9</sup> Vexingly, HPV vaccination rates lag behind the other 2 vaccines recommended in the same age group: the tetanus-diphtheria-acellular pertussis booster (88%) and the vaccine to prevent meningococcal disease (79%).<sup>8</sup>

Malo et al<sup>6</sup> surveyed 776 primary care physicians and reported that more than a quarter of primary care respondents (27%) do not strongly endorse the HPV vaccine when talking with their patients’ families. Nearly 2 in 5 physicians (39%) did not recommend on-time HPV vaccination for their male patients compared to 26% for female patients.<sup>6</sup>

The starkest findings, however, related to how the physicians approached their discussions with parents and guardians. Only half recommended the vaccine the same day they discussed it, and 59% said they approached discussions by assessing the child’s risk for contracting the disease rather than consistently recommending it to all children as a routine immunization.<sup>6</sup>

Despite physician hesitancy, when looking at the facts there should be no debate. In December 2014, the US Food and Drug Administration approved the 9-valent HPV (9vHPV) vaccine for males and females aged 9 to 26 years. The vaccine covers HPV types 6, 11, 16, and 18, which are part of the quadrivalent HPV (qHPV) vaccine, along with HPV types 31, 33, 45, 52, and 58. The 9vHPV vaccine has the potential to offer protection against 30% to 35% more high-grade cervical lesions and to increase cervical cancer prevention from approximately 70% to 90%.<sup>10</sup> It also will protect against 90% of the virus strains responsible for causing anogenital warts. According to CDC estimates, for every year that coverage does not increase, an additional 4400 women will develop cervical cancer. If providers can push the HPV vaccination rate up to the goal rate of 80%, the CDC estimates that 53,000 cases of cervical cancer could be prevented during the lifetime of patients younger than 12 years.<sup>11</sup>

In a clinical trial of 14,215 women, Joura et al<sup>12</sup> reported that the 9vHPV vaccine had an efficacy of 96.7% to prevent high-grade cervical, vulvar, or vaginal dysplasia related to HPV types 31, 33,

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The authors report no conflict of interest.

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45, 52, and 58 in women. Antibody responses to HPV-6, 11, 16, and 18 among participants who received the 9vHPV vaccine were noninferior to those who received the qHPV vaccine. The incidence of disease related to HPV-6, 11, 16, and 18 was similar in the 2 vaccine groups. The introduction of 9vHPV vaccination in both males and females was cost saving compared to the qHPV vaccine in cost-effectiveness analyses. Injection-site reactions were slightly more common with the 9vHPV vaccine compared to the qHPV vaccine but were generally mild with less than 0.1% of study participants discontinuing due to vaccine-related adverse events.<sup>12</sup>

Additionally, the vaccine has the potential to offer protection against penile, anal, vulvar, vaginal, and oropharyngeal cancers (OPCs). Data from Joura et al<sup>12</sup> demonstrate that 55% of anal and penile cancers biopsied in the study carried the 5 HPV types that are included only in the 9vHPV vaccine.

Studies also show that the rate of OPC caused by HPV is rising rapidly and increasing more among men than women. Remarkably, OPC is projected to become more common than cervical cancer in 2020, with an estimated 70% of OPCs being caused by HPV in the United States.<sup>13</sup> Theoretically, the 9vHPV vaccine has the potential to protect against even more cases of OPC because of its even broader coverage.<sup>14</sup>

Although optimal timing for the HPV vaccine would still be in preadolescence prior to sexual activity when exposure to HPV is less likely, CDC studies have shown benefit even in older patients who may have already been exposed to 1 or more HPV strains.<sup>15</sup>

Simply put, all the combined data highlight the overwhelming importance of HPV vaccination, with the 9vHPV vaccine representing a meaningful advantage over existing HPV vaccines. As physicians, we have a duty to our patients to emphasize the importance of this vaccine. It is a vaccine that has the potential to prevent multiple cancers, cancers for which we currently have no evidence-based prevention modalities, except in the case of cervical cancer. This responsibility falls on all providers, not just primary care providers. With a strong message from providers to vaccinate age-eligible males and females, we can move the United States from among the lowest rates of HPV vaccination to the highest, with subsequent reductions in the national cancer burden to follow.

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