

COMMENTARY



Medical ethics principles underscore advocating for human papillomavirus vaccine

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ABSTRACT

Studies have consistently shown that vaccination rates against human papillomavirus (HPV) lag far behind other adolescent vaccinations recommended at the same age, resulting in exposing adolescents to unnecessary future risk of infection, and genital and head and neck cancers. Studies also have demonstrated that a major barrier to vaccination is lack of a strong provider recommendation. Factors that providers offer for failing to give a strong recommendation range from perception that the child is not at risk or the need to explain that the vaccine is not mandated (lack of equity and justice) or respect for parental autonomy. We look at the issue through a different lens, and reframe the above viewpoint by describing how failing to make a strong recommendation means the provider is not meeting the four principles of medical ethics (justice, beneficence, non-maleficence and autonomy).

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The human papillomavirus (HPV) 9 vaccine prevents 90% of infections that cause HPV-related cancers. Despite high prevalence of HPV (an estimated 79 million Americans are infected), and endorsement of HPV vaccination by the Centers for Disease Control and Prevention (CDC) and national medical organizations,¹ uptake remains below Healthy People Goals of 80% and may fall further due to reduced preventive care visits during the COVID-19 pandemic. Unlike other vaccines, sub-optimal HPV vaccination is partly due to parents not receiving strong provider recommendations for HPV vaccination.² We address how the four principles of medical ethics (justice, beneficence, non-maleficence and autonomy) relate to provider responsibility to deliver strong and consistent HPV vaccination recommendations to all eligible adolescents.

Justice

The concept of justice in medicine implies that providers treat all patients fairly and without discrimination. Equitable HPV vaccination therefore means that providers should recommend HPV vaccination to all eligible adolescents as standard of care. This standard is currently lacking. Compared with pertussis booster (Tdap) and meningococcal conjugate (MCV4) vaccines (also recommended at age 11–12 years), US HPV vaccination rates are approximately 25% and 40% lower for teenage girls and boys, respectively,³ and lag behind other resource-rich nations with similar recommendations, education and cultural beliefs. These data, coupled with evidence that many parents receive no or weak HPV vaccination recommendations, suggest a lack of justice in HPV-associated communications from primary care providers.^{2,3}

The reasons for provider hesitation to recommend HPV vaccination to all eligible patients the same way as they recommend other adolescent vaccines, are multifactorial. Given increased hesitation among parents regarding vaccines in general, and HPV vaccination specifically, providers may perceive that parents do not value HPV vaccine, anticipate strong parent hesitation due to HPV vaccination-specific safety concerns, or perceive that parents consider it unnecessary for their child due to low immediate risk for HPV infection.

In states that do not include HPV vaccination as school-mandated, providers may present HPV vaccination as optional, or feel a need to inform parents that schools do not require HPV vaccination, deferring to school policy rather than focusing on CDC recommendations.¹ Ethically, in the interests of providing a just vaccine recommendation, the presence or absence of a mandate should not affect whether or how a provider discusses and advocates for a universally recommended vaccine. Providers must understand and communicate the CDC preventive guidelines, and be on the forefront of educating parents regarding the rationale for HPV vaccination as important for cancer prevention, regardless of school requirements.

It is unethical for providers to avoid recommending HPV vaccine to all eligible patients due to a belief that the conversation may take too much time or anticipation of a difficult interaction. Provider hesitation to systematically recommend HPV vaccination to all patients may relate to their expectation that additional time is needed to discuss HPV vaccination with parents, and assumptions regarding patient risk and timing of HPV infection. Providers cannot predict future risk or timing of HPV exposure for an individual. Moreover, studies show that providers may overestimate parental resistance and underestimate the

importance parents attach to HPV prevention.⁴ The principle of justice is fulfilled when a provider objectively delivers to all eligible adolescents bundled recommendations for all adolescent vaccines (Tdap, MCV4, HPV) the same way on the same day.⁴

Beneficence

The principle of beneficence means that providers act in the patient's best interest. Preventing HPV infection, that almost every individual acquires in their lifetime, with some types being a precursor to HPV-associated cancer, clearly benefits individuals.⁴ In countries with robust HPV vaccination rates, significant reductions in HPV-associated cancers and precancerous lesions are reported, leading to a significant reduction in morbidity, mortality and reduced healthcare-associated costs.⁵ Initiating HPV vaccine at age 11–12 years, as recommended, also demonstrates beneficence because the vaccine is more immunogenic when initiated at an early age, is more effective when given before HPV exposure occurs, and allows for series completion with two rather than three doses, reducing patient discomfort and repeated health-care visits.¹ For a provider to fulfill their ethical duty of beneficence, therefore, they have a responsibility to educate themselves about the HPV vaccine and effective strategies to communicate the science and rationale behind recommendations. Delivering consistent and strong recommendations to increase guideline-recommended HPV vaccination uptake is clearly in the best interest of their patients.

Non-maleficence

Non-maleficence means that providers have a responsibility to do no harm. Providers have the responsibility to understand and promote CDC-recommended vaccinations for all ages. However, provider hesitancy to deliver strong and consistent adolescent HPV vaccination recommendations leads to missed opportunities to vaccinate, introducing potential harm for unvaccinated patients.² Because HPV is easily transmitted and HPV vaccine safely and effectively prevents HPV infection and HPV-related cancers, not vaccinating is harmful for individuals and society. Nationally, every year of suboptimal HPV vaccine coverage results in >4000 cases of cervical cancer and >1,400 deaths.⁴ There is also a significant economic impact; the estimated annual burden of treating HPV-related disease exceeds \$7 billion. Further, not administering HPV vaccine at the recommended age is potentially harmful. Immunogenicity decreases with age, exposure becomes more likely, and, on a practical level, annual preventive health-care visits decline during adolescence leading to missed opportunities for cancer prevention.¹ Therefore, not consistently recommending HPV vaccine presents potential harm from preventable infections, and does not meet the ethical responsibility of non-maleficence.

Autonomy

The ethical principle of autonomy recognizes the right of a patient (or parent) to make evidence-based, informed, and un-coerced decisions about their medical care. Perceived respect for autonomy may be mistakenly used as an excuse

for suboptimal HPV vaccination rates due to vaccine refusal. However, implicit in the principle of autonomy is the provider's duty to educate themselves so that they can provide patients/parents with scientifically accurate information to support informed decision-making. In an era of increasing misinformation, and concerted efforts to promote disinformation about vaccinations,⁶ this means that providers have a responsibility to communicate accurate information clearly, including addressing concerns about HPV vaccine safety and educating parents regarding the benefits, to enable them to make evidence-based *informed* decisions.

The importance for providers to support evidence-based autonomous decision-making by providing access to accurate HPV vaccination information is underscored by the World Health Organization's inclusion of vaccine hesitancy as one of the top ten threats to global health, even prior to the COVID 19 pandemic.⁷ This requires addressing vaccination misinformation and tailoring conversations to parents' concerns. This is a challenge for providers and the public health community in general. Continued research is needed to develop effective messaging and to communicate effectively with parents about vaccination to support the principle of patient autonomy. While vaccination support resources are available through CDC and other organizations that provide fact sheets and training,⁴ continued work is needed in an era of rising vaccine-hesitancy, with provider commitment to revisiting the discussion because parental autonomous decisions may change over time.

The challenges of advocating for HPV vaccination during a global pandemic and in an era of increased vaccine skepticism and hesitancy are many.⁶ Providers need to serve as the credible and consistent source of information for parents, helping disseminate accurate HPV vaccination information and address any concerns raised. This approach to provider practice by advocating for CDC-recommended HPV vaccination aligns with each of the expected ethical responsibilities of justice, beneficence and non-maleficence to patients.

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