

POLICY BRIEF

Society of behavioral medicine supports increasing HPV vaccination uptake: an urgent opportunity for cancer prevention

Translational Behavioral Medicine

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Recommendations for legislators and policymakers

Legislators and other policymakers play a critical role in ensuring that resources are adequate to achieve the nation's HPV vaccination goals. Suggestions for legislators and other policymakers include:

1. Advocate for improved administration authority, insurance coverage (including Medicaid), and reimbursement rates to healthcare providers who make HPV vaccine available to adolescents in a variety of settings
2. Provide instrumental support to fund the development of school curricula on HPV vaccination that will:
 - a. Optimize school health education opportunities
 - b. Enhance the role of schools in parent and community education, vaccine administration, and other vaccination-related activities
3. Increase public awareness that HPV vaccination can prevent cancer

Implications

Practice: Healthcare providers and healthcare systems should improve patient education and communication, clinical standards of practice, and information systems to ensure eligible female and male patients initiate and complete the full HPV vaccination series.

Policy: Legislators and policy makers should ensure adequate resources to achieve the HPV vaccination goals by advocating for improved coverage and reimbursement for providers, optimized school curricula and role in vaccination-related activities, and increased public awareness.

Research: SBM encourages the initiation of studies employing implementation science methodologies to identify behavioral and systems strategies for addressing both supply-side and demand side barriers to HPV vaccination uptake and series completion

BACKGROUND

Human papillomavirus (HPV) infection is common in the USA and globally. The Centers for Disease Control and Prevention estimates that 14 million new infections occur annually in the USA [1]. Approximately 26,000 new cancers in the USA are attributable to HPV annually [2]. The virus affects both males and females through its association with oral cancer, anal cancer, and genital warts. HPV infection also causes cervical [3, 4], vulvar, and vaginal cancers in women and penile cancer in men [5–8]. It is notable that 39 % of all HPV-related cancers occur in males [9], and the incidence of HPV-related oral cancers has rapidly increased in this population since 2000 [10]. Furthermore, HPV-associated illnesses contribute significantly to the US healthcare expenditures. Yearly costs to treat HPV-related diseases in the USA are estimated at \$8 billion [11].

NEED FOR IMPROVED HPV VACCINE COVERAGE FOR CANCER PREVENTION

HPV vaccination is an effective primary prevention strategy to reduce infections that can lead to cancer [12]. The HPV vaccines available in the USA [13–15] currently require three doses over a 6-month period. The US Advisory Committee on Immunization Practices and the American Academy of Pediatrics recommend routine vaccination for females and males ages 11–12 years. The recommendations also permit late vaccination of females and males up to 26 and 21 years, respectively. [16, 17].

BOTTOMLINE:

The content of this Policy Brief have not been previously published and manuscript has not been submitted elsewhere.

Recommendations for healthcare providers/healthcare systems

All healthcare providers, including primary care, hospital care, and nontraditional care providers (e.g., schools, pharmacies, and public health departments) can contribute to increasing HPV vaccination coverage. Suggestions for these providers include:

1. Increase the strength, quality, and consistency of HPV vaccination recommendations for all eligible patients, focusing on patients ages 11 and 12
2. Treat HPV vaccination as a routine preventive service like other ACIP-recommended vaccines [20]
3. Address hesitancy by employing culturally appropriate communication strategies with patients, parents, and guardians and responding effectively to common concerns about the importance, effectiveness, and safety of HPV vaccination
4. Strengthen and coordinate the use of electronic medical records and immunization information systems to:
 - a. Identify eligible patients for first dose initiation [30] or series completion
 - b. Provide access to patient immunization records across patient care providers, vaccine administrators, and the state public health system

NEED FOR IMPROVED HPV VACCINE COVERAGE

HPV vaccines are both effective and safe [18, 19], yet vaccination coverage remains low. National data from 2014 indicate that, 60 % of eligible females and 42 % of eligible males have received an initial dose. Fewer than 40 % of eligible females and fewer than 22 % of eligible males have completed the three-dose series [20]. Nationally, the median HPV vaccination coverage rates for female adolescents among commercial and Medicaid plans in 2013 were 12 and 19 %, respectively [21].

Three important factors that contribute to poor vaccine uptake are amenable to change. Many healthcare providers miss opportunities to recommend and administer the vaccine, [22–24] in part due to absent or low-quality recommendations [25]. Significant parental barriers exist, including parents' concerns about vaccine safety and cost, lack of knowledge, and failure to receive a provider recommendation [26–28]. In addition, access to HPV vaccination services are limited for some populations and in some geographic areas [11, 26].

BUILDING CONSENSUS TO INCREASE HPV VACCINE UPTAKE

The US Department of Health and Human Services *Healthy People 2020* goals (IID-11.4/5) include increasing vaccination coverage with three doses of HPV vaccine among females and males ages 13 to 15 years, with a target of 80 % [29]. The President's Cancer Panel (PCP) and the National Vaccine Advisory Committee have also urged the nation to increase vaccine coverage. The PCP 2014 report established four goals to increase HPV vaccine uptake: (1) reduce missed clinical opportunities to recommend and administer the vaccine, (2) increase parents', caregivers', and adolescents' acceptance of the vaccine, (3) maximize access to HPV vaccination services, and (4) promote global HPV vaccine uptake [11]. In 2016, the National Vaccine Advisory Committee endorsed the PCP goals and made three additional recommendations: (1) develop evidence-based, effective, coordinated communication strategies, (2) strengthen the systems that support immunization, and (3) support the simplest HPV immunization schedule [3].

SUMMARY AND RECOMMENDATIONS

HPV infection is widespread and increases the risk for cancers in both males and females. Despite effectiveness of HPV vaccination, coverage is low. Improving vaccination coverage involves both increasing the number

of eligible males and females receiving the initial vaccine dose (initiation) and ensuring that the series is completed (completion) [11]. We support the goals outlined by Healthy People 2020, the President's Cancer Panel, and the National Vaccine Advisory Committee, which suggest actions that will result in a healthier public. These actions aim to increase initiation of HPV vaccination and reduce the structural barriers to vaccination services in order to increase series completion. Specifically, The Society of Behavioral Medicine (SBM) recommends legislators, policymakers, healthcare providers, and healthcare systems to consider the policy-related and clinical implications related to HPV regulation and uptake described herein.

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