

Rural Disparities in HPV Vaccination

What's known

Rural adolescents have lower HPV vaccine uptake than their urban counterparts due to barriers at multiple levels.

- The Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices recommends routine HPV vaccination for children ages 11-12 years and states that vaccination can begin as early as age 9.¹ The American Cancer Society and the American Academy of Pediatrics recommend starting vaccination at age 9 to increase the likelihood of completing the vaccination series by age 13.^{2,3}
- Adolescents (ages 13-17 years) in rural communities are less likely to be vaccinated against HPV than those in urban areas, which may exacerbate disparities in cancer outcomes experienced by rural residents.⁴
 - Data from the CDC confirm that from 2018-2022 up-to-date HPV vaccination among adolescents in rural areas was 11-percentage points lower compared with urban communities (50% versus 61%, respectively).⁵
 - Additional data suggest rural young adults (ages 18-26 years) are less likely to initiate HPV vaccination compared with their urban counterparts.⁶
- Low HPV vaccination uptake and completion among individuals in rural areas may be due to numerous barriers faced by rural residents at multiple levels.⁴ Barriers include, but are not limited to the following:
 - Individual-, interpersonal-, organizational-, and community-level barriers to accessing preventive health care services, including HPV vaccination, in rural communities⁷
 - Rural residents' lack of knowledge of HPV's link to cancer and their limited awareness of the HPV vaccine^{8,9}
 - Limited collaborative communication between parents or guardians and health care providers about HPV vaccination in rural areas¹⁰
 - Systems-level challenges with vaccine distribution and access, vaccination tracking in electronic health records, missed opportunities for vaccination, provider shortages, and clinical constraints such as long appointment wait times⁷
 - Few widely available evidence-based HPV vaccination interventions focused on rural communities¹¹

What's new

Increased promotion of and access to HPV vaccination across rural communities in the United States is helping to decrease barriers to HPV vaccination.

- The National Cancer Institute (NCI) is prioritizing dissemination and implementation of evidence-based cancer prevention strategies such as HPV vaccination through the Cancer Moonshot initiative. The NCI is also accelerating both rural cancer control research and HPV vaccination implementation research among cancer centers and the extramural research community.^{12,13}
- Rural health care providers, including those who work in Federally Qualified Health Centers, rural health clinics, local health departments, private practices, and pharmacies, more commonly participate in the CDC's Vaccines for Children Program, which provides HPV vaccination at no cost to individuals younger than 19 years of age who are uninsured, Medicaid-eligible, or of American Indian or Alaska Native descent.^{4,14,15}
- Increases in school-located vaccination programs in rural communities, including school-based health centers, have helped to minimize many logistical barriers to HPV vaccination and ensure that adolescents are up to date on vaccination. However, more work is needed to overcome attitudinal and logistical barriers to implementation of school-located HPV vaccination, including obtaining parental consent.^{16,17}
- The CDC initiated rural-specific health communication to promote improvements in rural health, including HPV vaccination, among providers and patients.¹⁸
- Innovative community/clinical partnerships and local health communication campaigns are being used to promote HPV vaccination in rural communities.^{4,19,20}
- Pharmacies can serve as alternative settings for HPV vaccination because of their greater population reach, convenience, and existing infrastructure for vaccine delivery.²¹
 - Evidence has found that pharmacists have the potential to be effective collaborators for HPV vaccine administration and promotion in rural communities.^{22,23}
 - Substantial barriers impede the implementation of HPV vaccination programs in pharmacies, including the need to expand third-party reimbursement and address variations in state laws regarding pharmacists' legal vaccination authority.²¹
 - A review of existing literature showed that, with respect to adolescent HPV vaccination, pharmacists perceive barriers related to parental concerns, beliefs, and inadequate knowledge about the HPV vaccine.²⁴

What's next

Additional research, practice, and policy efforts are needed to close the HPV vaccination gap between rural and urban adolescents and young adults. Approaches include, but are not limited to:

- Adequately defining "rural," including refinement of measurement and descriptions of rural context (e.g., geographic location, rural-urban metric used, intersectionality with other key factors) to promote consistency in intervention reporting and replication¹¹
- Increasing intervention research that incorporates contextual and culturally specific factors to improve rural HPV vaccination outcomes and subsequent translation of research into practice^{11,25}
- Developing, implementing, and evaluating communication strategies using social media and technology at the parent-, provider-, and practice-level to increase reach across rural communities²⁶
- Leveraging additional community-based services, such as mobile health clinics, home health, and dental care, to increase access to HPV vaccination services in rural communities
- Developing effective geospatial approaches²⁷ and policy-oriented strategies for HPV vaccination in rural areas aimed at addressing limited vaccination access and health care provider shortages
- Improving HPV vaccination coverage for the "catch-up pool" of individuals in rural communities, particularly given the impact of being uninsured or underinsured in this age group^{11,28}
- Increasing HPV vaccination confidence among rural residents with an emphasis on health equity and reducing health disparities. Efforts may include targeted and tailored approaches across individual and structural levels from disseminating information about vaccine development, with consideration to health literacy and numeracy skills, to ensuring equitable access to HPV vaccination.²⁹
- Identifying and addressing the impact of the COVID-19 pandemic on delayed preventive care and increased vaccination hesitancy, including the direct effects on HPV vaccination in rural communities^{30,31}

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The American Cancer Society National HPV Vaccination Roundtable convenes, communicates with, and catalyzes member organizations to increase HPV vaccination rates and prevent HPV cancers.

Visit hpvroundtable.org to learn more.

