

Factors affecting HPV vaccination rates

June 24 2016, by Kristie Auman-Bauer



Credit: Karolina Grabowska from Pexels

Virtually all cases of cervical cancer are caused by human papillomavirus (HPV), the most common sexually transmitted infection in the U.S., but fewer than 40 percent of adolescent girls have received the three-dose vaccine developed a decade ago.

According to Shannon Monnat, assistant professor of rural sociology, demography, and sociology at Penn State, the HPV [vaccine](#) is recommended for girls and boys beginning at age 11 and prevents many HPV-related pre-cancers and cancers. Monnat and her research team are among the first to examine health-care access in adolescent girls in rural and urban areas and how it affects HPV [vaccination rates](#). Their work was published in the Maternal and Child Health Journal earlier this year.

The team analyzed data from the Behavioral Risk Factor Surveillance System, the world's largest telephone health survey. "We looked at girls ages 12 to 17 from nine states in the U.S. and found a correlation between the mother's socioeconomic resources and their daughter's initiation and completion of the three-shot HPV vaccine," Monnat explained.

The results showed that about 34 percent of girls began the vaccine series, and among those, 55 percent received all three doses. Overall, vaccination initiation was higher among girls whose mother had at least a four-year college degree and a higher socioeconomic status (SES) than among those whose mothers had a lower SES and were less educated. "We also found that girls were more likely to initiate vaccination when their mothers had routine interactions with the health care system," said Monnat.

Knowing cervical cancer mortality is significantly higher among rural women, the research team also compared relationships between rural mothers' socioeconomic resources and girls' HPV vaccine status to their urban counterparts.

While girls in metropolitan and non-metropolitan areas had similar odds of vaccination, there were differences among the groups with the highest vaccination rates. Girls in urban settings from high-income households whose mothers completed college were more likely to initiate the

vaccination process. Conversely, girls in [rural areas](#) in low-income households whose mothers had not completed high school also had a higher probability of vaccine initiation.

"We theorize that these lower income mothers in rural areas are targets for public health efforts to increase girls' HPV vaccination rates," Monnat noted. "Rural physicians may be more concerned about sexual risk-taking among [girls](#) in rural areas and therefore more likely to recommend the vaccine, and mothers in rural areas may also have a stronger relationship with their physician and trust them when making these decisions."

Monnat said the findings suggest the need to tailor intervention efforts to increase vaccinations rates. "In particular, we recommend directing public health efforts to low-income mothers in metropolitan areas and high-income mothers in non-metropolitan areas. We also encourage vaccination education at pediatric visits beginning at age 11 in hopes that the vaccine series would not only be initiated but also completed."

Provided by Pennsylvania State University

Citation: Factors affecting HPV vaccination rates (2016, June 24) retrieved 25 April 2024 from <https://medicalxpress.com/news/2016-06-factors-affecting-hpv-vaccination.html>

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