



Does Mother’s Health Care Access Influence Adolescent Girls’ HPV Vaccination?

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The human papillomavirus (HPV) is the most common sexually transmitted infection in the United States, and virtually all cases of cervical cancer are caused by HPV. The HPV vaccine, which is recommended for girls and boys beginning at age 11, prevents HPV-related pre-cancers and cancers. However, most teenage girls in the United States have not received the vaccine. This research aims to better understand the roles of mothers’ socioeconomic resources and health care use behaviors on adolescent girls’ (ages 12-17) initiation and completion of the three-dose HPV vaccine series. On average, girls were more likely to initiate vaccination when their mothers had routine interactions with the health care system. However, there were important rural/urban differences in the role of socioeconomic status (SES) on vaccine initiation. In urban areas, girls from high-income households and girls whose mothers completed college had increased probability of starting the vaccination series. Conversely, in rural areas, girls in low-income households and girls whose mothers did not complete high school had higher probability of vaccine initiation. None of these factors influenced whether daughters received all three doses of the HPV vaccine. These results suggest that mothers are essential targets for public health efforts to increase girls’ HPV vaccination, but barriers to vaccine initiation may vary by family SES and rurality.

Did You Know?

- Virtually all cases of cervical cancer are caused by HPV, the most common sexually transmitted infection in the United States.
- Cervical cancer mortality is significantly higher among rural women than urban women.
- Fewer than 40% of girls (ages 13–17) in the United States have received the three-dose vaccine.

Related Articles

- Monnat, S. M., D. Rhubart, and S. Flynt Wallington. 2016. “Differences in Human Papillomavirus Vaccination among Adolescent Girls in Metropolitan and Non-metropolitan Areas: Considering the Moderating Roles of Maternal Socioeconomic Status and Health Care Access.” *Maternal and Child Health Journal* 20(2):315–325.
- Monnat, S. M. and S. Flynt Wallington. 2013. “Is There an Association between Maternal Health Behavior and Adolescent Human Papillomavirus Vaccination?” *Journal of Adolescent Health* 52(2):212–218.

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The Role of Mothers in Adolescent HPV Vaccination

Monnat and Wallington analyzed data from a sample of girls ages 12–17 from nine US states in 2008–2010 to identify relationships between mothers’ socioeconomic resources and health care access/use behaviors and daughters’ initiation and completion of the three-shot HPV vaccine series. The results showed that about 34% of girls began the vaccine series, and among those, 55% received all three doses. Vaccine initiation was more likely among girls whose mothers had at least a four-year college degree, earned a high household income (>\$75,000) versus middle income (\$50,000–74,999), had health insurance, had at least one personal doctor, and participated in routine physical health checkups. None of these factors were related to completing the three-shot series, suggesting that overcoming SES barriers to initiation may help to reduce disparities in vaccine completion.

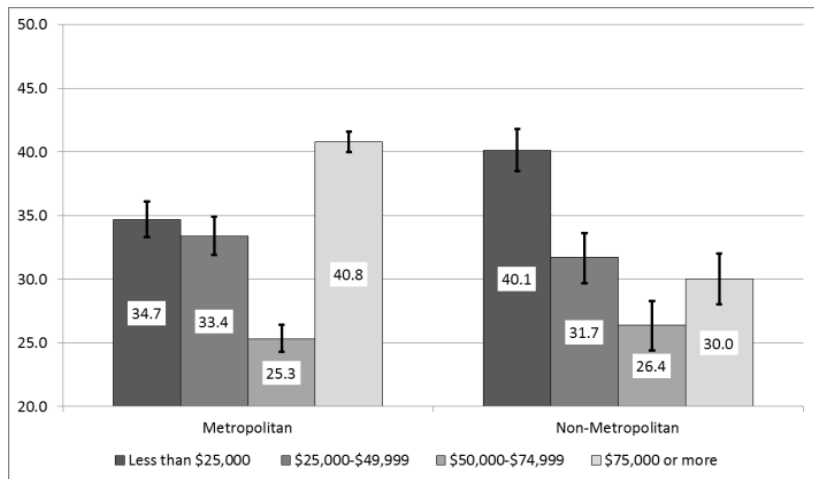


Figure 1. Average predicted probabilities of HPV vaccine initiation (girls aged 12–17) by metropolitan status and household income, 2008–2010. Error bars represent 95% confidence intervals.

Does Rurality Influence the Relationship between Mothers’ Socioeconomic Resources and Daughters’ HPV Vaccination?

Monnat, Rhubart, and Wallington further evaluated whether the relationships they found between mothers’ socioeconomic resources and girls’ HPV vaccine status were different between rural and urban girls. The authors found that higher household income and mothers’ higher educational attainment were associated with higher probability of girls’ vaccine initiation only in metropolitan areas. Conversely, within rural areas, lower household income and mothers’ lower educational attainment were associated with *higher* probability of vaccine initiation (Figures 1 and 2).

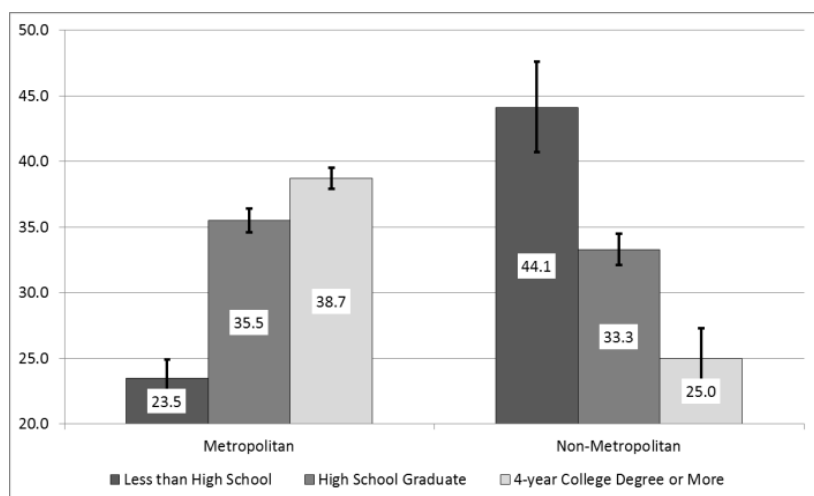


Figure 2. Average predicted probabilities of HPV vaccine initiation (girls aged 12–17) by metropolitan status and mothers’ educational attainment, 2008–2010. Error bars represent 95% confidence intervals.

There are several possible explanations for these findings.

First, rural physicians may be more concerned about sexual risk taking among girls in rural areas and therefore more likely to recommend the vaccine. Second, physician-patient relationships may be stronger in rural areas, and low SES mothers in rural areas may trust physicians more than their counterparts in urban areas. As a result, low-SES rural mothers may be more likely to accept physicians' recommendations for HPV vaccination.

Conclusion

In summary, the results from this research suggest that mothers play salient roles in adolescent daughters' likelihood of receiving the HPV vaccination. Girls whose mothers do not have routine interactions with the health care system experience significant barriers to vaccine initiation, but the role SES plays in vaccine initiation is different in rural and urban areas. Because mothers' SES and health care behaviors do not appear to be associated with vaccine *completion*, public health efforts should be focused on spatially and demographically tailored interventions that encourage vaccine initiation at pediatric visits beginning at age 11.

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