How does a clinician's gender impact HPV vaccination rates?

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Despite its life-saving potential, rates of human papilloma virus (HPV) vaccination are significantly lower than the rates of other routinely recommended adolescent vaccines, including Tdap and the meningococcal vaccine (MCV4). Why the disparity? The HPV vaccine's association with preventing a sexually transmitted infection and therefore adolescent sexual activity has contributed to the vaccine's low uptake.

My colleagues and I were interested in examining whether the gender of the clinician, guardian, and adolescent affected whether the adolescent initiated the three-dose HPV vaccine series compared to Tdap and MCV4. In other words, if a mother attends the health care visit, is the adolescent more likely to receive the HPV vaccine? Similarly, if an adolescent sees a female health care provider, is the adolescent more likely to receive the HPV vaccine?

After examining electronic health records for over 100,000 adolescents ages 11 to 18 who visited CHOP-affiliated practices between 2009 and 2014, we were surprised to find that the guardian's gender was not associated with initiation of the HPV vaccine series. There was also no association if both a male and female guardian were present. As expected, girls received the HPV vaccine at higher rates than boys at the beginning of the study period, but this gap disappeared over time.

After stratifying by sick and preventive visits, we found that a clinician's gender was particularly important. While both male and female clinicians captured very few opportunities to begin the HPV vaccine series and deliver Tdap and MCV4 vaccines during sick visits, female clinicians delivered all three vaccines at higher rates than male clinicians. This finding supports previous research in adults that showed that a clinician's gender plays a role in preventive service delivery, with female clinicians more likely than male clinicians to deliver mammography, cervical cancer screening and immunizations to their adult patients.

As we work to increase HPV vaccination initiation, we can now focus on targeted approaches aimed at clinicians. Educational campaigns and outreach to clinicians should highlight our unconscious biases related to gender and vaccination. Other opportunities for intervention include decision support within the electronic health record, including pop-up reminders and default order sets that package all three adolescent vaccines together.

Finally, the low rate of vaccination at sick visits is alarming and a missed opportunity. Because healthy, busy adolescents only visit their physician a handful of times between the ages of 11 and 18, all clinicians, regardless of gender, should seize every opportunity to deliver the HPV vaccine and other routine adolescent vaccines, even if the visit is for an unrelated reason like a sprained ankle or sore throat. It’s critical that we reduce these missed opportunities in order to make progress towards national targets for adolescent HPV vaccination and protect adolescents from several preventable cancers.