National HPV Vaccination Roundtable

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HPV Vaccination at 9-12 Years of Age

What's Known

Adolescent vaccination coverage is improving, but gaps remain between HPV and other adolescent vaccines, and on-time series completion is especially low.

- Adolescent (13-17 years) HPV vaccine coverage, as assessed in 2020, has continued to increase in the United States (75% having received at least 1 HPV vaccine dose, compared to 72% in 2019; 59% up-to-date, compared to 54% in 2019), but still trails coverage of Tdap vaccine (90%) and quadrivalent meningococcal conjugate vaccine (89%).[1]
- A study published in 2019, using the 2016 National Immunization Survey-Teen data, found that while 60.4% of adolescents had initiated HPV vaccination by ages 13-17 years, only 15.8% were fully up-to-date prior to their 13th birthday.[2]
- Benchmarks for quality improvement, including HEDIS measures, assess vaccination at 13 years of age.[3] Initiating HPV vaccination at the first opportunity (e.g., 9 years of age) can help achieve these QI goals.

HPV vaccination is recommended for ages 9-12, but specific recommendations related to age differ by organization.

- The American Academy of Pediatrics and the American Cancer Society recommend HPV vaccination between 9-12 years of age.[4,5]
- The Advisory Committee on Immunization Practices recommends starting the HPV vaccine series at 11-12 years of age and indicates that vaccination can be started as early as 9.[6,7]

Implementing HPV vaccination at the earliest opportunity produces a strong immune response.

- HPV vaccination at younger ages (e.g., less than 15 years) yields higher antibody titers compared to vaccination later in adolescence, even with a reduced 2-dose schedule.[8,9]

What's New

Efforts to improve HPV vaccination at the first opportunity help improve overall vaccine uptake.

- Adolescents initiating HPV vaccination at 9-10 years were more likely to be fully up-to-date by 13.5 years of age compared to those initiating at 11 to 12 years (97.5% versus 78%, respectively).[10]
- QI initiatives, including changing electronic medical record prompts to alert providers of the need for HPV vaccination starting at 9 years rather than 11 years, led to an 8-fold increase in vaccination prior to 11 years of age (4.6% to 35.7%).[11]
- A provider-focused multi-level intervention in pediatric offices that agreed to initiate HPV vaccination at 9-10 years of age resulted in a 13 percentage point increase in vaccination among 9-10-year-olds, which was not only sustained but increased in the post-intervention period (27 percentage point increase).[12]
- A 2021 survey of over 1,000 U.S. primary care professionals found that about one-fifth (21%) were routinely recommending the HPV vaccine at age 9-10. Another 48% were somewhat or more willing to adopt the practice of recommending the HPV vaccine at age 9.[13]

Initiating HPV vaccination at 9-10 years of age is acceptable to both parents and health care providers.

- Attendance at care visits decreases in older adolescence. Therefore initiating the series younger provides more opportunities to complete the vaccine series on time.[14] For example, this allows providers to give the two HPV vaccine doses 12 months apart at annual well-child visits at 9 and 10 years of age, with Tdap and MCV4 vaccination given at 11 years of age.
- Providers find conversations are easier as sexual activity is not a focus.[15]
- The opportunity to receive fewer vaccines per visit is appealing to parents, adolescents, and clinicians.[15,16]

What's Next

There are a number of gaps in our ability to widely implement HPV vaccination at the first opportunity that need to be addressed.

Data gaps:

- Rather than reporting vaccinations received by a particular age, more granular data analysis (e.g., NIS-Teen, state-level IIS) by age at vaccination and birth cohorts can better identify missed opportunities for HPV vaccination.
- The impact of the COVID-19 pandemic on adolescent vaccination needs to be better understood. The 2020 NIS-Teen data[1] did not fully reflect the impacts of the COVID-19 pandemic on adolescent vaccination[17], as adolescents may have been vaccinated prior to the pandemic but assessed in 2020.

Dissemination and implementation gaps:

- Aside from research-based projects showing vaccination gains with recommendations at 9-10 years, most evidence of implementation success has been limited in scope. Larger implementation studies are needed.
- For practices having success at bundling HPV, Tdap, and MCV4 at 11 years of age, the bundling efforts should be continued and supported. Where success has been more difficult to come by, HPV vaccination at the first opportunity (e.g., 9 years of age) may be an option to improve coverage.
- Communications tools need to be developed to reassure pediatricians that it is safe and effective to give HPV vaccine starting at 9 years and that parents are accepting of vaccination at that age.

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