HPV Vaccination Starting at Age 9

What's known

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

- Adolescent (ages 13-17 years) HPV vaccination coverage, as assessed in 2023, has remained steady in the United States:
  - 76.8% of adolescents have received at least 1 HPV vaccine dose compared with 76% in 2022.[1]
  - 61.4% of adolescents are up-to-date with vaccination compared with 63% in 2022.[1]
- HPV vaccination still trails coverage of Tdap vaccine (89%) and quadrivalent meningococcal conjugate vaccine (MenACWY; 88.4%).[1]
- Only 4% of children ages 9-10 years had received the HPV vaccine according to the 2020 National Immunization Survey (NIS)-Teen data.[2]
- Benchmarks for quality improvement (QI), including Healthcare Effectiveness Data and Information Set measures, assess vaccination at age 13 years.[3] Timely HPV vaccination administration starting at age 9 can have a positive impact on organizational quality measures for childhood immunizations and pediatric well-care visits.

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. 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.[4-6]

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

- HPV vaccination at younger ages (e.g., younger than 15 years of age) yields higher antibody titers compared with vaccination later in adolescence.[7,8]

What's new

Efforts to improve HPV vaccination at the first opportunity (e.g., at age 9 years) help improve overall vaccine uptake.

- A study published in 2023[2] using the 2020 NIS-Teen data found that:
  - Among those initiating at ages 9-10 years, 93% completed the series by age 13.
  - Among those initiating at ages 11-12 years, 66% completed the series by age 13.
- QI initiatives, such as electronic medical record prompts to discuss HPV vaccination for patients at age 9 years, led to an 8-fold increase in vaccination prior to 11 years of age (4.6% to 35.7%).[9]
- Pediatric offices that agreed to initiate HPV vaccination in patients ages 9-10 years showed a 13-percentage point increase in vaccination for that age group, which increased in the post-intervention period (27-percentage points).[10]

Parents or providers support HPV vaccination starting at age 9.

- Providers find conversations are easier if sexual activity is not a focus.[11]
- Provider interviews have reported high parental acceptance of HPV vaccination before age 11 years in part due to the opportunity to administer fewer shots at each visit.[11] However, evidence suggests that recommended age is more important than number of doses for motivating parental acceptance and encouraging on-time vaccination.[12]

Individuals due for routine adolescent vaccines during the Covid-19 pandemic, coverage for at least one HPV dose was 3.2 percentage points lower than those due prior to the pandemic (69.2% vs. 72.4%, respectively).[1]

- Rates have returned to pre-pandemic levels for at least one dose of HPV vaccination at age 13 years.[1]
- Compared with the rate of individuals who were up to date with HPV vaccination born in 2007, HPV up-to-date coverage has decreased 7.1 percentage points among those born in 2010 (59.9% vs. 45.8%, respectively).[1]

Increasing adolescent HPV vaccination completion rates to 80% may be possible with increasing vaccination initiation among individuals aged 9 years.[13]

- Long-term modeling evidence demonstrated that with a proactive initiation rate (3% per year) starting in 2023, time to 80% vaccination completion in 13–15-year-olds would be reached by 2034.[13]
- If the status quo were maintained, 80% completion would be reached in 2042.[13]

What's next

Wide implementation of HPV vaccination at the first opportunity requires overcoming gaps in data reporting and in dissemination and implementation of effective strategies.

Information gaps:

- Missed opportunities for HPV vaccination may be identified through more granular analyses of collected data (e.g., NIS-Teen, state-level Immunization Information Systems).
- Aside from research-based projects showing vaccination gains with recommendations starting at age 9-10 years, most evidence of implementation success has been limited in scope. Larger implementation studies are needed.
- For practices with success bundling HPV, Tdap, and MenACWY vaccination at age 11 years, these efforts should be continued and supported.[14]

Opportunities for vaccination:

- Providers can provide strong recommendations for routine vaccines at annual well visits for adolecents.[1]
- The Vaccines for Children program can help facilitate vaccine access for families who are eligible.[1]
- Vaccination opportunities may be available in community spaces such as pharmacies, health events, and clinics.[1]

References

1. Pingali C, Yankey D, Chen M, et al. national vaccination coverage among adolescents aged 13–17 years — National Immunization Survey-Teen, United States, 2023. *MMWR Morb Mortal Wkly Rep*. 2024;73(33):708-714.doi:10.15585/mmwr.mm7333a1
2. Bednarczyk RA, Brandt HM. Descriptive epidemiology of age at HPV vaccination: Analysis using the 2020 NIS-Teen. *Hum Vaccin Immunother*. 2023;19(1):2204784. doi:10.1080/21645515.2023.2204784
3. National Committee for Quality Assurance. Immunizations for Adolescents (IMA). Accessed October 3, 2024. https://www.ncqa.org/hedis/measures/immunizations-for-adolescents/
4. Meites E, Kempe A, Markowitz LE. Use of a 2-dose schedule for human papillomavirus vaccination - Updated recommendations of the Advisory Committee on Immunization Practices. *MMWR Morb Mortal Wkly Rep*. 2016;65(49):1405-1408. doi:10.15585/mmwr.mm6549a5
5. O'Leary ST. Why the American Academy of Pediatrics recommends initiating HPV vaccine at age 9. *Hum Vaccin Immunother*. 2022;18(6):2146434. doi:10.1080/21645515.2022.2146434
6. Saslow D, Andrews KS, Manassaram-Baptiste D, Smith RA, Fontham ETH; American Cancer Society Guideline Development Group. Human papillomavirus vaccination 2020 guideline update: American Cancer Society guideline adaptation. *CA Cancer J Clin*. 2020;70(4):274-280. doi:10.3322/caac.21616
7. Dobson SR, McNeil S, Dionne M, et al. Immunogenicity of 2 doses of HPV vaccine in younger adolescents vs 3 doses in young women: A randomized clinical trial. *JAMA.* 2013;309(17):1793-1802. doi:10.1001/jama.2013.1625
8. Iversen OE, Miranda MJ, Ulied A, et al. Immunogenicity of the 9-Valent HPV vaccine using 2-dose regimens in girls and boys vs a 3-dose regimen in women. *JAMA.* 2016;316(22):2411-2421. doi:10.1001/jama.2016.17615
9. Goleman MJ, Dolce M, Morack J. Quality improvement initiative to improve human papillomavirus vaccine initiation at 9 years of age. *Acad Pediatr*. 2018;18(7):769-775. doi:10.1016/j.acap.2018.05.005
10. Perkins RB, Legler A, Jansen E, et al. Improving HPV vaccination rates: A stepped-wedge randomized trial. *Pediatrics*. 2020;146(1):e20192737. doi:10.1542/peds.2019-2737
11. Biancarelli DL, Drainoni ML, Perkins RB. Provider experience recommending HPV vaccination before age 11 years. *J Pediatr*. 2020;217:92-97. doi:10.1016/j.jpeds.2019.10.025
12. Margolis MA, Brewer NT, Shah PD, Calo WA, Alton Dailey S, Gilkey MB. Talking about recommended age or fewer doses: what motivates HPV vaccination timeliness?. *Hum Vaccin Immunother*. 2021;17(9):3077-3080. doi:10.1080/21645515.2021.1912550
13. Saxena K, Patterson-Lomba O, Gomez-Lievano A, Zion A, Cunningham-Erves J, Kepka D. Assessing the long-term implications of age 9 initiation of HPV vaccination on series completion by age 13-15 in the US: projections from an age-structured vaccination model. *Front Pediatr.* 2024;12:1393897. doi:10.3389/fped.2024.1393897
14. Centers for Disease Control and Prevention. 5 Ways to Boost Your HPV Vaccination Rates. Last reviewed July 7, 2024. Accessed October 3, 2024. https://www.cdc.gov/hpv/hcp/vaccination-considerations/boost-rates.html

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

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