

OVERCOMING BARRIERS TO HPV VACCINATION

OUTCOMES FROM A CONTINUING EDUCATION ACTIVITY

Ruth Carrico, PhD, DNP, APRN, CIC, FSHEA, FNAP, FAAN; Daisy Mullassery, DrNP, APRN-CNP, WHNP-BC

>39K New cases of HPV-attributable cancers diagnosed each year in the United States

>90% Proportion of HPV-attributable cancers that could be prevented with timely vaccination

US guidelines recommend routine HPV vaccination for children and adolescents at 11 or 12 years (and as young as 9 years), regardless of gender. Improving adherence to HPV vaccine guidelines has the potential to protect against several types of cancer.

ACIP, Advisory Committee on Immunization Practices; CDC, Centers for Disease Control and Prevention; HPV, human papillomavirus. CDC. December 3, 2025. <https://www.cdc.gov/cancer/hpv/cases.html>; CDC. August 20, 2024. <https://www.cdc.gov/hpv/vaccines/index.html>.

OBJECTIVES

The goal was to develop an on-demand CE activity that addresses knowledge and practice gaps among NPs related to HPV vaccination through the following LOs:

- 1 Discuss the prevalence and disease burden of HPV.
- 2 Describe the potential consequences of delayed or declined vaccination.
- 3 Summarize the current recommendations regarding HPV vaccination.
- 4 Demonstrate effective strategies to employ when addressing barriers to HPV vaccination

CE, continuing education; LO, learning objective

DESIGN & METHODS

CE activity and assessments

- A recorded online webinar and interactive 3D decision-making simulation activity (AliveSim) were developed in collaboration with 2 expert faculty (1.0 contact hours, including 0.5 Rx hours)
- Outcomes questions were developed based on LOs, with linkage to the needs assessment and content
- Before the activity, learners self-reported demographic data and answered knowledge and confidence questions (pre-activity responses)
- After the activity, learners answered the same knowledge and confidence questions (post-activity responses) and activity evaluation questions
- A follow-up survey was administered 60 days after activity completion

Data analysis

- Data were filtered to include only learners who completed the activity and provide direct patient care ("completers")
- Descriptive statistics were used for demographic and evaluation data
- Differences between pre- and post-activity multiple-choice and Likert responses were analyzed with paired analyses (significance level, $p \leq .05$) and, when appropriate, Cohen's d for ES

ES, effect size

PARTICIPANTS & IMPACT

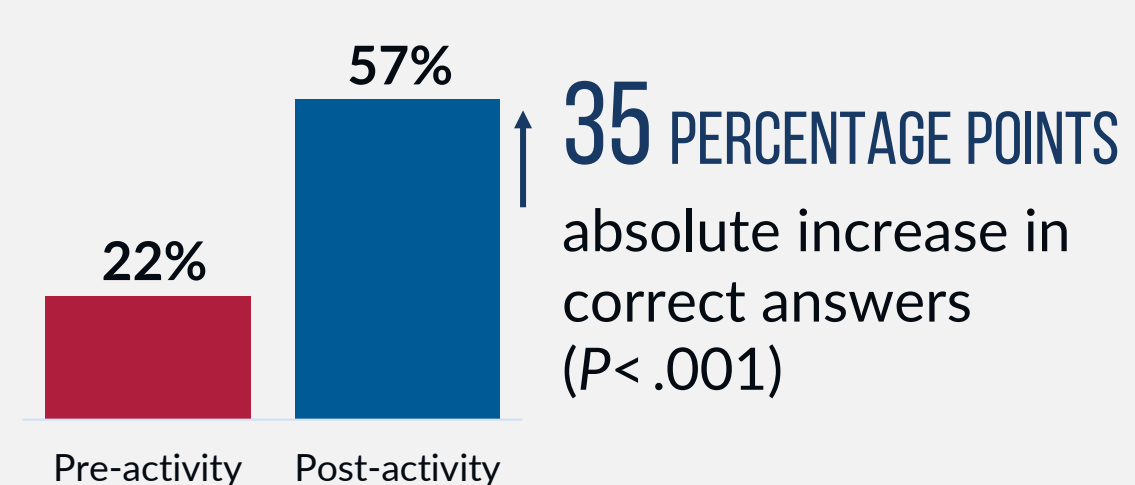
N=6065 Learners registered for the activity
N=3861 Learners completed the activity (completers)
N=3132 Learners completed the activity & provide direct patient care

PRE- TO POST-ACTIVITY CHANGE KNOWLEDGE & CONFIDENCE

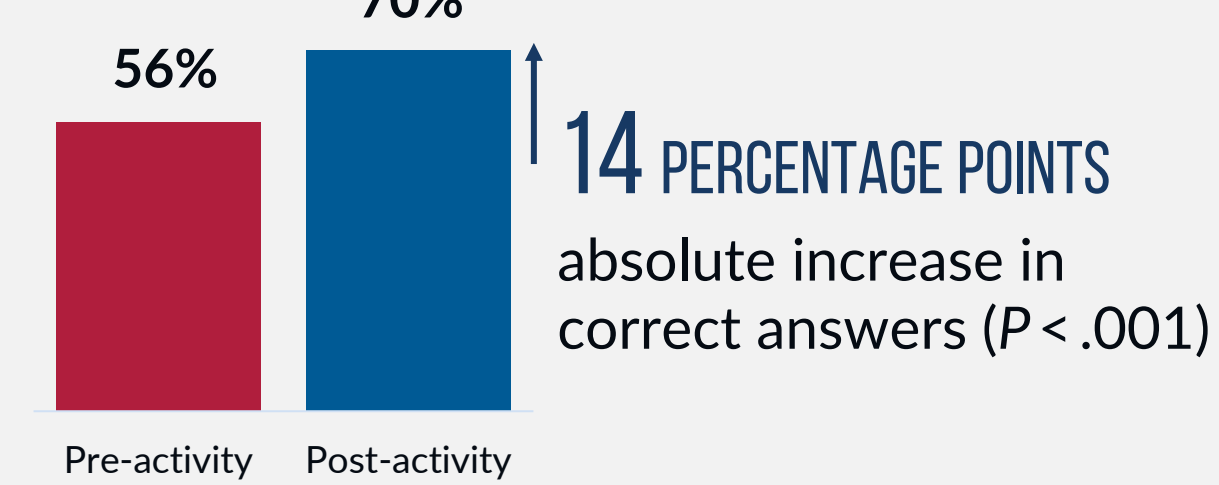
Knowledge and competence significantly increased by 19 percentage points from pre- to post-activity (medium ES; Cohen's $d = 0.63$) (n = 3132).

IMPROVEMENT ON MULTIPLE-CHOICE QUESTIONS

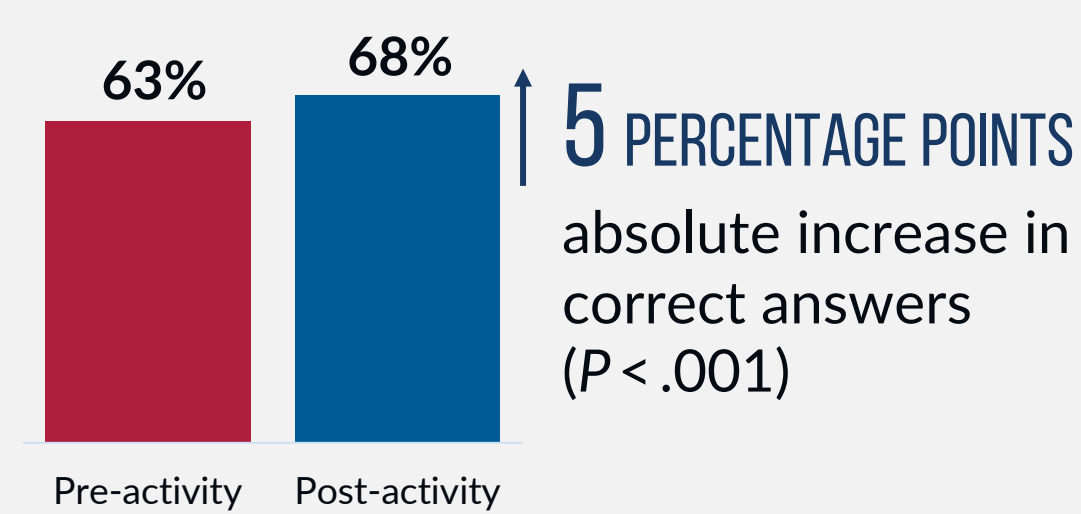
Proportion of **males older than 14 years** with genital HPV infections



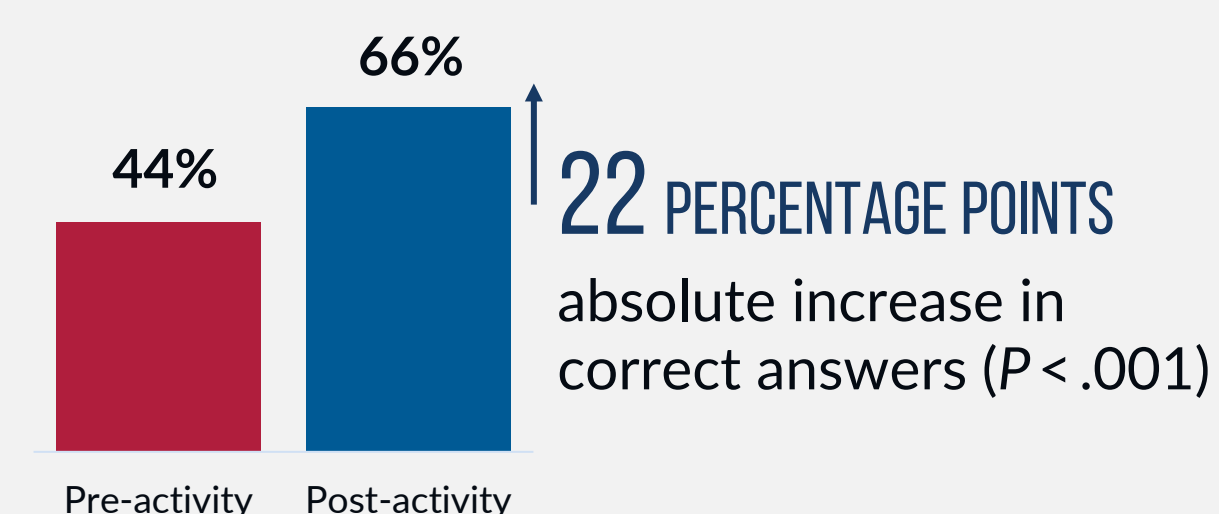
Identification of **age at which HPV infection** is most prevalent



Eligibility of a 10-year-old patient for HPV vaccination



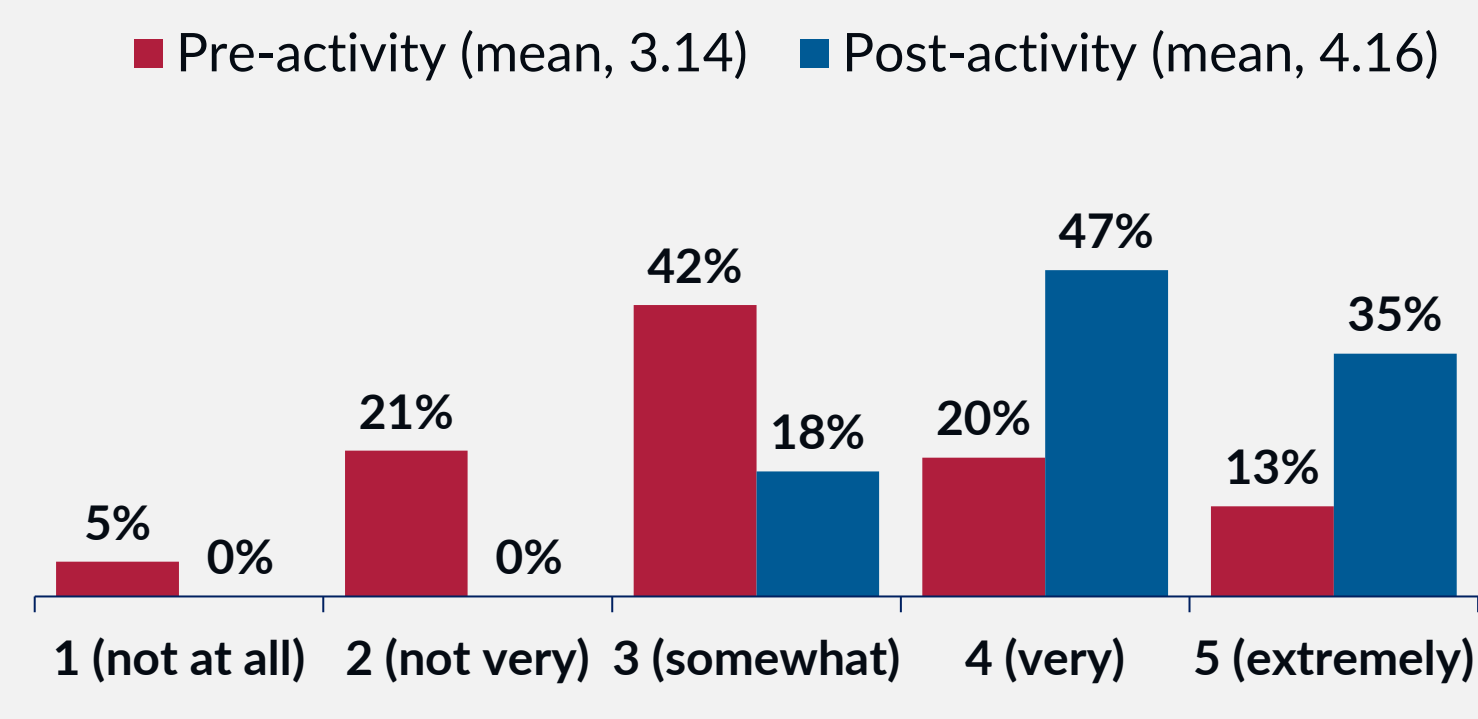
HPV vaccination schedule for 23-year-old without prior vaccination



Confidence in and frequency of HPV vaccination recommendation significantly increased from pre- to post-activity.

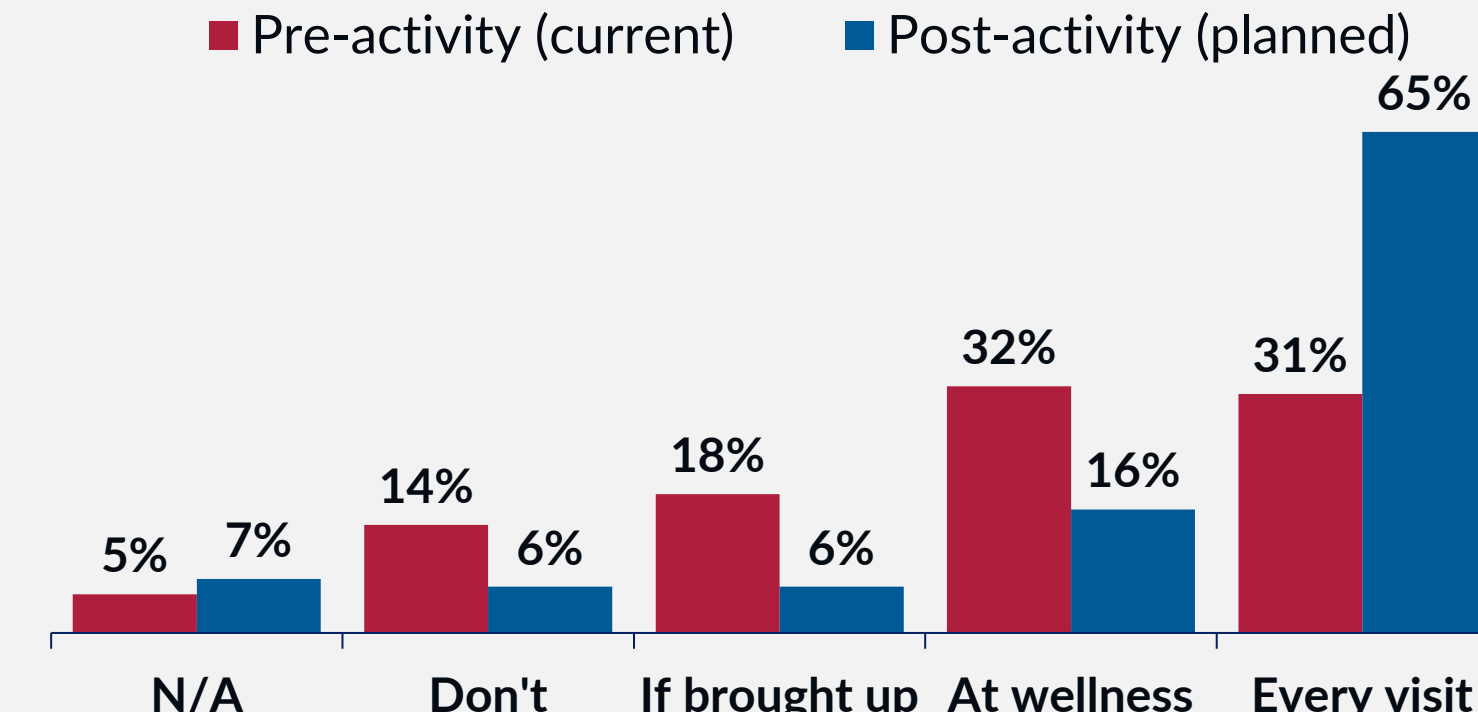
Ability to identify **appropriate HPV vaccine series** for your patient

49 PERCENTAGE-POINT absolute increase in "extremely" and "very" confident ratings ($P < .001$)



Current/planned **frequency of recommending HPV vaccination** to eligible patients

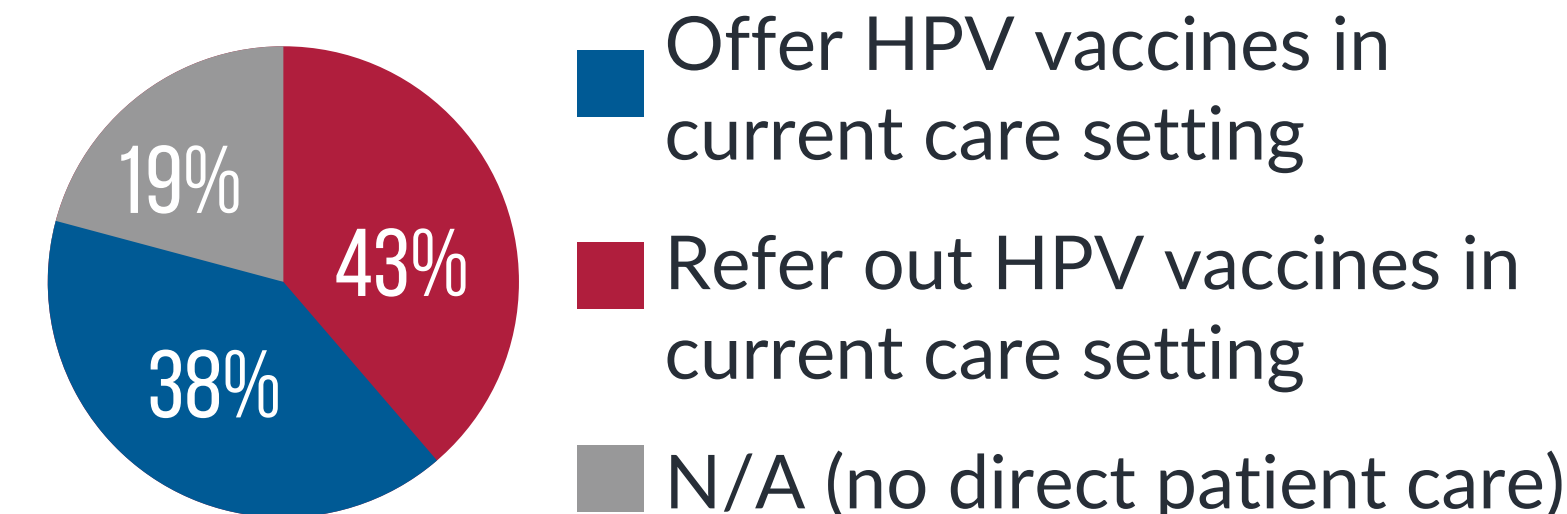
34 PERCENTAGE-POINT absolute increase in "every visit" answers ($P < .001$)



N/A, not applicable

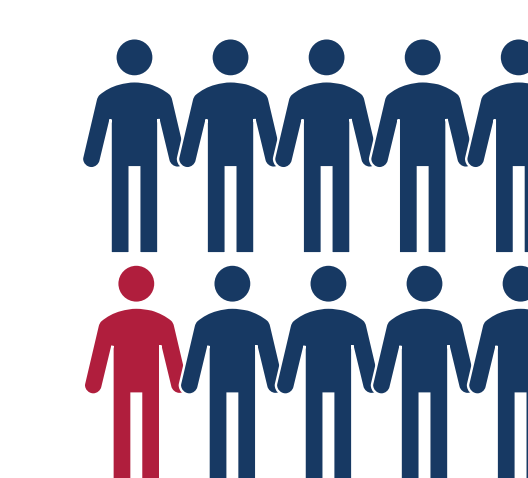
Among completers...

- 96% were NPs or NP students
- 77% were actively caring for patients as NPs
- 76.6% were certified in family practice or pediatric primary care



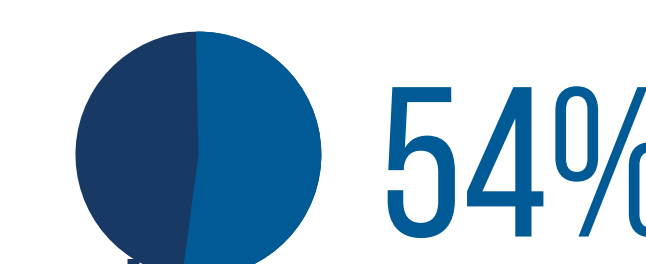
POST-ACTIVITY & 60-DAY FOLLOW-UP PRACTICE CHANGE

In the post-activity assessment, most completers planned to implement changes, with a majority anticipating no barriers (n = 3132).



~9 IN 10 completers planned to implement ≥ 1 activity takeaway in their practice, including:

- Discussing HPV vaccination with eligible patients
- Identifying a referral pathway for eligible patients to receive HPV vaccination



54% of completers who see relevant patients did **not** anticipate barriers to practice change

Among those identifying barriers to practice change, the most common were:

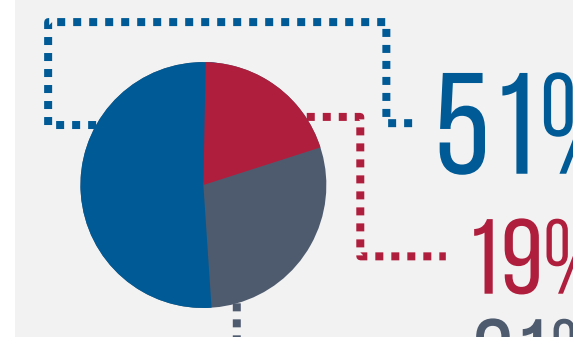
- Patient/family hesitance
- Time constraints
- Clinic or organization policy

Self-reported practice and confidence changes were seen in the 60-day follow-up survey (n = 43).

Among follow-up survey participants...

- 72% were NPs, and 21% were not NPs but were currently practicing
- Respondents saw an average of **12 HPV vaccine-eligible patients per month**, for a total of 530 eligible patients across all participants
- 32% provide HPV vaccinations in their current care setting, whereas 42% refer out

USE OF ACTIVITY INFORMATION

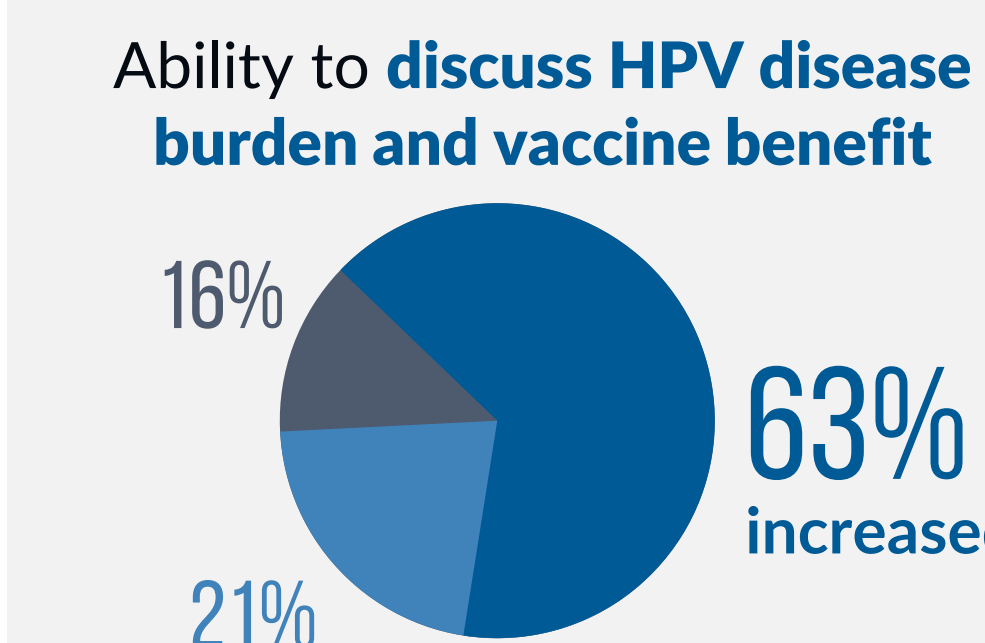


51% used activity information to positively impact patients over the past 60 days.

19% have not yet used the activity information but **planned to in the future**

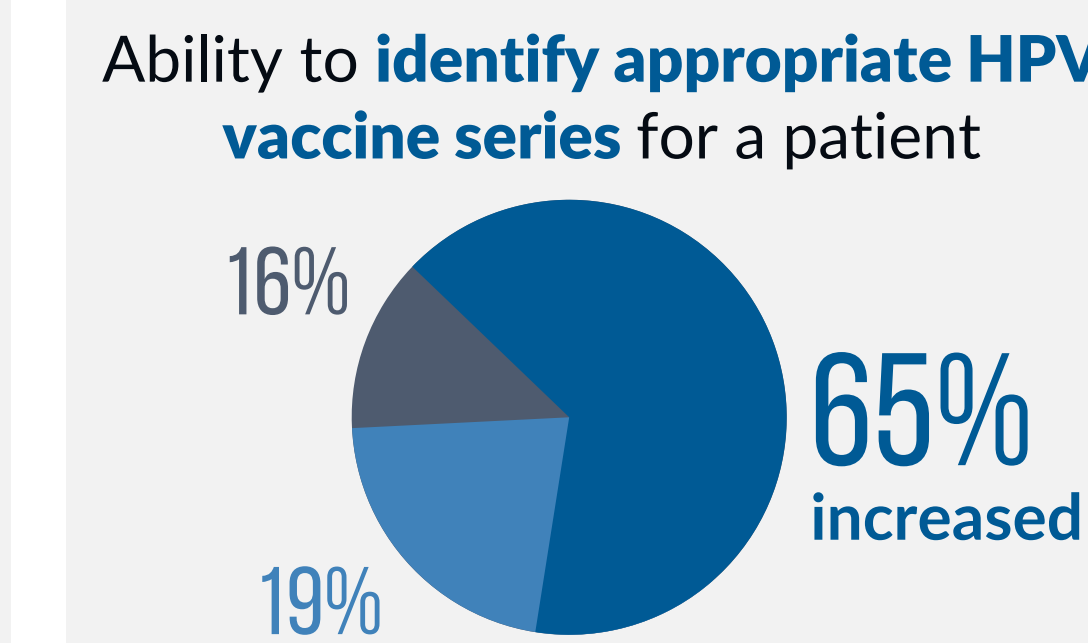
31% do not provide patient care (N/A) or don't see eligible patients

CONFIDENCE IMPROVEMENT



Ability to **discuss HPV disease burden and vaccine benefit**

63% increased



Ability to **identify appropriate HPV vaccine series** for a patient

65% increased

- Increased
- Stayed the same
- Decreased
- Does not provide patient care (N/A)

✓ A CE activity for NPs with interactive components significantly improved learner knowledge, confidence, and competence in HPV vaccination

✓ Given ongoing knowledge gaps regarding vaccine eligibility criteria and recent, conflicting updates in the HPV vaccine series recommendations, ongoing CE in the field is needed

✓ These outcomes along with the decision-making data from the AliveSim activity are currently being prepared for journal submission

American Academy of Pediatrics (AAP). January 26, 2026. <https://downloads.aap.org/AAP/PDF/AAP-Immunization-Schedule.pdf>; US Department of Health and Human Services. January 5, 2026. <https://www.hhs.gov/press-room/fact-sheet-cdc-childhood-immunization-recommendations.html>.

ACKNOWLEDGEMENTS

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