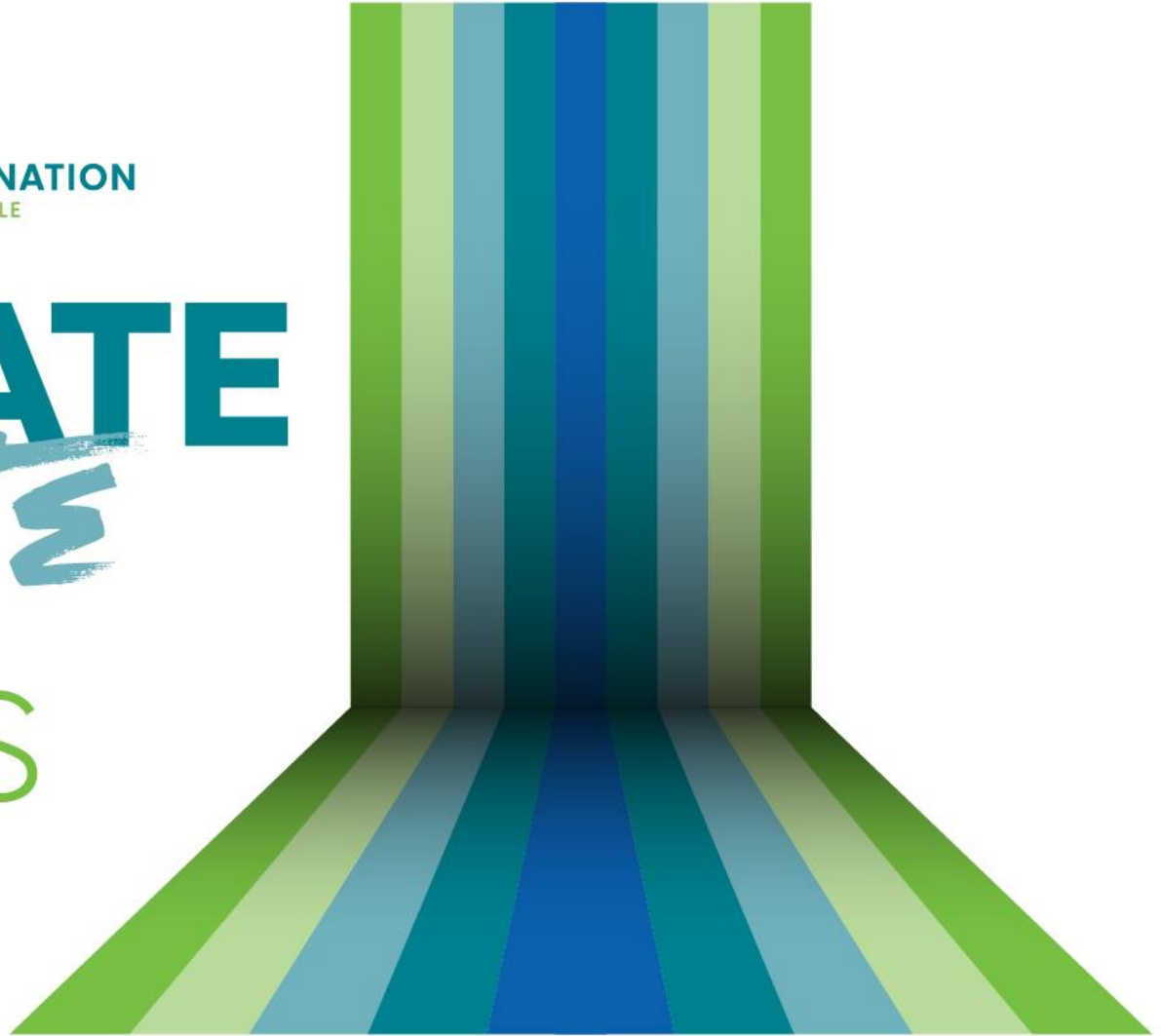




CELEBRATE
& INNOVATE
10 YEARS





Michelle Fiscus, MD, FAAP
Chief Medical Officer, *Association of
Immunization Managers (AIM)*

Welcome: New & Emerging Science in HPV Vaccination



New & Emerging Science in HPV Vaccination

Tuesday, October 8: New and Emerging Science in HPV Vaccination

- 12:00 PM ET Welcome to the Celebration
- Michelle Fiscus, MD, FAAP, Association of Immunization Managers (AIM)
- 12:05 PM ET 10-Year Celebrate & Innovate Interview
- Michelle Fiscus, MD, FAAP, Association of Immunization Managers (AIM)
 - Melinda Wharton, MD, MPH, Centers for Disease Control and Prevention
- 12:15 PM ET Potential Impact of HPV Vaccine Initiation at Age 9
- Kunal Saxena, MS, PhD, Merck
- 12:25 PM ET 2023 National Immunization Survey-Teen Data
- Cassandra 'Sandy' Pingali, MPH, MS, Immunization Services Division, National Center for Immunization and Respiratory Diseases, Centers for Disease Control and Prevention
- 12:35 PM ET HPV Vaccination Immune Response and Research to Practice
- Stephanie Staras, MSPH, PhD, University of Florida
- 12:45 PM ET Panel Q&A: New and Emerging Science in HPV Vaccination
- 1:20 PM ET Celebration Wrap-Up & After Party
- Gabrielle Darville-Sanders, PhD, American Cancer Society

Funding for this meeting was made possible (in part) by IP21-2105 from the Centers for Disease Control and Prevention. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services, nor does the mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.





Michelle Fiscus, MD, FAAP
Chief Medical Officer, *Association of
Immunization Managers (AIM)*



Melinda Wharton, MD, MPH
Associate Director for Vaccine Policy, National
Center for Immunization & Respiratory Diseases,
CDC

10 Year Celebrate & Innovate Interview

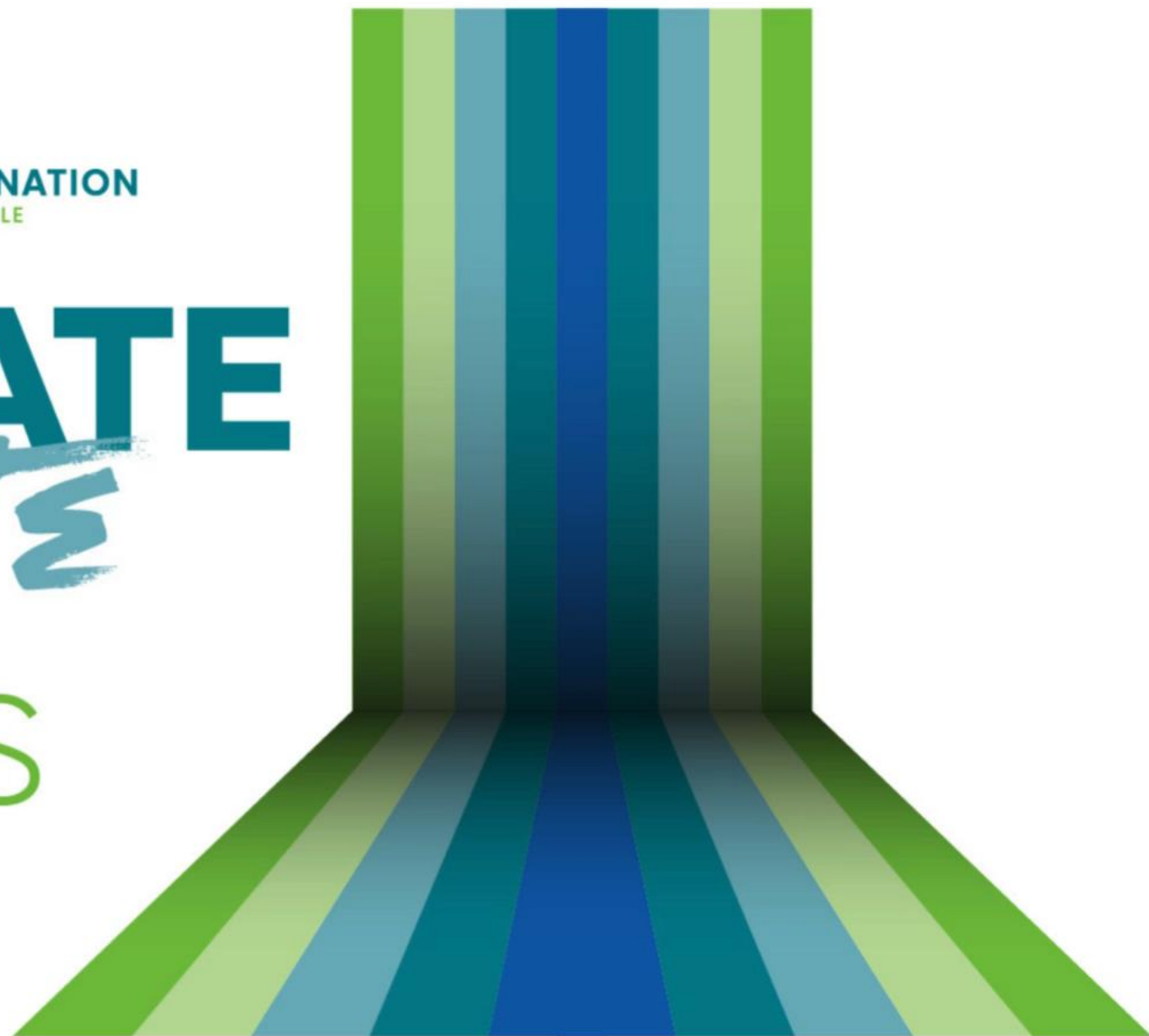




CELEBRATE

& INNOVATE

10 YEARS





Kunal Saxena, MS, PhD
Director, Outcomes Research, *Merck*

Potential Impact of HPV Vaccine Initiation at Age 9



Potential Impact of HPV Vaccine Series Initiation at Age 9

Kunal Saxena, PhD

Background

- Growing body of evidence suggests several implementation benefits associated with initiating the HPV vaccine series at age 9/10 (relative to 11/12):
 - Higher completion rates by age 13
 - Ensuring protection well before sexual debut in higher percentage of the population
 - Focus on cancer prevention and reduce vaccine hesitancy due to perceived association between HPV vaccination and the initiation of sexual activity
 - More resilient platform in case there is a disruption in healthcare services (e.g., COVID) as it still provides opportunities to get the second dose in the desired timeframe
 - Incentive for health plans and insurer to achieve the HEDIS measure for HPV immunization defined as **“complete human papillomavirus vaccine series by their 13th birthday”**
- The American Academy of Pediatrics (AAP) and the American Cancer Society (ACS) endorse initiation of HPV vaccination at 9 years of age



Evidence Review



OPEN ACCESS

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Saxena K, Patterson-Lomba O,
Gomez-Lievano A, Zion A,
Cunningham-Erves J and Kepka D (2024)

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

Kunal Saxena^{1*}, Oscar Patterson-Lomba²,
Andres Gomez-Lievano², Abigail Zion²,
Jennifer Cunningham-Erves³ and Deanna Kepka⁴

¹Merck & Co, Rahway, NJ, United States, ²Analysis Group, Inc., Boston, MA, United States, ³Department of Internal Medicine, School of Medicine, Meharry Medical College, Nashville, TN, United States, ⁴College of Nursing and Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, United States

Cohort simulation model: Scenarios

Scenario 1 (*status quo*)

In this scenario, there is no change in the initiation of HPV vaccination at age 9, and it assumes the organic increase (very small) that was observed from the NIS Teen data.

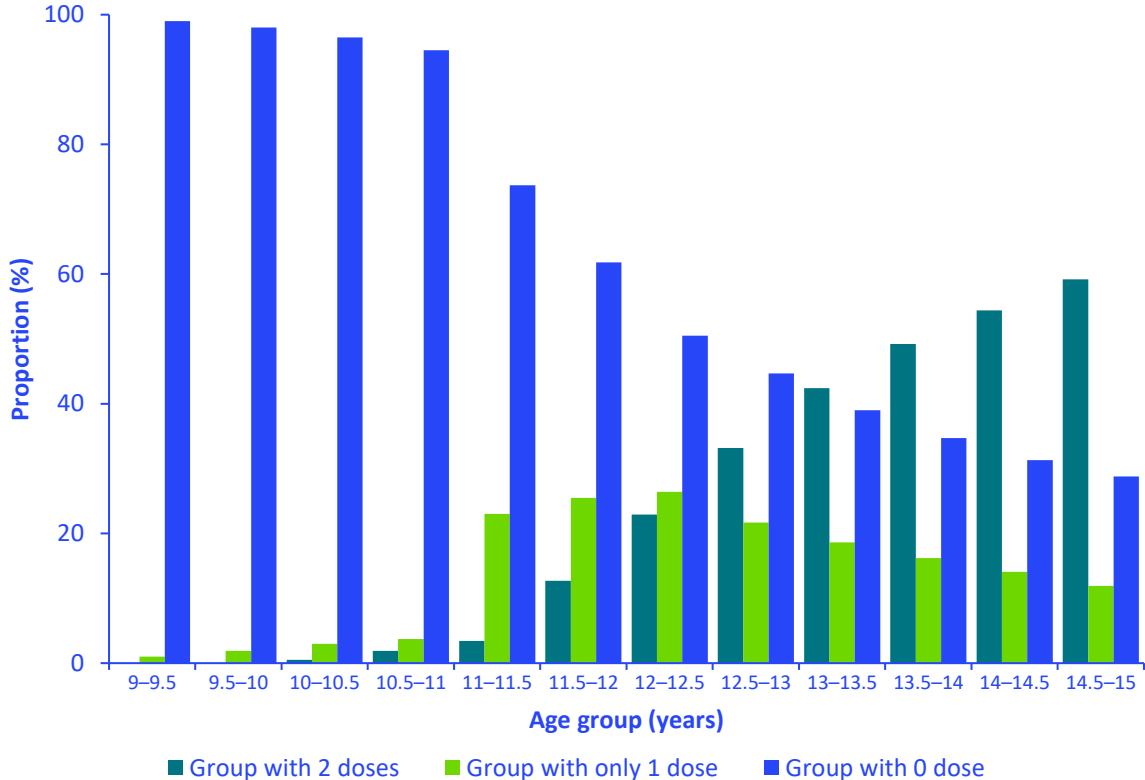
Scenario 2 (*proactive initiation*)

Simulated gradual increase in 9-year-olds receiving vaccination each year (5% each year for 20 years, starting from the empirically-determined values).

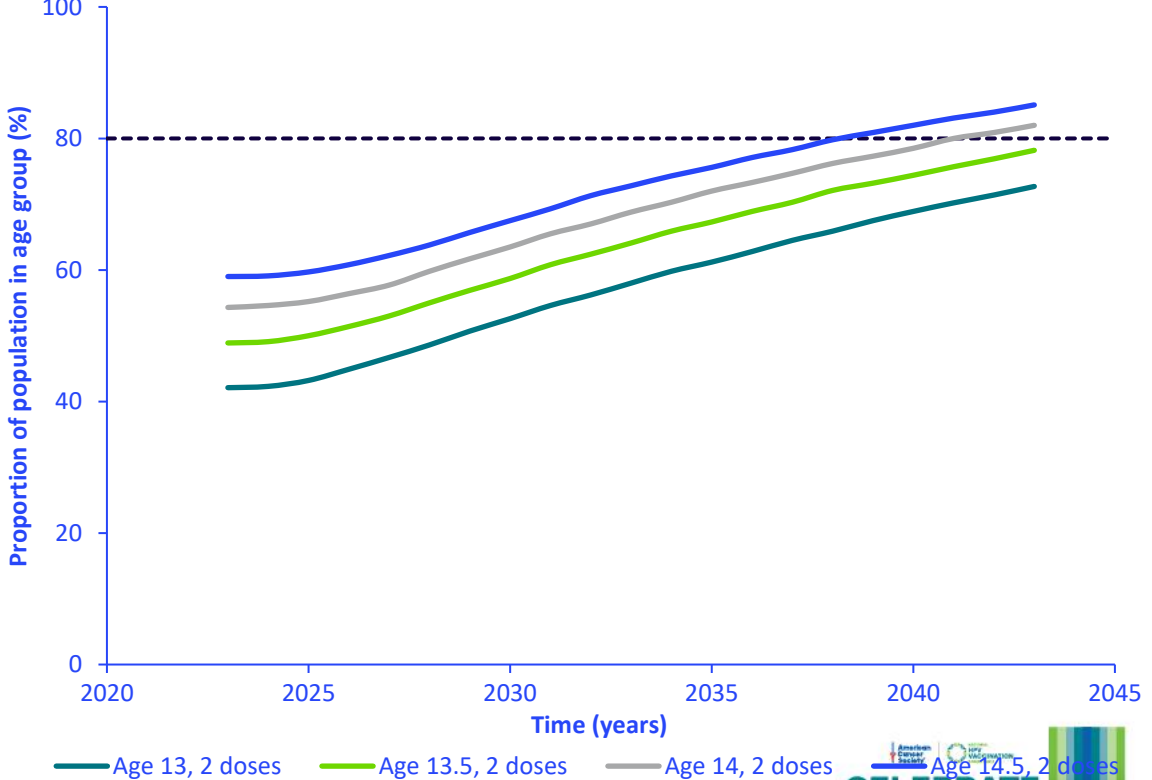


Status Quo

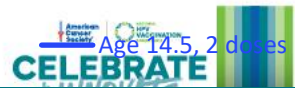
Initial proportion of vaccination status across age groups



Evolution of vaccination coverage by age group

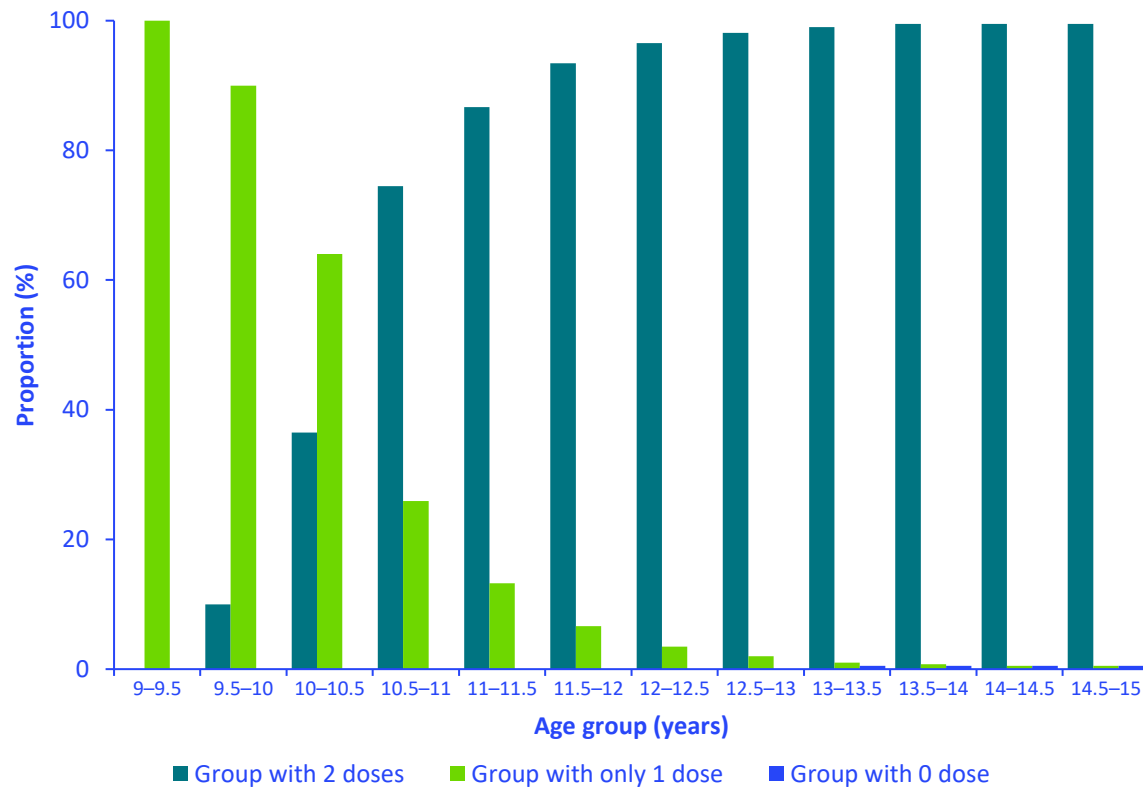


In Status quo, the desired 2-dose vaccine coverage (80%, horizontal dashed line) in 13-15-year-olds was not achieved until beyond 2043 (20 years projection)

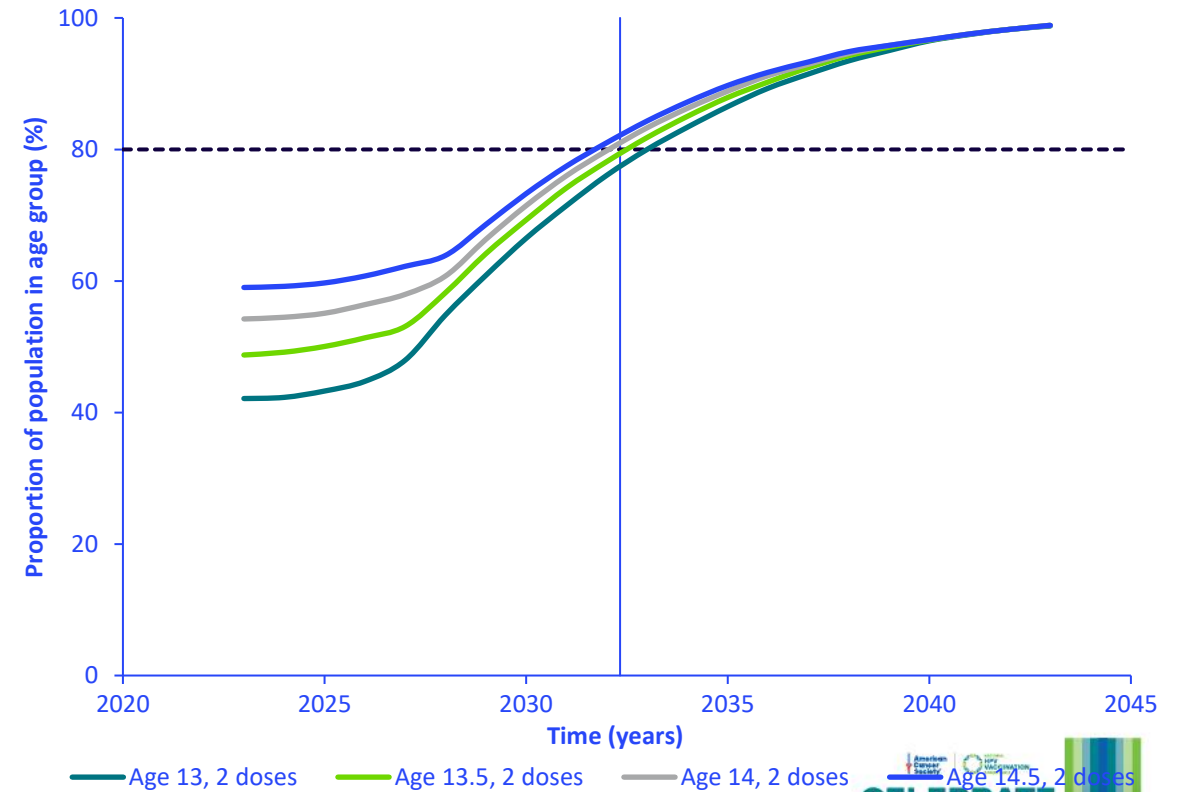


Base case – 5% increase in age 9 initiation each year

Final proportion of vaccination status across age groups



Evolution of vaccination coverage by age group

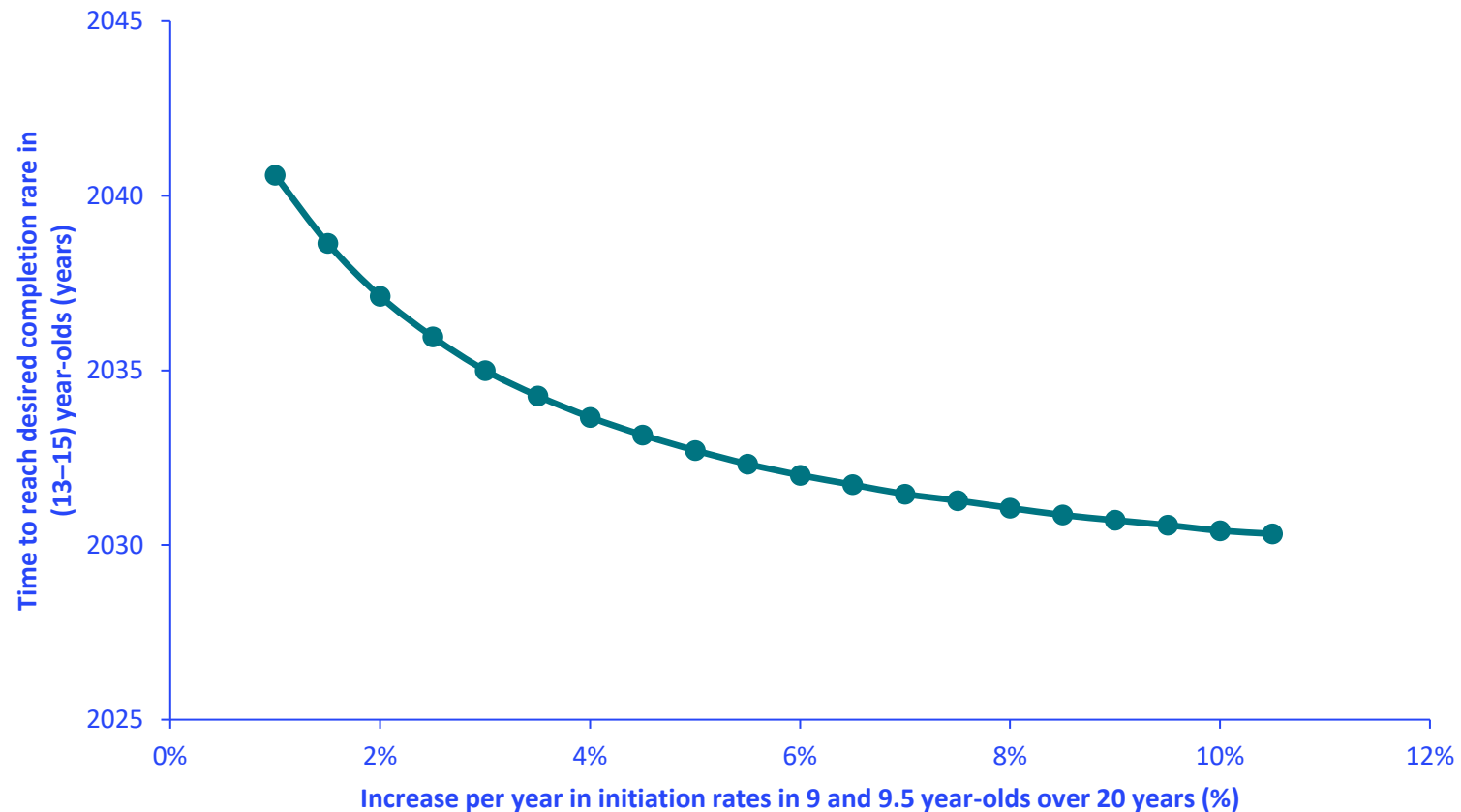


In the proactive initiation scenario, the desired 2-dose vaccine coverage (80%, horizontal dashed line) in 13–15-year-olds was reached between 2032 and 2033 (in 9.33 years from 2023, see vertical line)



Time to reach 80% coverage VS rates of age 9 initiation

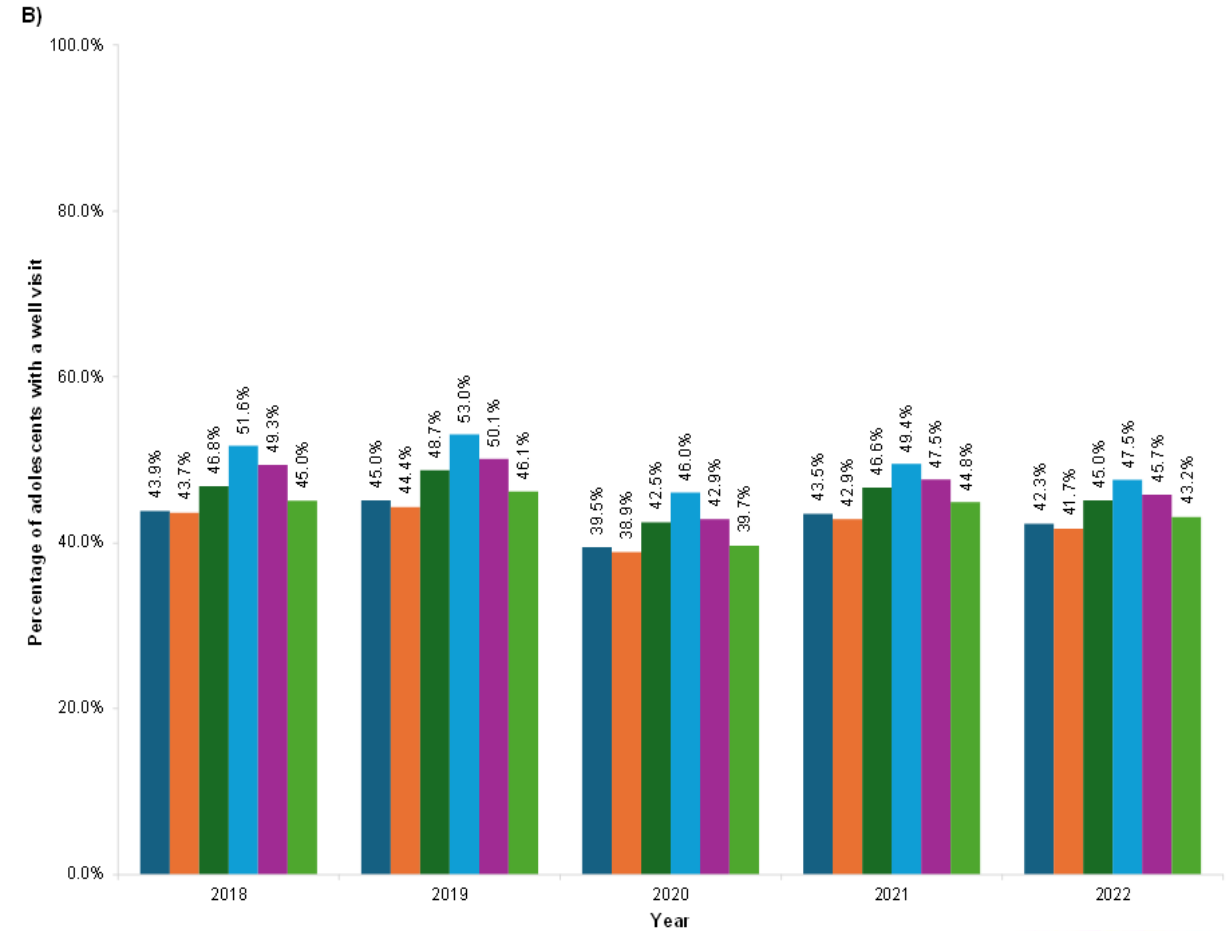
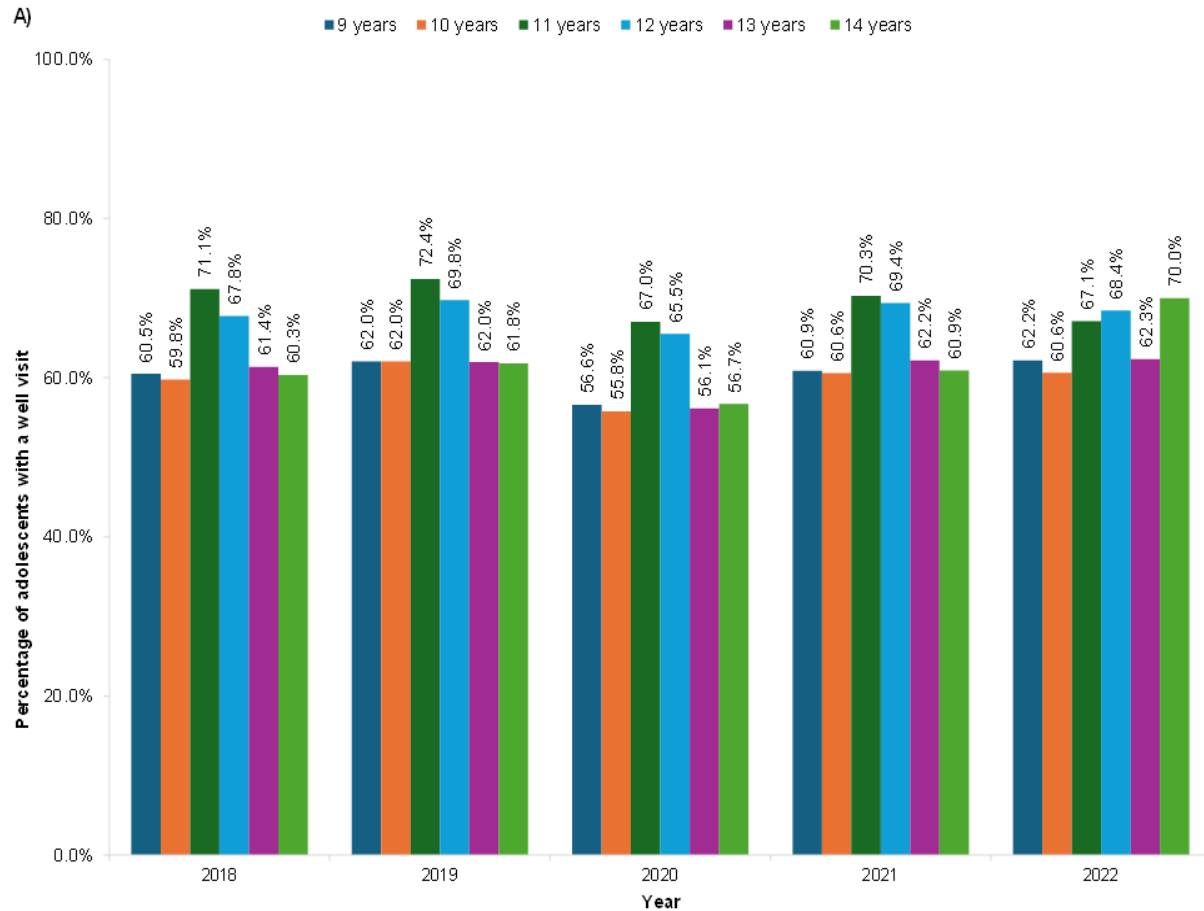
Time to reach 80% completion rate in (13–15) year-olds as a function of annual increase in initiation rates in 9



- This figure shows how the time to reach a desired completion rate in 13–15-year-olds changes as a function of the annual increase in the initiation rates/ probabilities in 9- and 9.5-year-olds
- If an intervention (e.g., a health plan recommendation) is put in place as to increase the initiation rates 9- and 9.5-year-olds, even by 2% each year, the time to achieve the desired completion rates of 80% in 13–15-year-olds drops down from >2042 to around 2037
- Whereas if the initiation rates increased by 10% each year, the desired completion rate will be achieved between 2030 and 2031 (7 years from now)
- Initial increments matter the most!

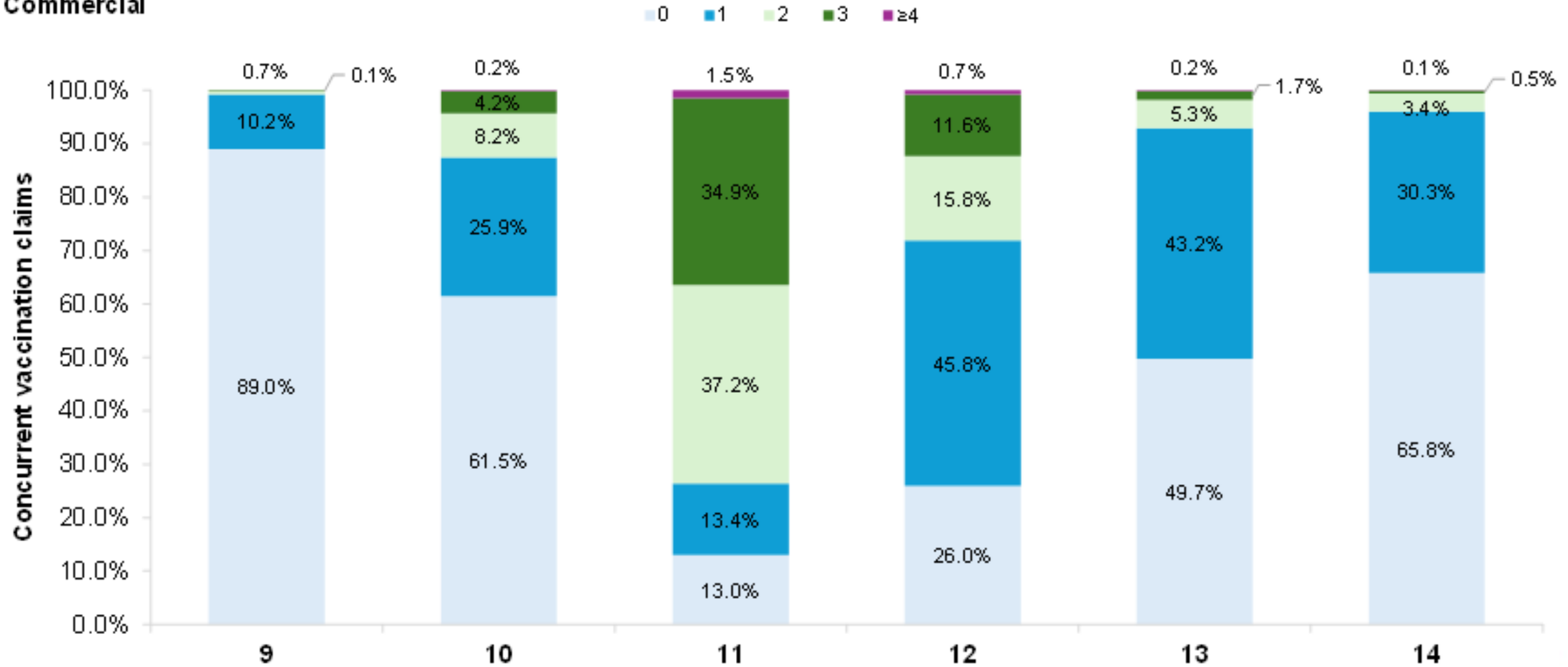
**Missed Opportunities for HPV Vaccination
in the United States: Analysis of Vaccine
Administration at Well Visits in Adolescents
using Medicaid and Privately Insured
Population Data**

Percentage of adolescents with annual well visits in the A) commercial and B) Medicaid populations, by age and year

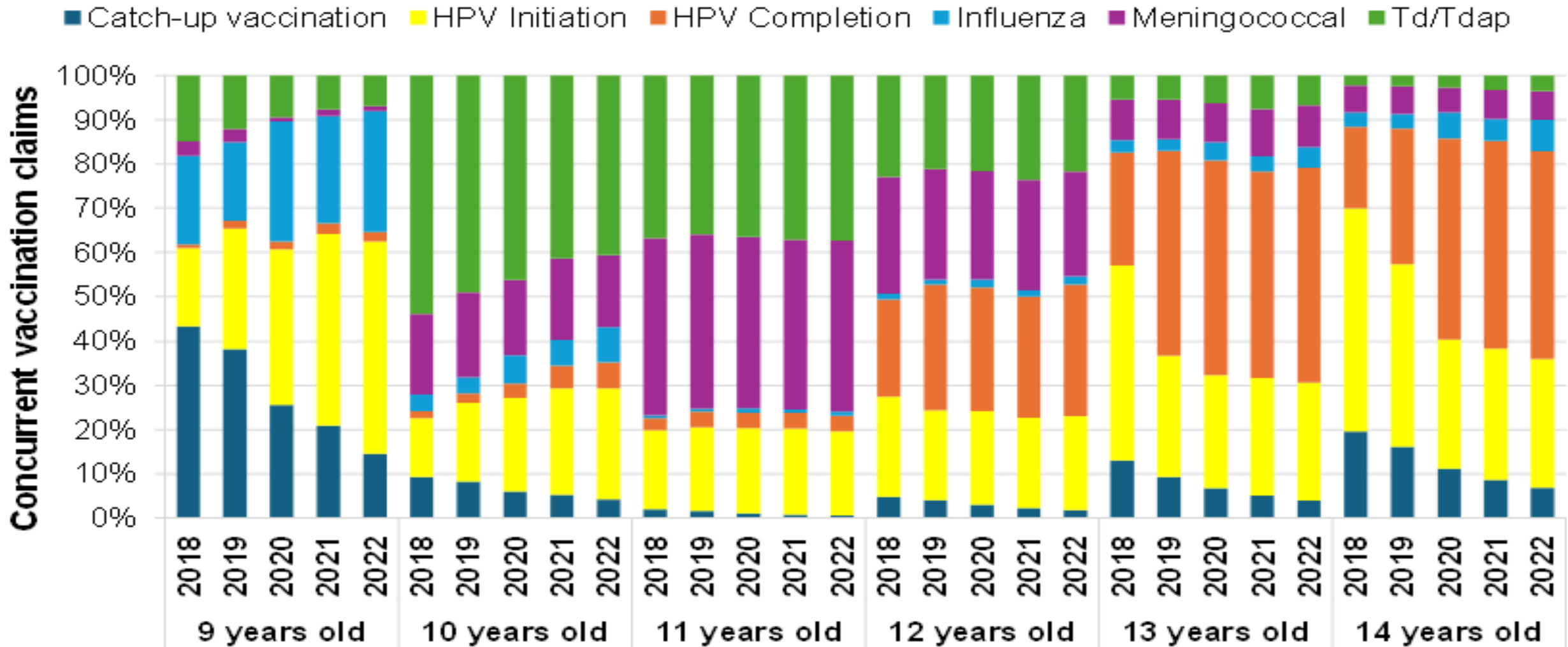


Average (across 5 years) number of concurrent vaccinations administered in adolescents at well visits in the privately insured population

A) Commercial



Types of concurrent vaccination at annual well visit by each age group



Missed/Potential Opportunities

Potential opportunity	Commercial	Medicaid
Adolescents who attended a 9- or 10-year well visit, n	567,702	410,896
Potential opportunity: No HPV vaccine at 9- or 10-year well visit and no well visit at 11 or 12 years, n (%)	209,680 (36.9)	143,170 (34.8)
Adolescents who attended an 11- or 12-year well visit, n	1,273,908	903,767
Potential opportunity: Received one or more other vaccinations, but not the HPV vaccine, n (%)	382,060 (30.0)	186,200 (20.6)
Potential opportunity: Adolescents who attended an 11-year well visit who received one or more other vaccinations, but not the HPV vaccine and who attended a 12-year well visit and did not receive the HPV vaccine, n (%)	98,197 (67.2)	33,422 (67.4)
Potential opportunity: Adolescents who attended an 11- or 12-year well visit who received one or more other vaccinations, but not the HPV vaccine and had a well visit at 9 or 10 years, n (%)	146,294 (54.6)	68,977 (40.6)

- Among adolescents with well visits at 9 or 10 years who did not receive the HPV vaccination, 34.8% to 36.9% did not have a well visit at 11–12 years
- Among adolescents with well visits at 11 or 12 years, 20.6% to 30.0% received one or more other vaccinations but not the HPV vaccine
- Among adolescents with a well visit at 11 years who received one or more other vaccinations but not the HPV vaccine, and had a well visit at 12 years, 67.2% to 67.4% did not receive the HPV
- Among adolescents with a well visit at 11 or 12 years who received one or more other vaccinations, but not the HPV vaccine, 40.6% to 54.6% had a well visit at 9 or 10 years

Conclusion

- The COVID-19 pandemic had a **sustained disproportional impact** on HPV vaccinations in the US.
- Currently, the age 11/12 vaccination platform may be working well some adolescent (Tdap, Meningococcal) and catch-up vaccinations, but it's not showing the same success for HPV vaccinations.
- Our NIS teen data driven model showed with current HPV vaccination rates, the CDC Healthy People goal of 80% may not be achieved even **beyond 2043**. The model projected with increasing initiation rates in 9–10-year-olds by 3-5% each year, the time to reach the vaccine coverage rate of 80% in 13–15-year-olds gets reduced by **up to 11 years**.
- Our well visits claims analyses showed significant proportion of adolescents are receiving at least 2 or 3 vaccines at age 11 well visits, and **almost no vaccinations at age 9 well visits**.
- The missed opportunity analyses indicates that **initiation at 9 may lead to overall more adolescents** receiving their HPV vaccines, as a substantial proportion did not come back for their well visits at ages 11 or 12.
- These findings demonstrate how this relatively **easy to implement** public health initiative might be the much-needed solution to help the long-standing problem of lagging HPV coverage rates and reduce the risk of **HPV related disease and cancer burden**.



Thank you



Cassandra 'Sandy' Pingali, MPH, MS
Epidemiologist, Immunization Services
Division, National Center for Immunization
and Respiratory Diseases, *CDC*

2023 National Immunization Survey-Teen Data



2023 NIS-Teen Data Summary

Cassandra (Sandy) Pingali, MPH, MS
Epidemiologist

ACS HPVRT National Meeting

October 8th, 2024



NIS-Teen Methodology

- **Two phase survey**
 - 1st phase: random digit dialed cell phone survey of parents in households with teens age 13-17 years
 - 2nd phase: mailed survey of vaccination providers
- **Household survey collects socio-demographics, health insurance status, and consent for provider survey.**
- **Provider survey collects the types of vaccinations, number of doses, dates of administration, and other administrative data about the health care facility.**
 - Teens are classified as being up to date based on the ACIP-recommended numbers of doses for each vaccine.
- **Sample size of 2023 NIS-Teen survey included data collected from parents/guardians of 16,568 adolescents.**
 - Born January 2005-December 2010



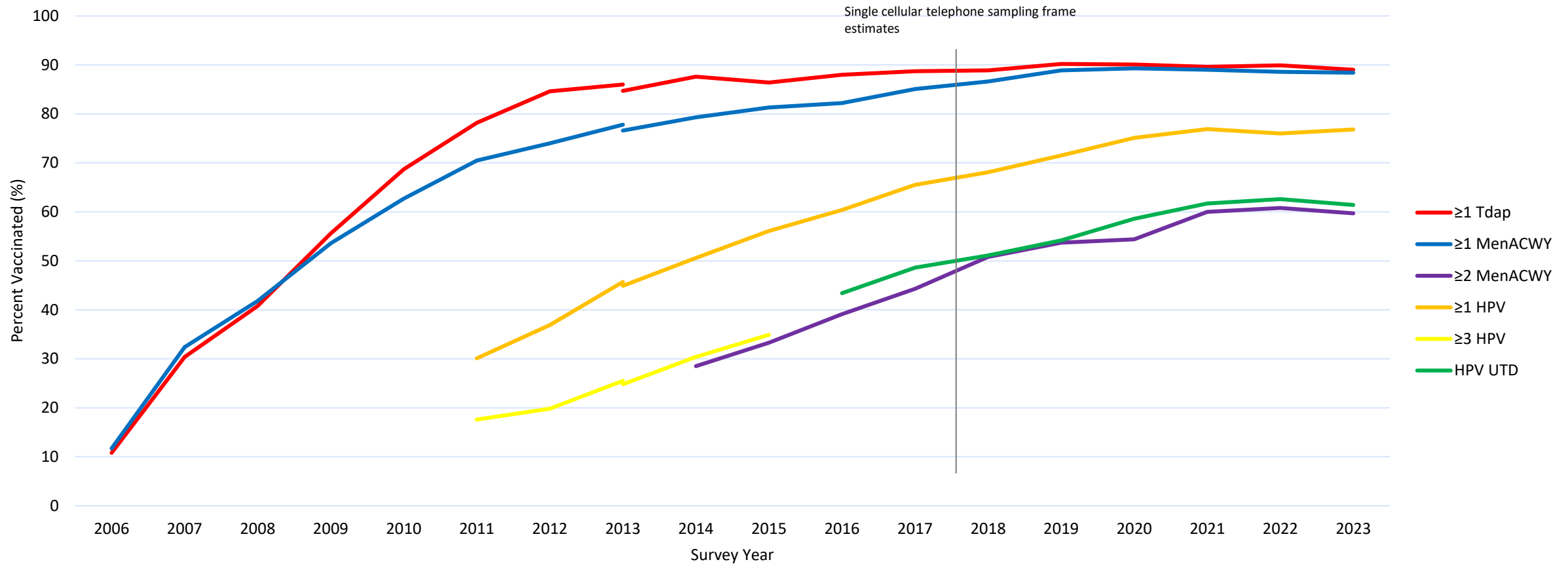
2023 NIS-Teen Data- Methods Notes

1. The adolescents who were due for routine vaccines during the COVID-19 pandemic (the 2008 and 2009 birth years) are now 14 and 15 years of age in the 2023 NIS-Teen data.
 - Teens in the 2009 birth year would have been 11 years of age in 2020 and teens in the 2008 birth year would have been 12 years of age in 2020.
2. The 2023 NIS-Teen data include the first birth cohort whose routine vaccines were administered after the COVID-19 public health emergency had ended (2010 birth year).
 - Teens in the 2010 birth year would have been 10 years of age in 2020 and not yet due for vaccines recommended for adolescents.

Coverage with Routine Vaccines Recommended for Adolescents

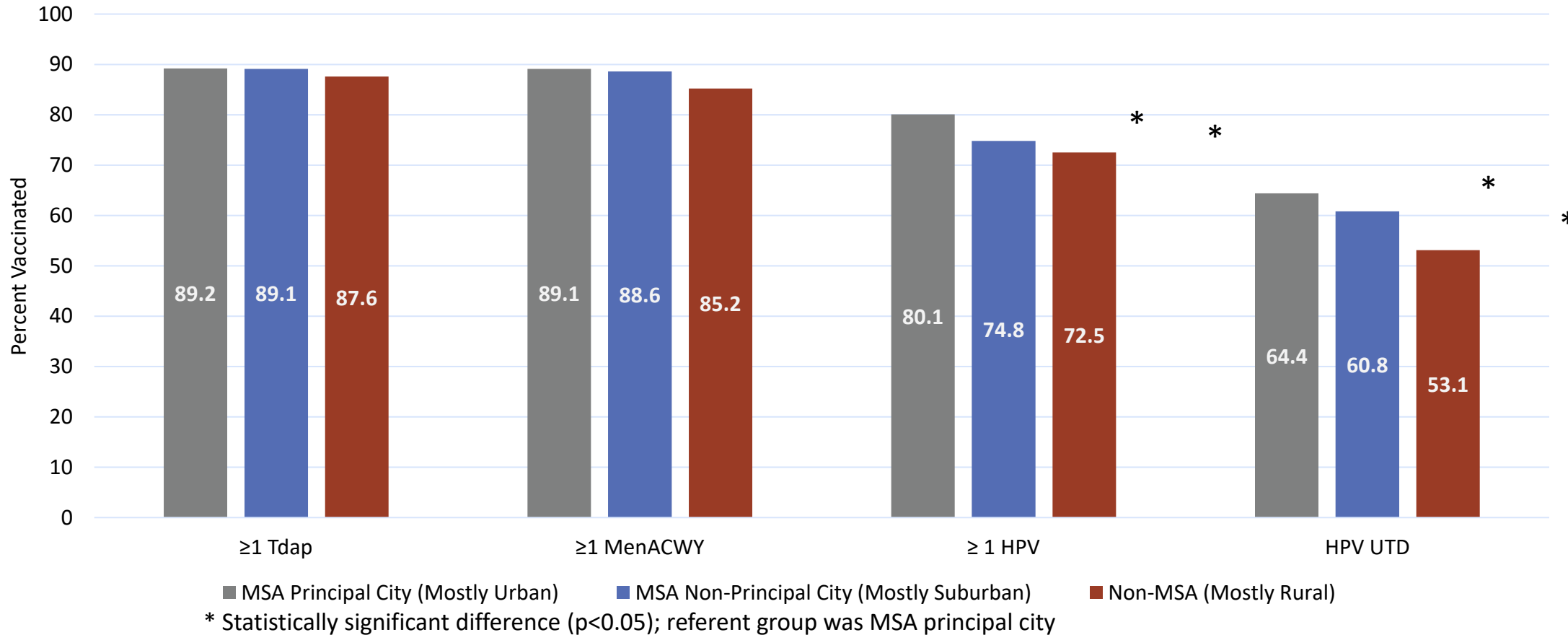
2023 National Immunization Survey-Teen

Estimated vaccination coverage with selected vaccines and doses among adolescents aged 13-17 years, by survey year— National Immunization Survey-Teen, United States, 2006-2023



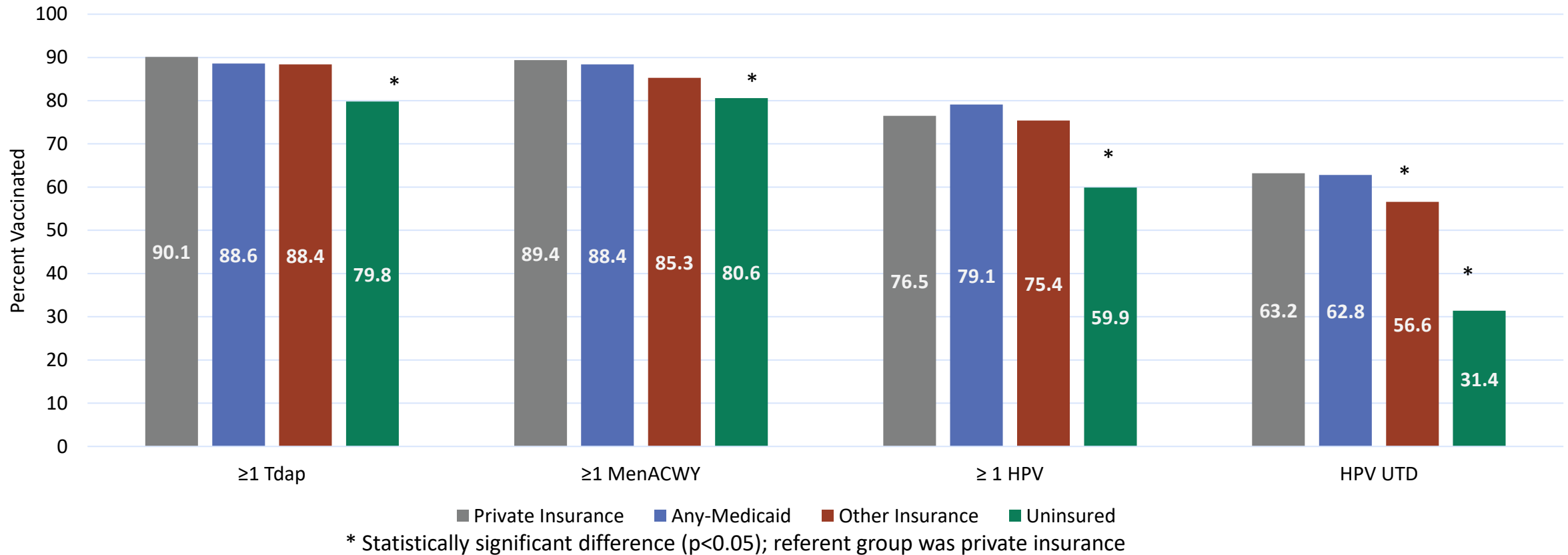
Coverage with ≥ 1 Tdap and ≥ 1 MenACWY has been high and stable since 2018. However, coverage with ≥ 1 HPV and proportion HPV UTD is suboptimal compared to other routine vaccines.

Estimated vaccination coverage with selected vaccines among adolescents aged 13-17 years, by metropolitan statistical area (MSA status) – National Immunization Survey-Teen (NIS-Teen), United States, 2023



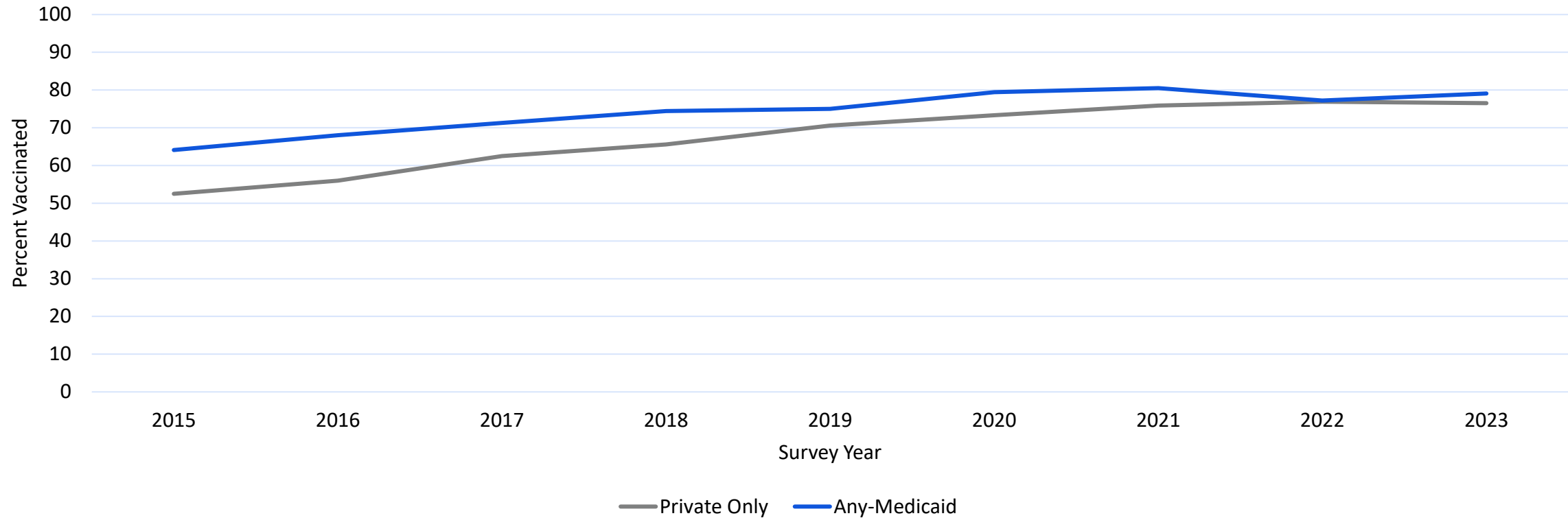
Coverage with ≥1 HPV vaccine and proportion HPV UTD is **lower** in mostly suburban and mostly rural areas compared to mostly urban areas.

Estimated vaccination coverage with selected vaccines among adolescents aged 13-17 years, by health insurance status— National Immunization Survey-Teen (NIS-Teen), United States, 2023



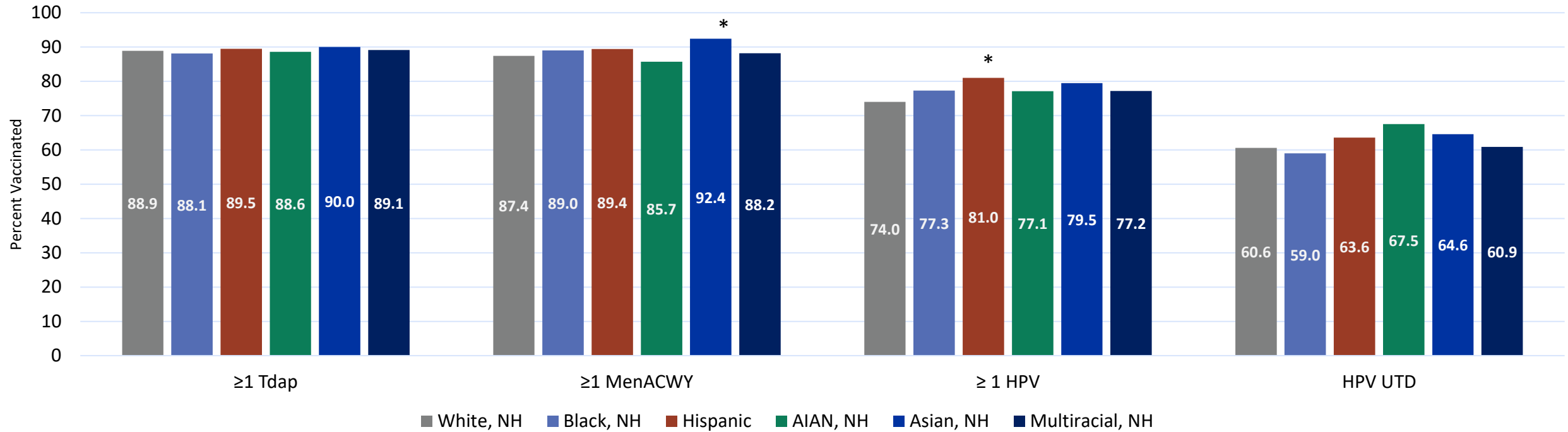
- Overall, vaccination coverage was **lower** among uninsured adolescents than privately insured adolescents for all vaccines.
- Those with “other” insurance had a **lower** percentage HPV UTD than privately insured adolescents.
- Adolescents with private and any Medicaid insurance had similar HPV vaccination coverage.

Estimated vaccination coverage with ≥ 1 human papillomavirus (HPV) vaccine among adolescents 13-17 years, by Health Insurance Status—National Immunization Survey–Teen (NIS-Teen), United States, 2015-2023.



Historically, adolescents insured by Medicaid had **higher** coverage with ≥ 1 HPV vaccine compared to privately insured adolescents. However, in 2022 and 2023, adolescents with private and any Medicaid insurance had similar ≥ 1 HPV vaccine coverage.

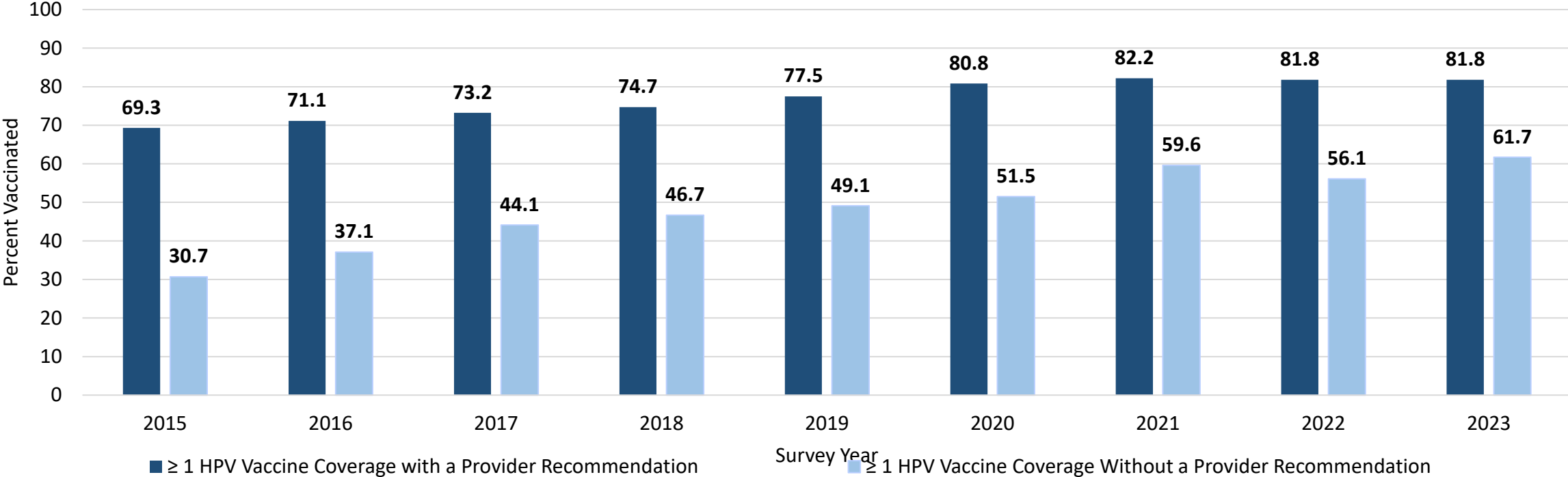
Estimated vaccination coverage with selected vaccines among adolescents aged 13-17 years, by race and ethnicity– National Immunization Survey-Teen (NIS-Teen), United States, 2023



* Statistically significant difference (p<0.05); referent group was White, NH adolescents

- Although historically, Black and Hispanic adolescents have had **higher** coverage with ≥1 HPV vaccine than White adolescents, in 2023, only Hispanic adolescents had higher coverage.
- In 2023, coverage with ≥1 MenACWY was **higher** among Black adolescents compared to White adolescents.

Trends in vaccination coverage with ≥ 1 human papillomavirus (HPV) vaccine by provider recommendation for HPV vaccine among adolescents 13-17 years— National Immunization Survey–Teen (NIS-Teen), United States, 2015-2023.

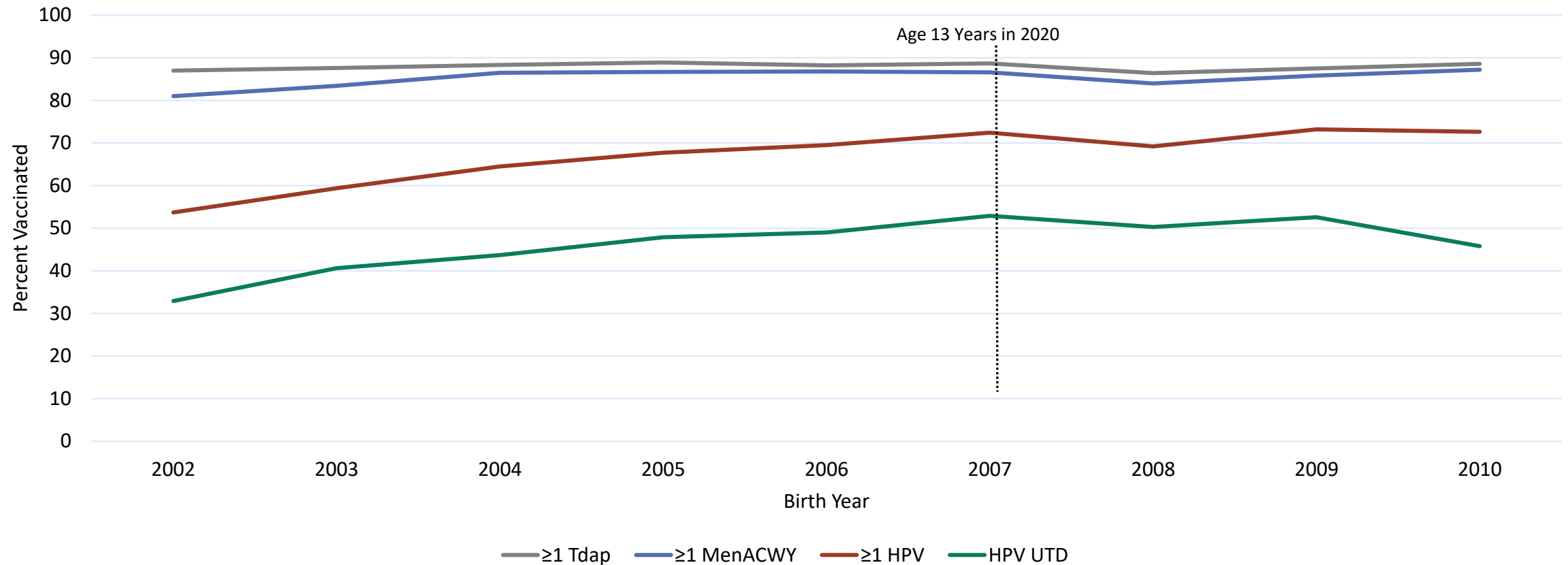


HPV vaccination coverage is **higher** among adolescents whose parents reported they received a provider recommendation for HPV vaccine compared to adolescents whose parents did not receive a provider recommendation.

Assessing COVID-19 Pandemic Effects on Coverage

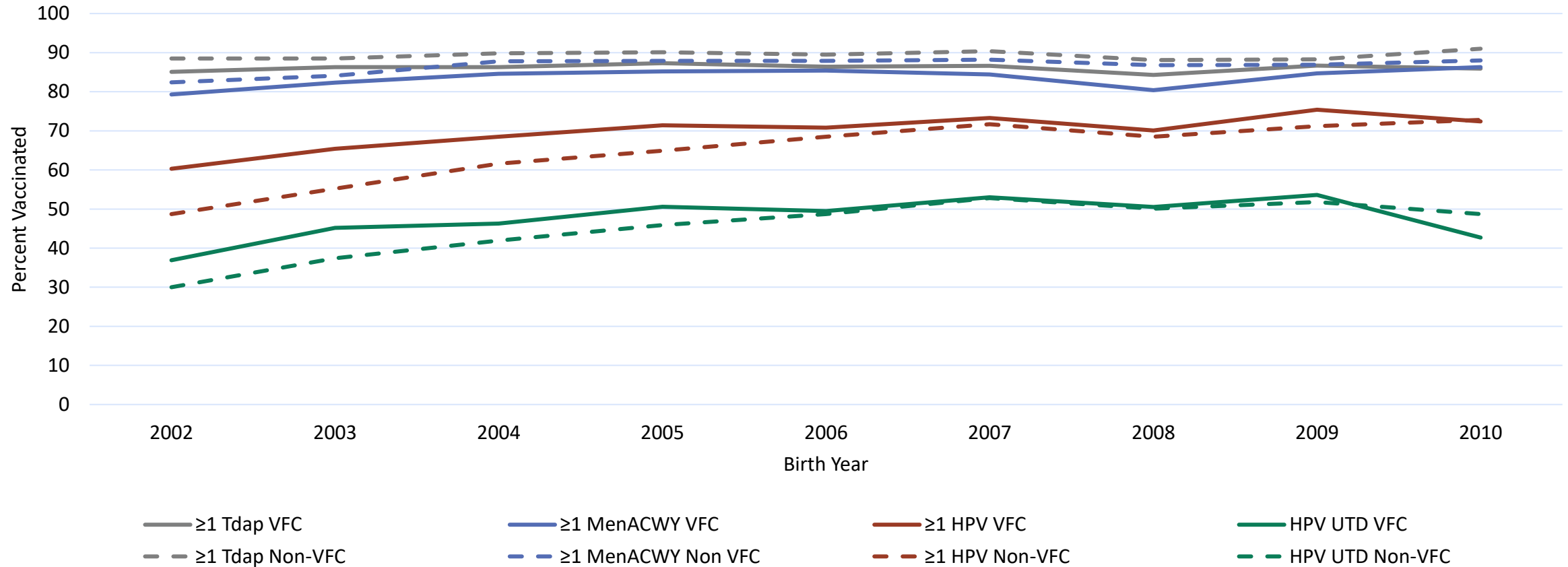
2023 National Immunization Survey-Teen

Coverage with ≥ 1 dose of human papillomavirus (HPV) vaccine and percentage HPV UTD, ≥ 1 dose of quadrivalent meningococcal conjugate vaccine (MenACWY), and ≥ 1 dose of tetanus, diphtheria, and acellular pertussis vaccine (Tdap), among adolescents in the 2002–2010 annual birth cohorts, by age 13 years— National Immunization Survey-Teen (NIS-Teen), United States, 2015–2023



- By age 13 years, coverage with ≥ 1 Tdap, ≥ 1 MenACWY, and ≥ 1 HPV was **lower** in the 2008 birth year compared to the 2007 birth year (2 to 3 percentage points lower).
- By age 13 years, coverage among the 2009 birth year was similar to the 2007 birth year.
- By age 13 years, the percentage of adolescents HPV UTD was **lower** in the 2010 birth year compared to the 2007 birth year (7 percentage points lower).

Receipt of adolescent vaccines by age 13 years by birth year and by Vaccines for Children (VFC) Eligibility— National Immunization Survey-Teen (NIS-Teen), United States, 2015–2023



- By age 13 years, coverage with ≥1 Tdap and ≥1 MenACWY among adolescents who were eligible for VFC was **lower** than coverage among those not eligible for VFC in the 2003-2008 birth years and had similar coverage from 2009-2010.
- By age 13 years, coverage with ≥1 HPV and percentage HPV UTD among adolescents who were eligible for VFC was **higher** than coverage among those not eligible for VFC in the 2002-2005 birth years and had similar coverage from 2006-2010.

¹VFC eligible adolescents include 1) American Indian or Alaska Native; 2) enrolled in Medicaid or Indian Health Service; uninsured; or 3) received one or more vaccinations at Indian Health Service (IHS)-operated centers, Tribal health centers, and/or urban Indian health care facilities at any point in their immunization history.

2023 NIS-Teen HPV Coverage Data Summary

- This is the **second** consecutive year that HPV vaccination coverage did not increase among adolescents aged 13-17 years.
- While HPV vaccination coverage **was higher** among VFC-eligible teens prior to the pandemic, coverage is **now similar** among VFC-eligible and non-VFC-eligible teens.
- We also saw a **decline** in the percent of adolescents who were HPV UTD among those born in 2010 (due for routine adolescent vaccines during the pandemic) compared to those born in 2007 (due for routine vaccine before the pandemic).
- **Action Message:** Healthcare providers should make strong recommendations for all routine vaccines and verify if adolescents, particularly those eligible for the VFC program, are up to date with all recommended vaccines. Parents of adolescents should schedule a well-child visit at the start of the school year to make sure adolescents receive all recommended vaccines.

Thank you!

- David Yankey
- Michael Chen
- Madeleine Valier
- Laurie Elam-Evans
- Jim Singleton
- Shannon Stokley
- Lauri Markowitz
- Carla DeSisto
- Sarah Schillie
- Michelle Hughes

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.





HPV Vaccination Immune Response & Research to Practice

Stephanie Staras, MSPH, PhD
Professor and Associate Chair of Faculty Development,
Health Outcomes & Biomedical Informatics, Program
Co-Lead Cancer Control & Population Sciences, UF Cancer
Center, Associate Director for the Institute for Child
Health Policy, *University of Florida*



Agenda

- Immune Response to HPV vaccination
- Research to Practice
 - Evidence-Based Interventions
 - Example study



Immune Response to HPV vaccination

HPV Vaccine Recommendations

Advisory Committee on Immunization Practices(ACIP) recommends HPV9 vaccine

- 9- to 10-year-olds
 - ACIP states can be given at this age
 - Strongly recommended by American Cancer Society and American Academy of Pediatrics
- 11- to 12-year-olds
 - ACIP Universal coverage
- 13- to 26-year-olds
 - Late vaccination
- 27- to 45-year-olds
 - With shared clinical decision-making

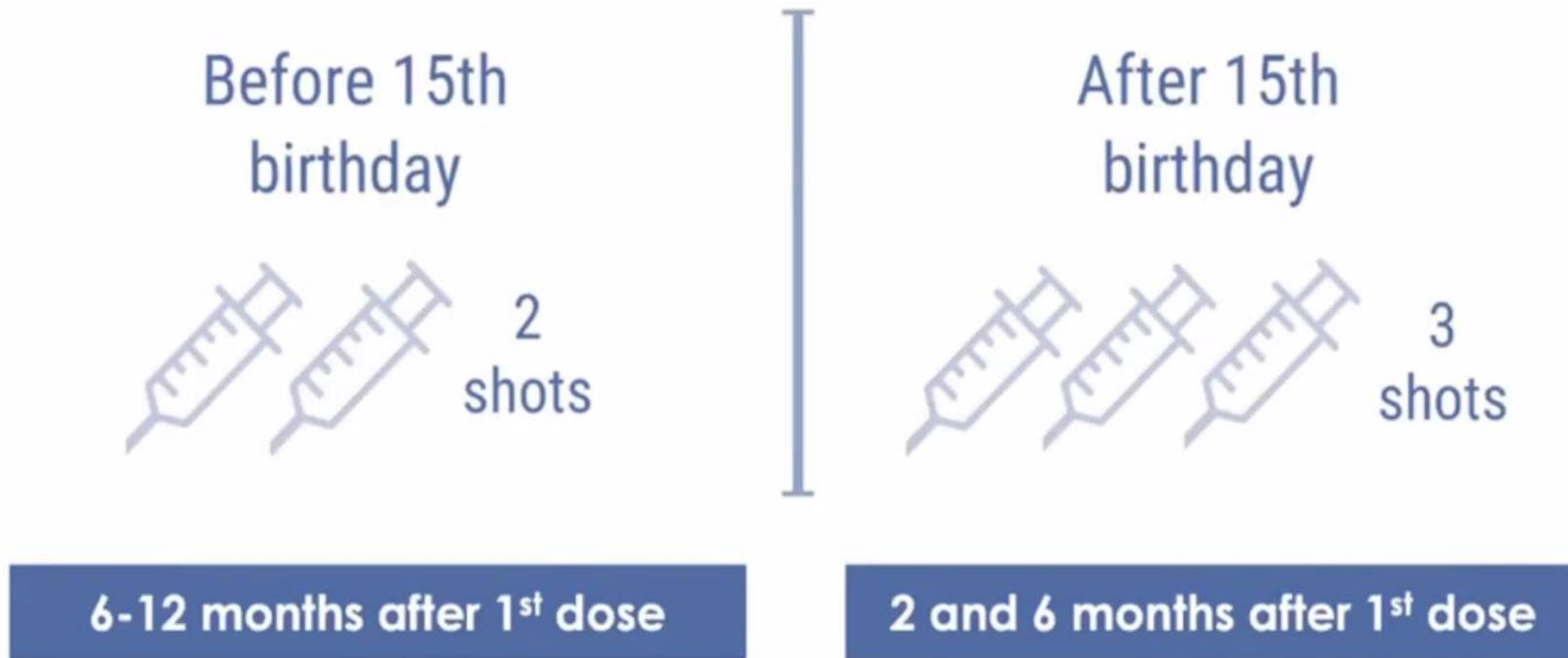
1. Meites E, Szilagyi PG, Chesson HW, Unger ER, Romero JR, Markowitz LE. Human Papillomavirus Vaccination for Adults: Updated Recommendations of the Advisory Committee on Immunization Practices. MMWR Morb Mortal Wkly Rep 2019;68:698–702. DOI: <http://dx.doi.org/10.15585/mmwr.mm6832a3>.

2. Saslow D, Andrews KS, Manassaram-Baptiste D, Smith RA, Fontham ETH; the American Cancer Society Guideline Development Group. Human papillomavirus vaccination 2020 guideline update: American Cancer Society guideline adaptation. *CA Cancer J Clin*. 2020; 70: 274-273. <https://doi.org/10.3322/caac.21616>

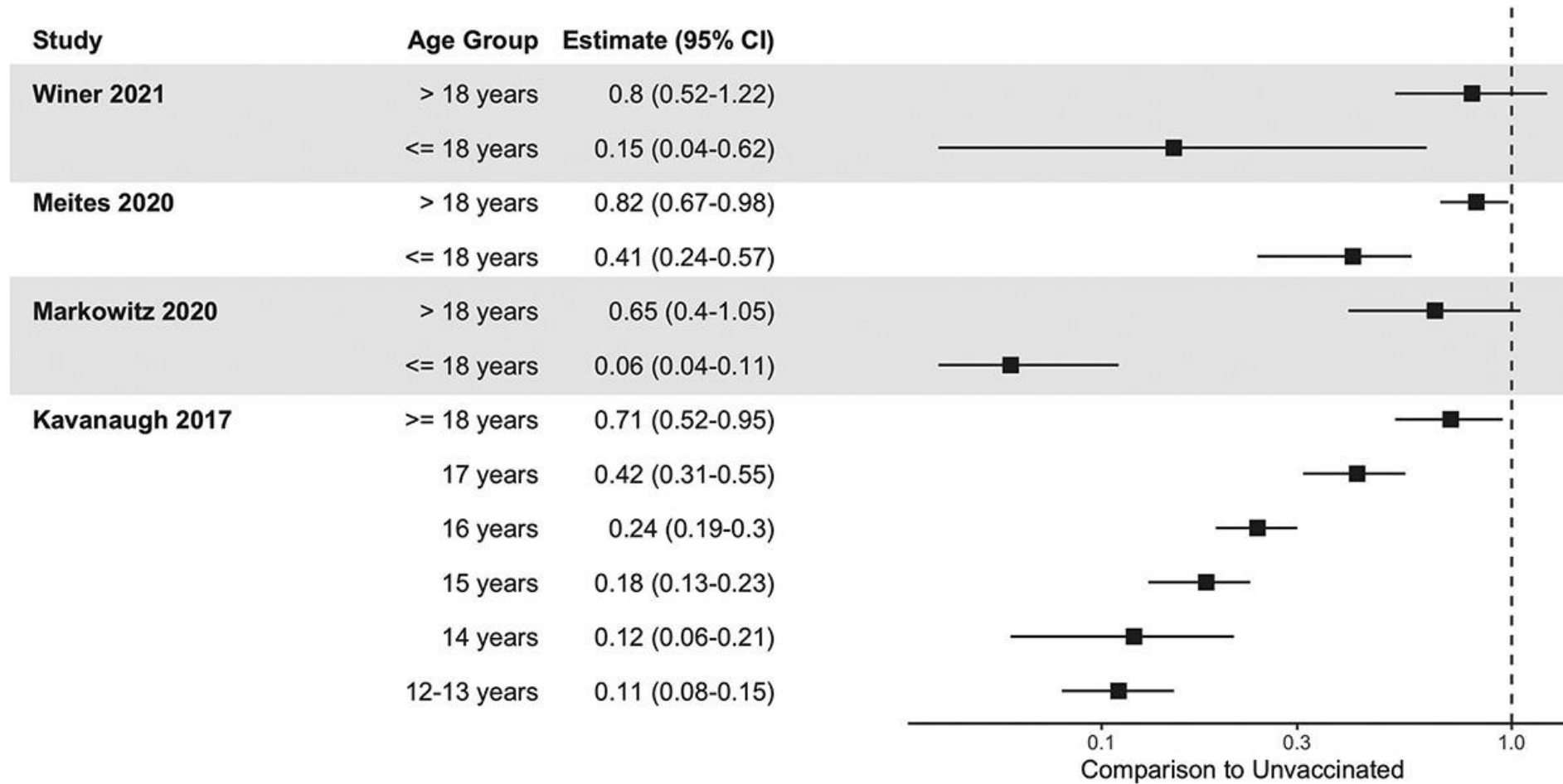
3. O'Leary ST and Nyquist A. Why AAP recommends initiating HPV vaccination as early as age 9. AAP News. 2019. Available at: <https://publications.aap.org/aapnews/news/14942/Why-AAP-recommends-initiating-HPV-vaccination-as?searchresult=1?autologincheck=redirected>



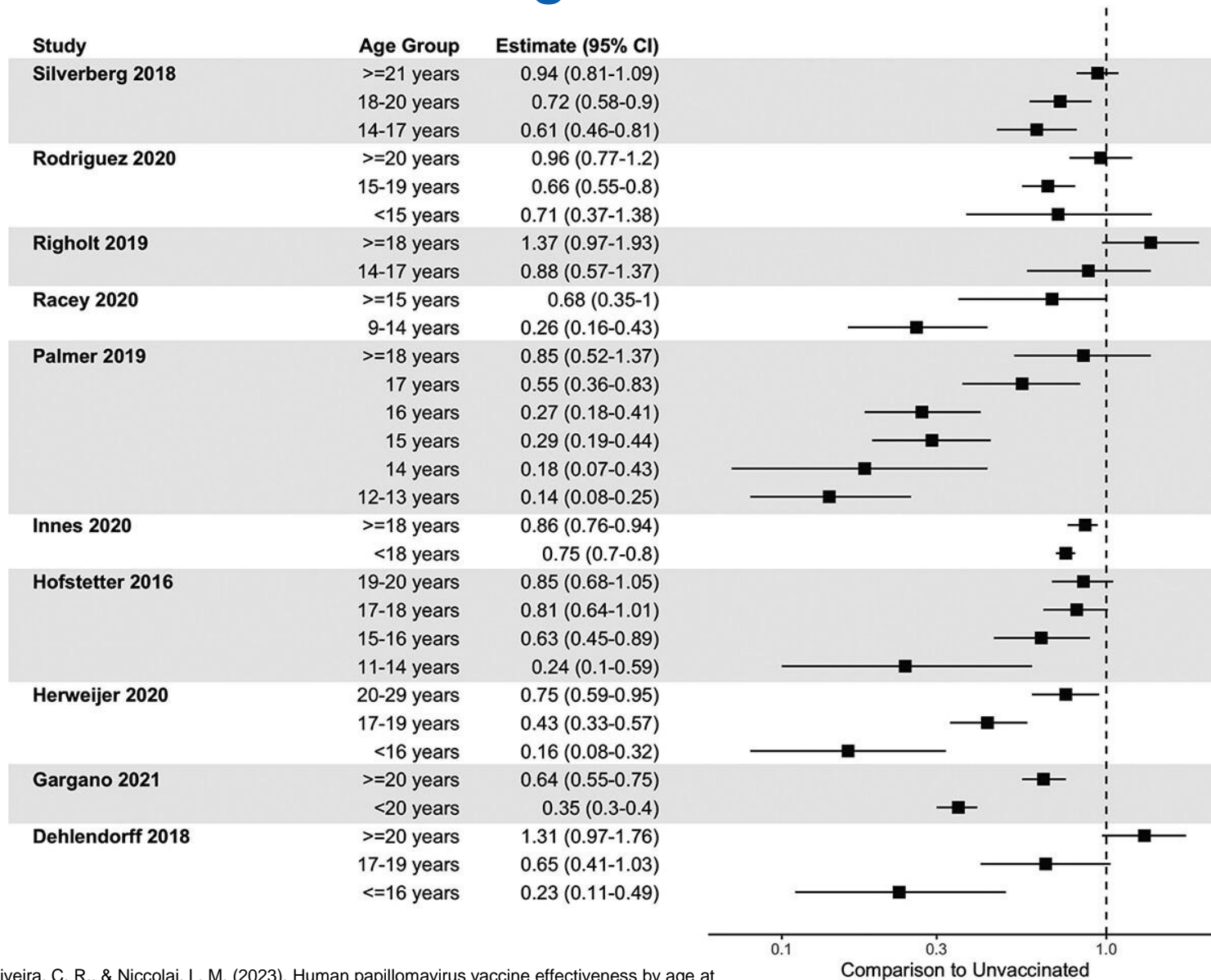
HPV Vaccine Dosing Recommendations by Age



Effectiveness of HPV Vaccine against HPV Infections



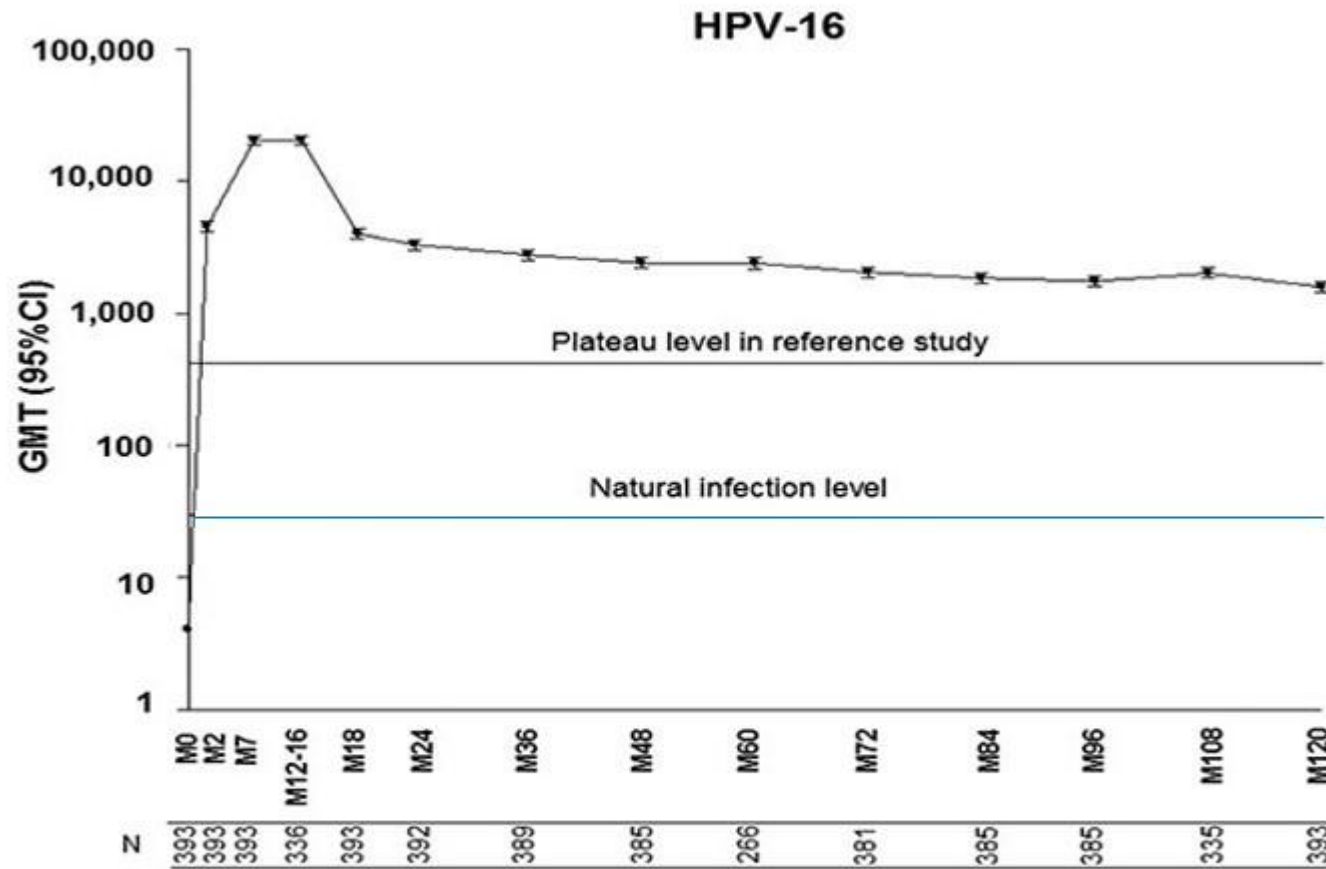
Vaccine Effectiveness against Cervical Abnormalities



Ellingson, M. K., Sheikha, H., Nyhan, K., Oliveira, C. R., & Niccolai, L. M. (2023). Human papillomavirus vaccine effectiveness by age at vaccination: A systematic review. *Human Vaccines & Immunotherapeutics*, 19(2). <https://doi.org/10.1080/21645515.2023.2239085>



Established 10-year Protection from the HPV Vaccine



- Girls vaccinated at ages 10-14 years
- 9.4 years post vaccination among girls vaccinated at 15-25 years
- Natural infection among girls 15-25 years

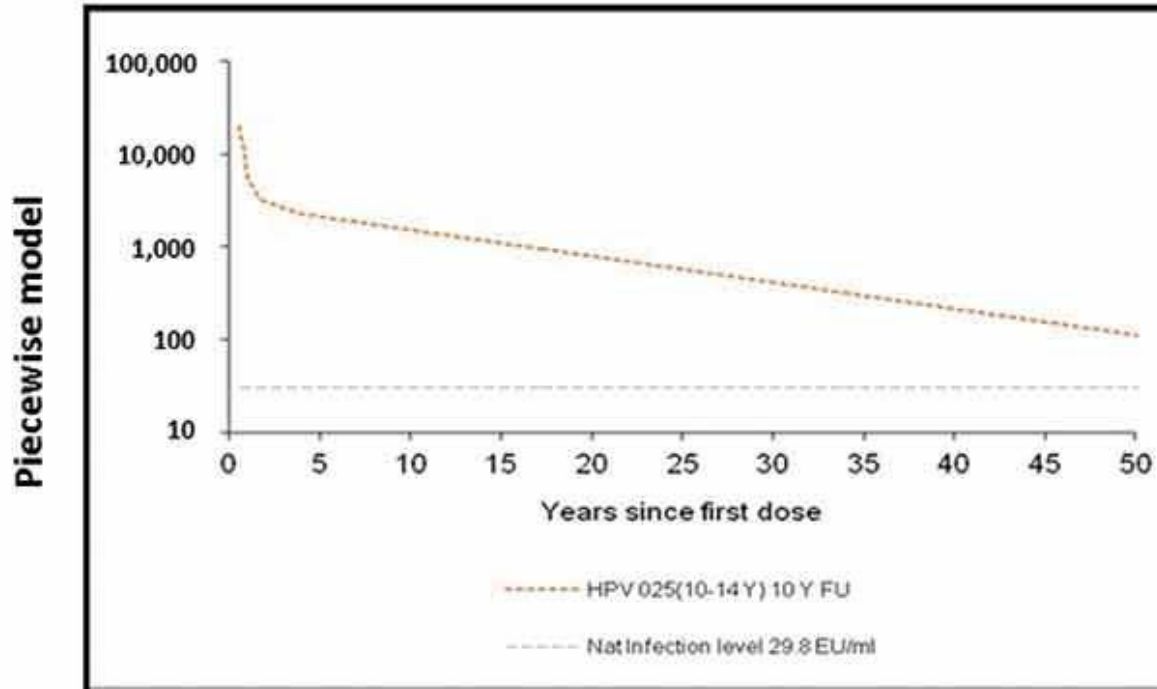
Plateau level in reference study: 418.3 EU/mL at Month 107-113 timepoints.¹⁵
 Natural infection level in reference study: 29.8 EU/mL.²¹

Schwarz, T. F., Huang, L. M., Valencia, A., Panzer, F., Chiu, C. H., Decreux, A., ... Struyf, F. (2019). A ten-year study of immunogenicity and safety of the AS04-HPV-16/18 vaccine in adolescent girls aged 10-14 years. *Human Vaccines & Immunotherapeutics*, 15(7-8), 1970-1979. <https://doi.org/10.1080/21645515.2019.1625644>

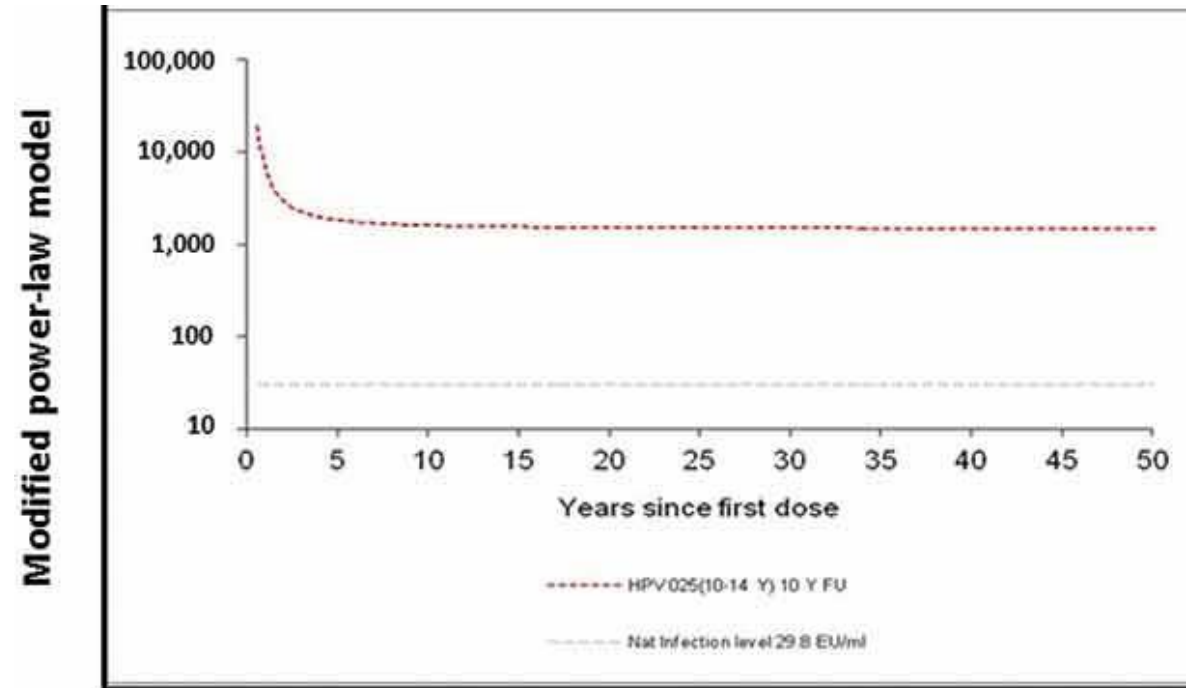


Predicted 50-year Protection from the HPV vaccine

HPV-16



HPV-16





Research to Practice

Recommended Research-based Practices to Increase HPV Vaccination

Patient Directed

Client Reminders

Patient Education

Small Media

Patient Incentives *

Provider Directed

Provider Reminders/Recall

Recommendation Education

Provider Assessment & Feedback

Standing Orders

Access to Care

Vaccine only appointments

Evening and weekend vaccine hours

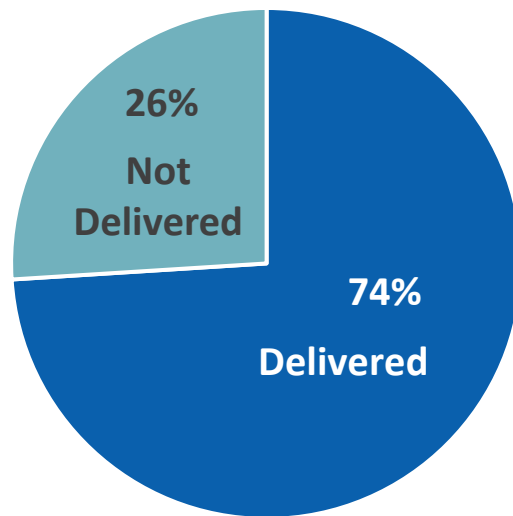
Schedule second dose upon administration of first dose

*Potential positive effect, but grade of evidence low

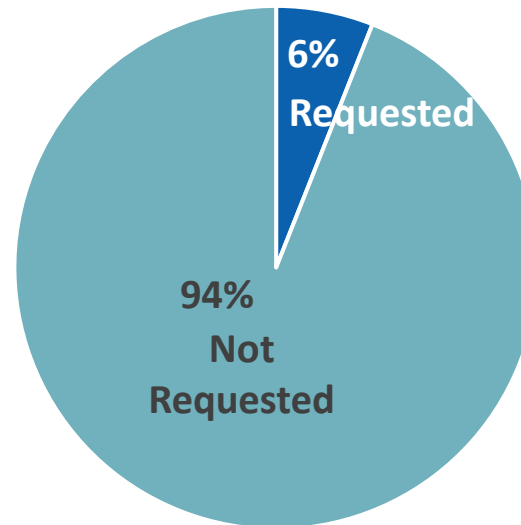
Source: Mantzari E, Vogt F, Marteau TM. Financial incentives for increasing uptake of HPV vaccinations: a randomized controlled trial. Health Psychol. 2015 Feb;34(2):160-71. doi: 10.1037/hea0000088. Epub 2014 Aug 18. PMID: 25133822; PMCID: PMC4312136

Real-world Example: Reminder/recall via Text Messaging

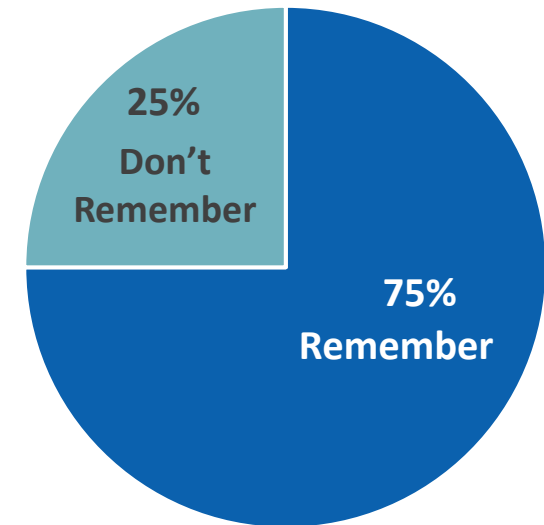
% Delivered
N = 4270



% Requested appointment
N = 2013



% of Parents that Remember Receiving Messages
N = 750



Real-world Example: Text Messaging Increased HPV Vaccine Initiation





Thank you

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Professor University of Florida

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Director, Outcomes Research, Merck



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Epidemiologist, Immunization Services
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Center, Associate Director for the Institute for Child
Health Policy, University of Florida



Michelle Fiscus, MD, FAAP
Chief Medical Officer, Association of
Immunization Managers (AIM)

Q & A





Gabby Darville-Sanders, PhD
Strategic Director, National HPV Vaccination
Roundtable
American Cancer Society

Wrap Up & After Party



Join the Party: Start at Age 9 Resources

2023 Human Vaccines & Immunotherapeutics Collection
HPV VACCINATION STARTING AT AGE 9

A collection of original research on the impact of initiating HPV vaccination at ages 9-10

American Cancer Society | NATIONAL HPV VACCINATION ROUNDTABLE

Articles include research that:

- Considers benefits to subpopulations
- Compares rates by age and demographics
- Describes implementation and/or QI initiatives
- Describes parent experiences
- Describes healthcare provider experiences

HVI Special Collection - HPV Vaccination starting at Age 9

The National HPV Vaccination Roundtable
5 videos 26 views Updated 6 days ago

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HPV vaccination has the potential to dramatically reduce rates of cervical, oropharyngeal, vaginal, vulvar, anal, and penile cancers. However, HPV vaccination rates in the US lag behind other countries, and HPV vaccine has lower coverage than other adolescent vaccines. Initiation of the

Join the Party: Start at Age 9 Resources

Why Age 9? FACT SHEET



Every year in the United States, it is estimated that nearly 36,500 individuals are diagnosed with cancer caused by an HPV infection.* Human papillomavirus (HPV) cannot be treated, but there is a vaccine that can prevent transmission and protect against six cancers if initiated prior to exposure. HPV vaccination is a critical prevention tool, safeguarding children and adolescents against more than 90% of HPV cancers when given at recommended ages.† Because cancer prevention decreases as the age of vaccination increases, it is important to start early!

Why Age 9?
Starting the HPV vaccination series at age 9 is recommended by the American Cancer Society, the American Academy of Pediatrics, and the National HPV Vaccination Roundtable. Previous guidance from the Centers for Disease Control (CDC) and Advisory Committee on Immunization Practices (ACIP) recommended routine HPV vaccination at age 11 or 12 years but notes that the HPV vaccine can be given starting at age 9.

Recommended Vaccination Schedule Guideline

On Time AGE 9-12 2 Doses 6-12 months apart	Late AGES 13-14 2 Doses 6-12 months apart	Critical AGES 15-26 3 Doses 1st dose at visit one 2nd dose 1-2 months later 3rd dose 6 months after 2nd
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Know the Facts!

There are many benefits to initiating the HPV vaccine series at age 9. These include:

- Offers more time for completion of the series by the age of 13**
- Decreases questions about sexual activity by parents and guardians**
- Increases vaccinations and therefore the number of cancers prevented**
- Results in a strong immune response to the HPV vaccine**
- Decreases requests for only vaccines that are "required" for school**
- Has been shown by several systems to increase vaccination rates**
- Increases the likelihood of vaccinating prior to first HPV exposure**
- Decreases the number of administered shots per visit**
- Has been shown to be highly acceptable to systems, providers, and parents**


The HPV vaccine has been given for more than 15 years and provides long-lasting protection. The HPV vaccine is safe and effective, with no long-term side effects. In fact, 109 studies conducted among 2.5 million people in 6 countries have shown that there have been no serious side effects other than what is typical for all vaccines (i.e., allergic reactions, fevers).†

For more information, tools and resources, visit HPV.VaccinationStartsAtAge9.org.

Age 9 Sell Sheet


HPV Vaccinations: 9 Benefits of Starti...

Watch later Share



Watch on YouTube

HPV PREVENTION STARTS AT AGE 9



Protect Your Preteen/Teen with Vaccines

Protect them from serious diseases including HPV cancer, meningitis, tetanus, whooping cough, flu, and COVID-19.

AGES 9 - 10

- HPV dose 1 (human papillomavirus)
- HPV dose 2 (6 - 12 months apart)

AGES 11 - 12

- Meningitis dose 1 (Meningitis A)
- Tdap (tetanus, diphtheria, pertussis, and acellular pertussis)
- HPV (if 2 doses have been administered)

AGE 16

- Meningitis dose 2 (Meningitis B series)
- Meningitis B series (Meningitis B)

YEARLY

- Flu (seasonal influenza)

Preteens and teens should also get vaccinated with COVID-19 vaccine to protect them from COVID-19.

Check Off the Routine School Age Vaccines

By 4 years old

- MMII - Measles, Mumps and Rubella
- DTaP - Diphtheria/Tetanus, and Pertussis (whooping cough)
- Polio - Poliovirus
- MM - Mumps, Measles, and Rubella
- Varicella - Chickenpox

9 years old

- HPV - 2 doses, 6-12 months apart

11 years old

- MCV4
- Tdap
- HPV - if 2-dose series is not complete

16 years old

- MCV4
- Ask about MenB - 2 doses, 1 month apart


Every child 6 months and older should get the annual flu vaccine!

HPV VACCINE SCHEDULE & DOSES

Don't wait to vaccinate! The American Cancer Society recommends that boys and girls get the HPV vaccine starting at age 9. Age matters. When you vaccinate your child on time, you give them the best protection from HPV cancers. In fact, HPV cancer prevention decreases the longer you wait to vaccinate.

START AT 9 TOOLKIT

HPV Vaccination Roundtable



HPV Vaccine: It's Cancer Prevention

Who? All kids (both boys and girls) should get the vaccine starting at age 9.

What? The human papillomavirus (HPV) vaccine is a cancer prevention vaccine.

Why?

- The HPV vaccine prevents 6 different cancers (mouth/throat, cervix, vulva, vagina, penis and anus).
- The HPV vaccine prevents most genital warts.
- The HPV vaccine is safe and effective, with no long-term side effects.
- HPV vaccine has been given for more than 15 years and provides long-lasting protection.

When?

On Time AGE 9 2 Doses 6-12 months apart	Critical AGES 10-14 2 Doses 6-12 months apart	Last Chance AGES 15-26 3 Doses 1st dose at visit one 2nd dose 1-2 months later 3rd dose 6 months after 2nd
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HPV Vaccination - Start at Age 9

Full Name _____

Birthdate _____ Medical # _____

Vaccinate your child starting at age 9 to protect them from human papillomavirus (HPV) and prevent HPV-related cancers. Keep this card with you to ensure your child gets the dates on the back side of this card.

HPV Vaccination Education Toolkit INSIDE!

Dose 3 Date _____

3 doses if initiated at or after age 15

For more information, visit cancer.org/healthy/hpv-vaccine.html

Age 9 Provider Toolkits

CELEBRATE & INNOVATE 10 YEARS



9 for 9 Video

Join the Party: ACS HPVRT Evidence Summaries



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:
 - 76.3% 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.^{4,5}

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.^{6,7}

HPV Best Practices Evidence Summary 2024

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 2023⁸ 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 easier if sexual activity is not a focus.¹¹
 - Provider interviews have reported high parental acceptance of HPV vaccination before age 15 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).¹³

- Rates have returned to pre-pandemic levels for at least one dose of HPV vaccination at age 13 years.¹⁴
- 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. 45.0%, respectively).¹⁵



Epidemiologic Evidence: Effectiveness and Safety of the HPV Vaccine

What's known

Data have shown that HPV vaccination is safe and effective in preventing precancers and genital warts.

Evidence from clinical trials has led to the recommendation for routine provision of the 9-valent HPV (9vHPV) vaccine starting at age 9 years.¹

No new safety concerns have been observed in data from post-licensure safety studies of 9vHPV vaccination.²

What's new

Data from long-term observational studies continue to confirm the effectiveness and safety of HPV vaccination.

HPV vaccine effectiveness

- In the United States, cervical cancer incidence in young women (ages 20-24 years) decreased by 65% from 2012 to 2019. These women were among the first cohort of adolescents to receive the HPV vaccine. As vaccinated women age, the protective effect is carried forward into older age groups; for women ages 25-29 years, cervical cancer incidence dropped 6.8% per year from 2016 to 2019.³
- Vaccine-type HPV infections have decreased by 81% for women in the United States ages 20-24 years and 88% for those ages 14-19 years. These declines also occurred in unvaccinated women, offering evidence of community protection (i.e., herd immunity) from HPV vaccination.⁴
- Recent systematic analyses of the impact of HPV vaccines on oral HPV infection identified a significant decrease in oral HPV infections in vaccinated participants (range 72%-93%).^{5,6}
- A 70% reduction in high-grade anal precancers and cancers among women who received the HPV vaccine before age 17 years has been reported.⁷
- Multiple international studies indicate that a single dose of HPV vaccine may be effective for cervical cancer prevention.⁸

HPV Best Practices Evidence Summary 2024



School-entry Requirements for HPV Vaccination

What's known

For more than a decade, school-entry requirements for HPV vaccination have generated substantial discussion.

- Since 2006, 40 states, the District of Columbia, and Puerto Rico have proposed legislation to require HPV vaccination for school entry, fund HPV vaccination administration programs, or educate the public or school children about the benefits of HPV vaccination.¹
- Five jurisdictions require families to vaccinate their children (boys and girls) against HPV or receive an exemption before starting a particular grade: Hawaii, Puerto Rico, Rhode Island, Virginia, and the District of Columbia. Opt-out provisions vary.²
- A national, web-based survey of parents or guardians of 11- to 17-year-olds found that 38% of parents or guardians agreed with laws requiring HPV vaccination for school attendance without exemptions. When including exemption provisions, parental agreement increased to 45% for philosophical reasons, 50% for religious reasons, and 59% for medical reasons.³
- A systematic review of 36 studies from 2009-2022 assessing the association between policies and HPV vaccination coverage among adolescents (defined as ages 9-18 years in this study) in the United States found consistent positive associations between school-entry requirements and HPV vaccination uptake.
 - School-entry requirements for other vaccines had positive spillover effects for HPV vaccinations.⁴

What's new

Ongoing discussions of school-entry requirements explore the ethical, political, and legal implications of these policies.^{5,6} Such debates are likely to continue as clinical and behavioral studies inform policy initiatives to improve HPV vaccination rates and help reduce HPV cancers.

- A study using National Immunization Survey-Teen data from 2008-2017 found that levels of HPV vaccination initiation in girls was significantly higher (32%) in Rhode Island after vaccination school-entry policies were implemented compared with pre-policy levels. Similar increases were noted for post-policy HPV vaccination initiation in boys in the District of Columbia (16%) and Rhode Island (17%) compared with pre-policy levels.⁷
- In 2018, jurisdictions with school-entry requirements had higher HPV vaccination rates (District of Columbia, 71%; Virginia, 59%) compared with the nation overall (51%). In 2022, national HPV vaccination rates increased to 63%, closing the gap (District of Columbia, 78%; Virginia, 63%).⁸

HPV Best Practices Evidence Summary 2024



Rural Disparities in HPV Vaccination

What's known

Rural adolescents have lower HPV vaccine uptake than their urban counterparts due to barriers at multiple levels.

- 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 9.¹ 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.^{2,3}
- Adolescents (ages 13-17 years) in rural communities are less likely to be vaccinated against HPV than those in urban areas, which may exacerbate disparities in cancer outcomes experienced by rural residents.⁴
 - Data from the CDC confirm that from 2018-2022 up-to-date HPV vaccination among adolescents in rural areas was 11 percentage points lower compared with urban communities (50% versus 61%, respectively).⁵
 - Additional data suggest rural young adults (ages 18-26 years) are less likely to initiate HPV vaccination compared with their urban counterparts.⁶
- Low HPV vaccination uptake and completion among individuals in rural areas may be due to numerous barriers faced by rural residents at multiple levels.⁷ Barriers include, but are not limited to the following:
 - Individual-, interpersonal-, organizational-, and community-level barriers to accessing preventive health care services, including HPV vaccination, in rural communities⁸
 - Rural residents' lack of knowledge of HPV's link to cancer and their limited awareness of the HPV vaccine^{9,10}
 - Limited collaborative communication between parents or guardians and health care providers about HPV vaccination in rural areas¹¹
 - Systems-level challenges with vaccine distribution and access, vaccination tracking in electronic health records, missed opportunities for vaccination, provider shortages, and clinical constraints such as long appointment wait times¹²
 - Few widely available evidence-based HPV vaccination interventions focused on rural communities¹³

HPV Best Practices Evidence Summary 2024




Thank you to our ACS HPVRT Member Organizations!



The After Party: Take the Session Evaluation Survey

2024 ACS HPVRT National Meeting Feedback Survey: Day 2



The image shows a QR code centered on a white rounded square background. The background of the entire slide is a blurred graphic with text including 'American Cancer Society', 'NATIONAL HPV VACCINATION FOUNDATION', 'CELEBRATE & INNOVATE', and 'NOW YEAR'. The QR code is intended for users to scan and access the survey.



Let the Celebration Continue: See you tomorrow for Advancing HPV Vaccination Equity!



**CELEBRATE
& INNOVATE**
10 YEARS



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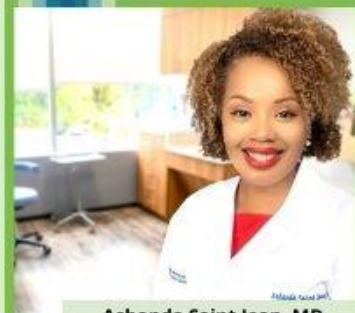
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Advancing HPV Vaccination Equity

Wednesday, October 9 | 12:00 pm-1:30 pm ET



PREVENT
6
CANCERS
STARTING AT AGE 9

Thank you!

