Update on HPV Vaccination Coverage in the US

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National Vaccine Advisory Committee Meeting
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Overview

- Activities since Feb NVAC meeting
- HPV vaccine recommendations for females and males
- HPV vaccination coverage among adolescents
- CDC activities

Key Articles published since Feb NVAC meeting

- Reduction in HPV prevalence among young women following vaccine introduction in the United States, National Health and Nutrition Examination Surveys, 2003-2010. JID. 2013;208:385-93.
  - among those aged 14-19, vaccine-type HPV prevalence decreased 56 percent, from 11.5% in 2003-2006 to 5.1% in 2007-2010
- Human Papillomavirus Vaccination Coverage Among Adolescent Girls, 2007–2012, and Postlicensure Vaccine Safety Monitoring, 2006–2013 — United States. MMWR. 2013;62:591-5.
- National and State Vaccination Coverage among Adolescents Aged 13–17 Years — United States, 2012. MMWR. 2013;62;685-93.

- Updated estimates of HPV-attributable cancers (**http://www.cdc.gov/cancer/hpv/statistics/cases.htm**)

AVERAGE ANNUAL NUMBER OF HPV-ASSOCIATED* AND HPV-ATTRIBUTABLE** CANCERS, UNITED STATES

Anatomic Area	HPV Associated*	HPV Attributable**
Cervix	11,279	10,300
Vagina	694	500
Vulva	3,039	2,100
Anus (F)	3,084	2,800
Oropharynx (F)	2,317	1,700
Total (Females)	**20,413**	**17,400**
Penis	1,003	600
Anus (M)	1,687	1,500
Oropharynx (M)	9,312	6,700
Total (Males)	**12,002**	**8,800**

Source: http://www.cdc.gov/cancer/hpv/statistics/cases.htm

*Cancer that is diagnosed in a part of the body where HPV is often found.

**Cancer that is probably caused by HPV (determined by multiplying the number of HPV-associated cancers by the percentage of these cancer that are probably caused by HPV).

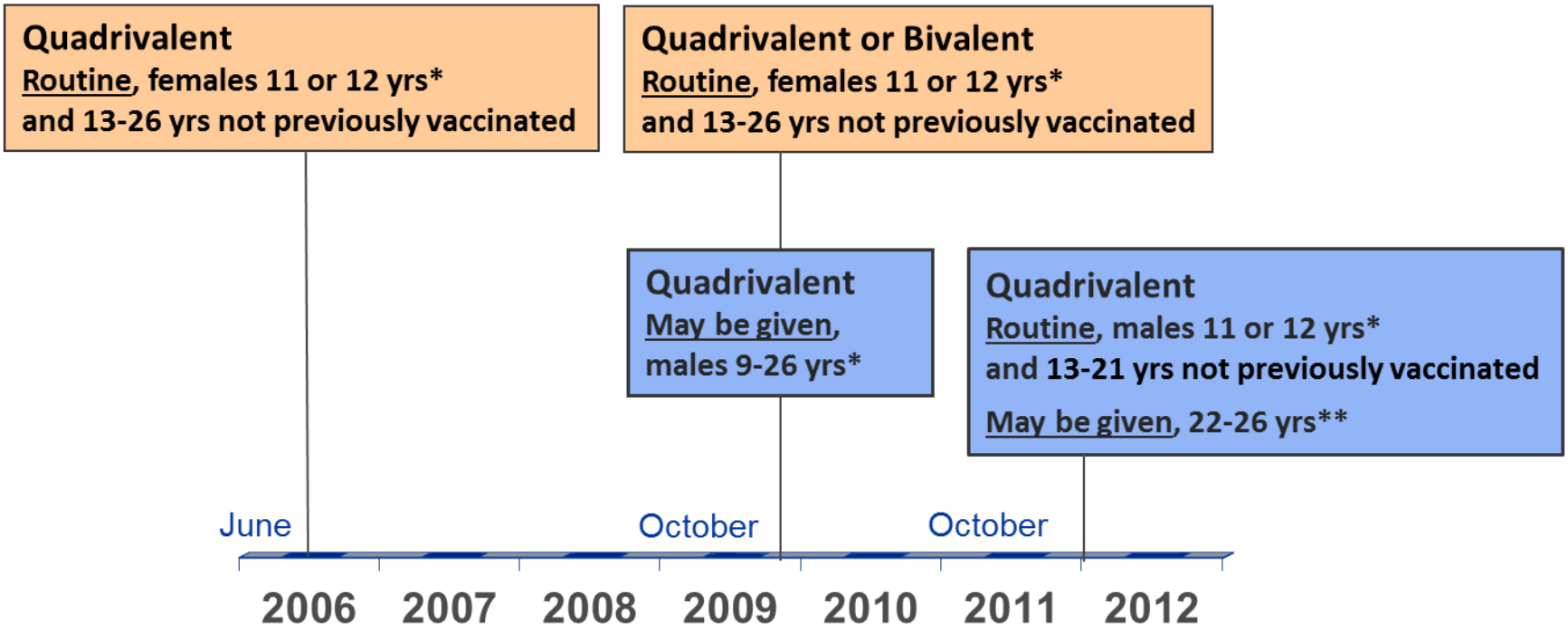
HPV vaccines

-	Quadrivalent (Gardasil)	Bivalent (Cervarix)
Manufacturer	Merck	GlaxoSmithKline
VLP types	6, 11, 16, 18	16, 18
Schedule (IM)	3 doses	3 doses
Genital warts	90%	-
Cervical cancers*	70%	70%

And majority of other HPV- associated cancers

VLP – virus like particle; IM - intramuscular

Evolution of recommendations for HPV vaccination in the United States



Quadrivalent (HPV 6,11,16,18) vaccine; Bivalent (HPV 16,18) vaccine

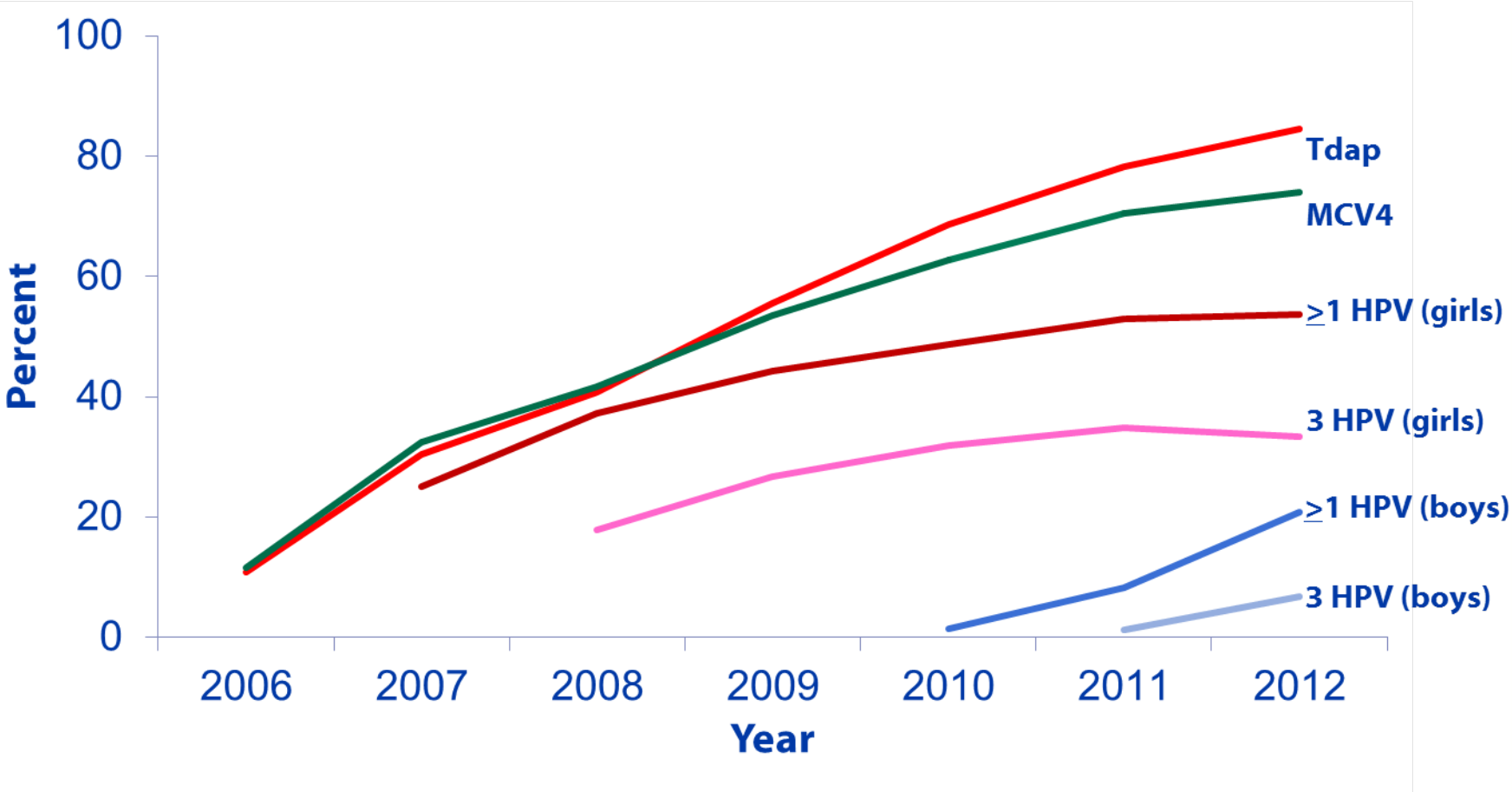
* Can be given starting at 9 years of age; ** For MSM and immunocompromised males, quadrivalent HPV vaccine through 26 years of age

US HPV Vaccination Program

- HPV is one of several vaccines recommended for the adolescent age group
- Majority of vaccines are administered in primary care provider offices and publicly funded clinics
- National survey of physicians found that 98% of pediatricians and 88% of family physicians stocked and administered HPV vaccine*
- Vaccine covered by most private health insurance companies and government insurance programs
- In 2011, 39.4% of adolescents 13-17 years of age were eligible for VFC vaccine

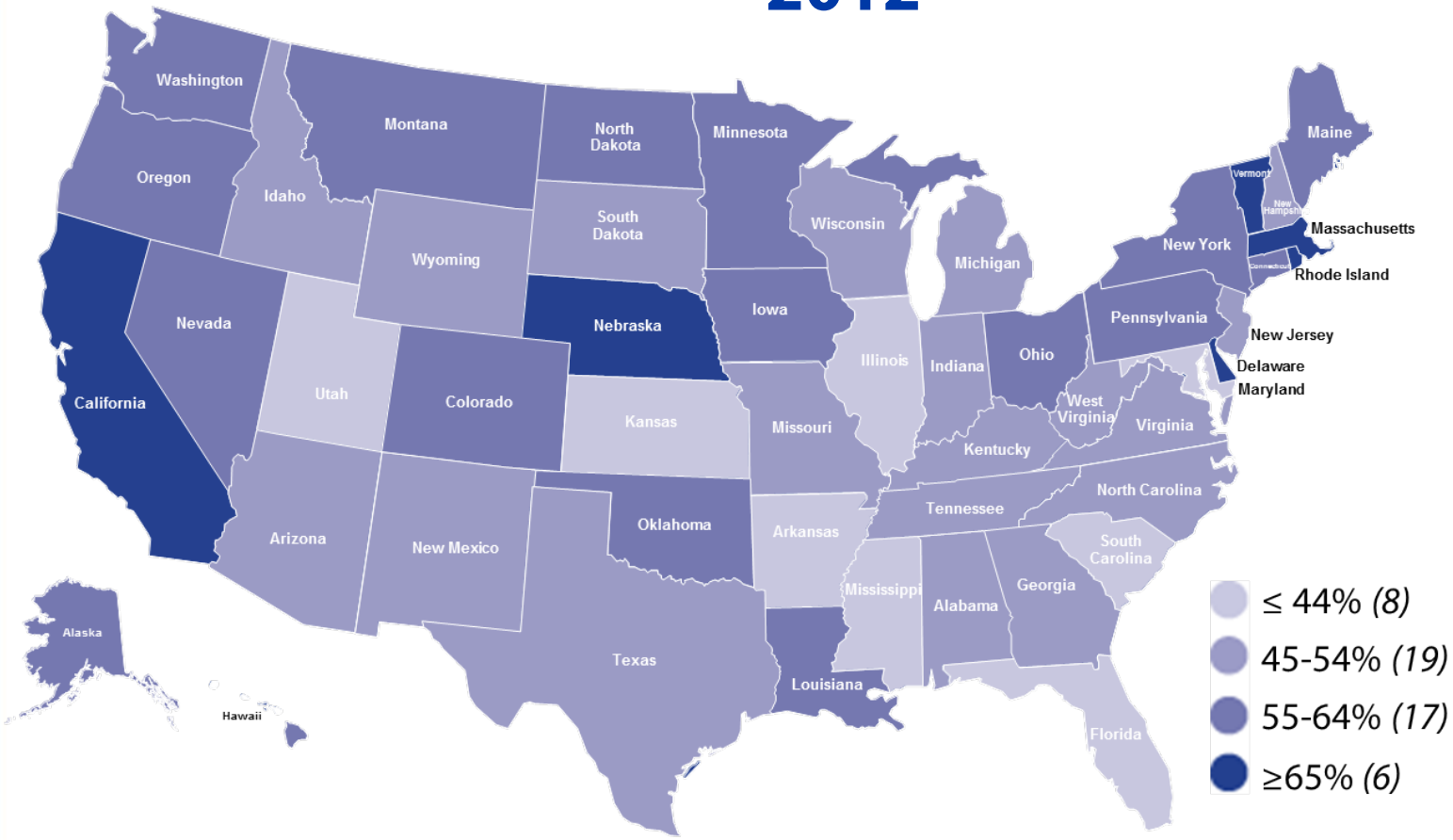
*Daley et al. Pediatrics. 2010;126:425-433.

National Estimated Vaccination Coverage Levels among Adolescents 13-17 Years, NIS-Teen 2006-2012



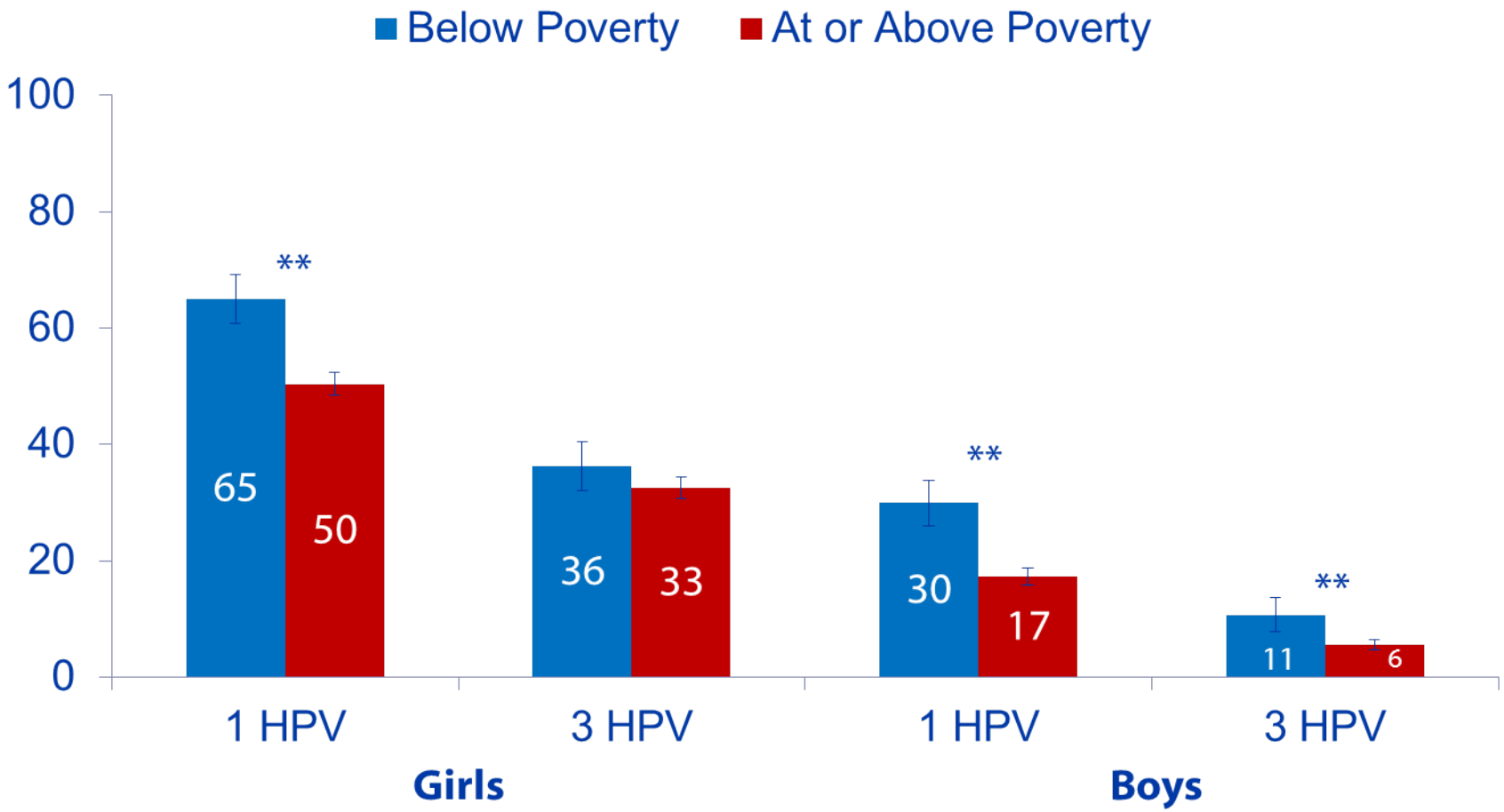
Source: MMWR. 2013;62;685-93

Coverage of 1 of More Doses of HPV among Adolescent Girls 13-17 Years by State, NIS-Teen 2012



Source: MMWR. 2013;62;685-93

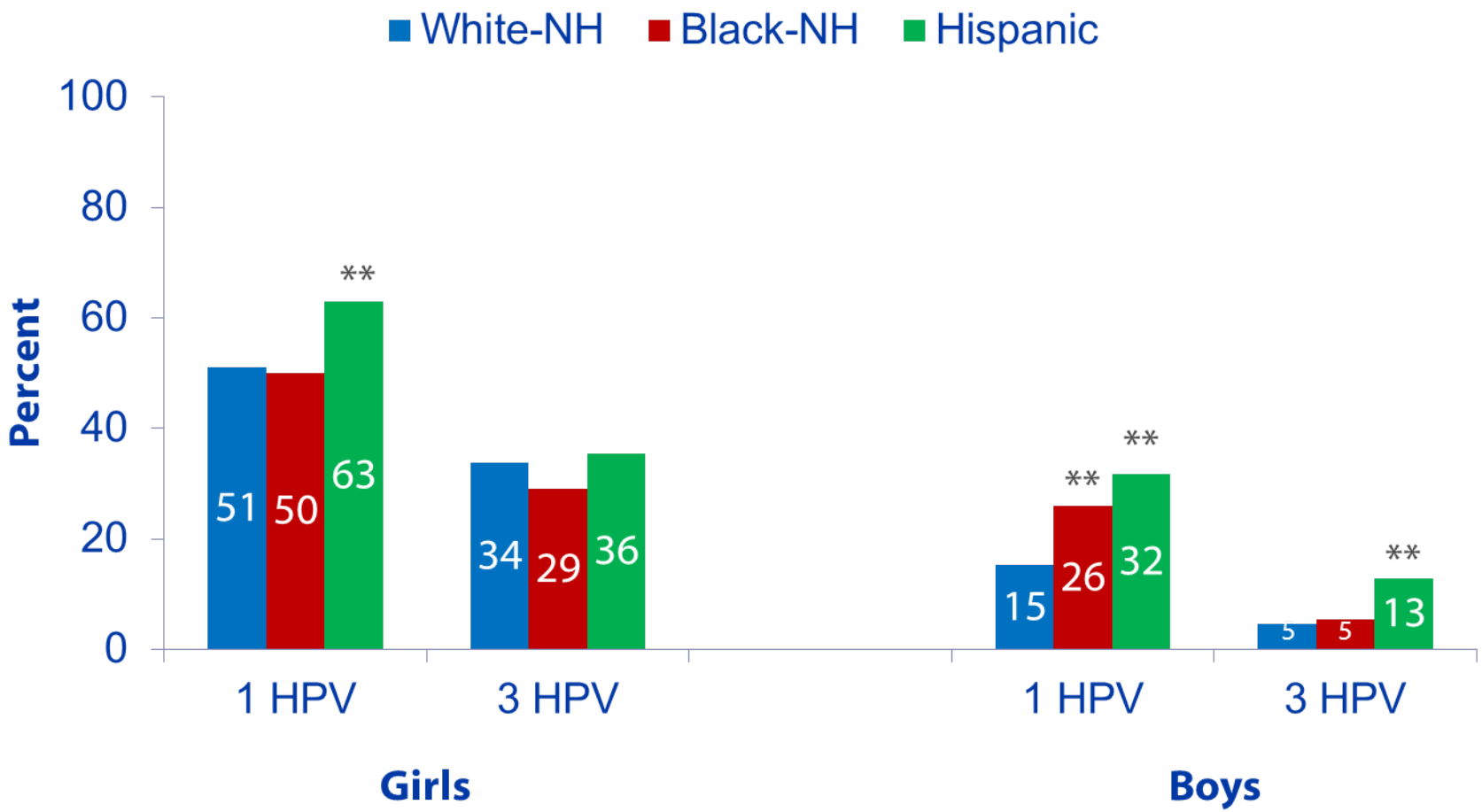
Vaccination Estimates among Adolescents 13-17 Years by Poverty Status, NIS-Teen 2012



** statistically different ($p<0.05$)

Source: MMWR. 2013;62;685-93

HPV Vaccination Estimates among Adolescent 13-17 Years by Race/Ethnicity, NIS-Teen 2012

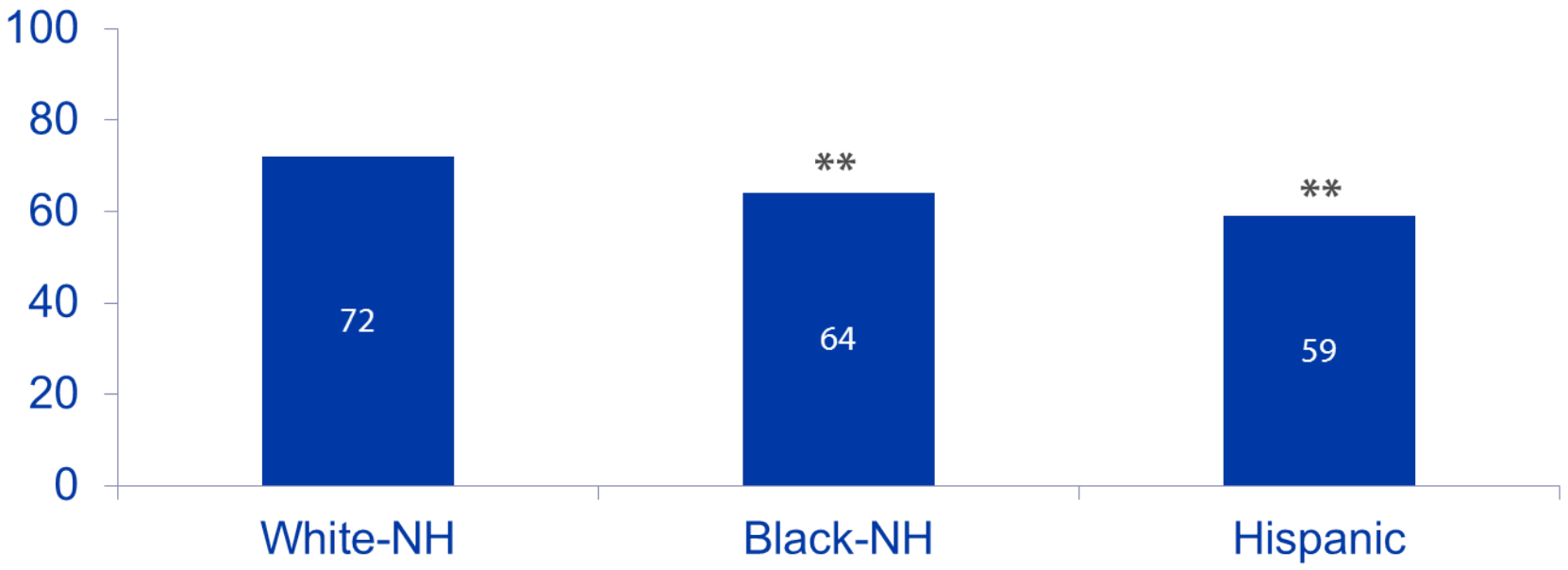


** Statistically different (P<0.05) from White-NH.

Source: MMWR. 2013;62;685-93

Completion of the HPV series

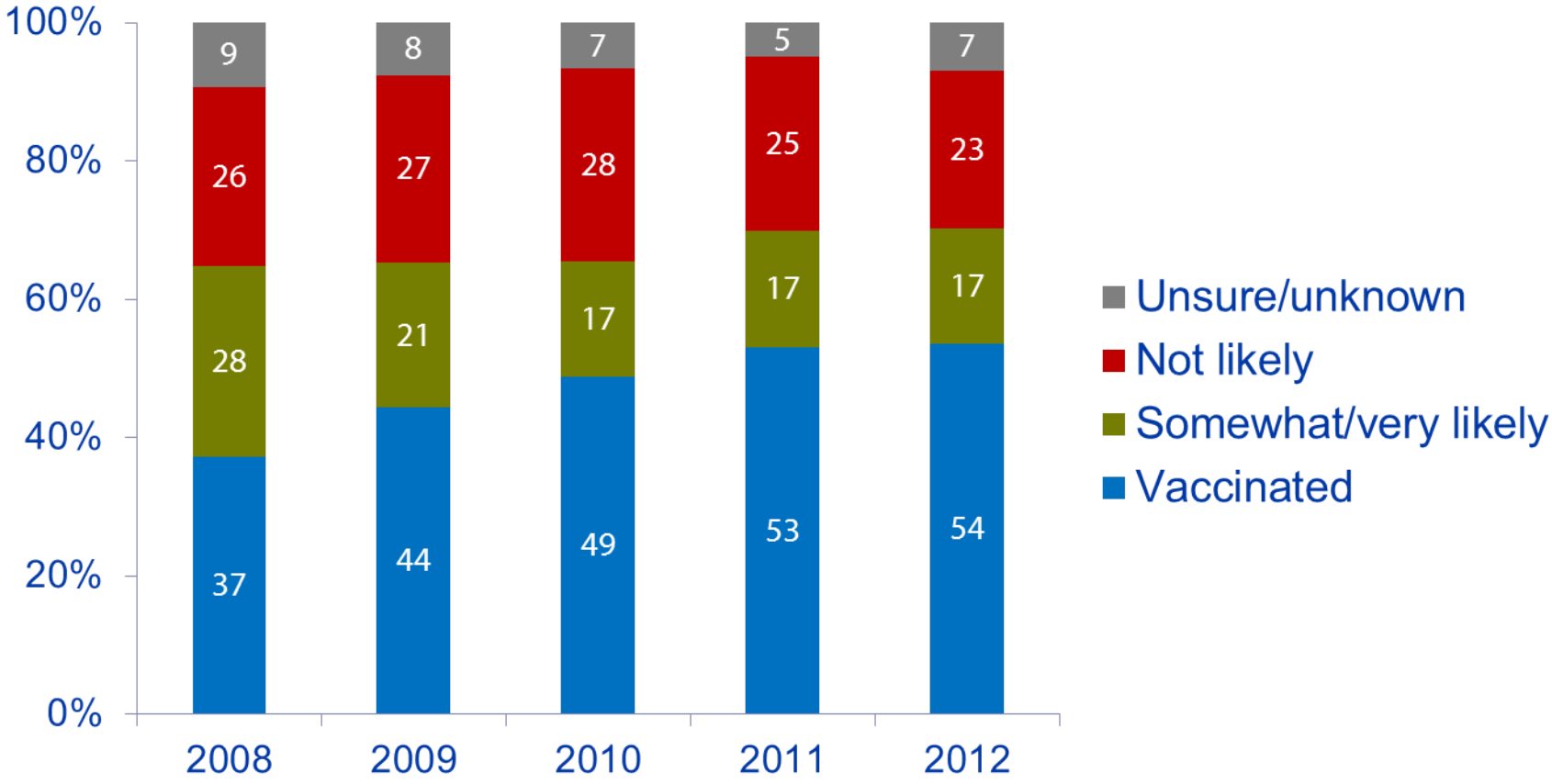
- **Completion: among the girls that started the series, the proportion that received all 3 doses**
  - Nationally, 67% of girls that start the HPV series, complete the series



** Statistically different (P<0.05) from White-NH.

Source: MMWR. 2013;62;685-93

HPV Vaccine Intentions (in the Next 12 Months) Among Parents of Adolescent Girls 13-17 Years, NIS-Teen

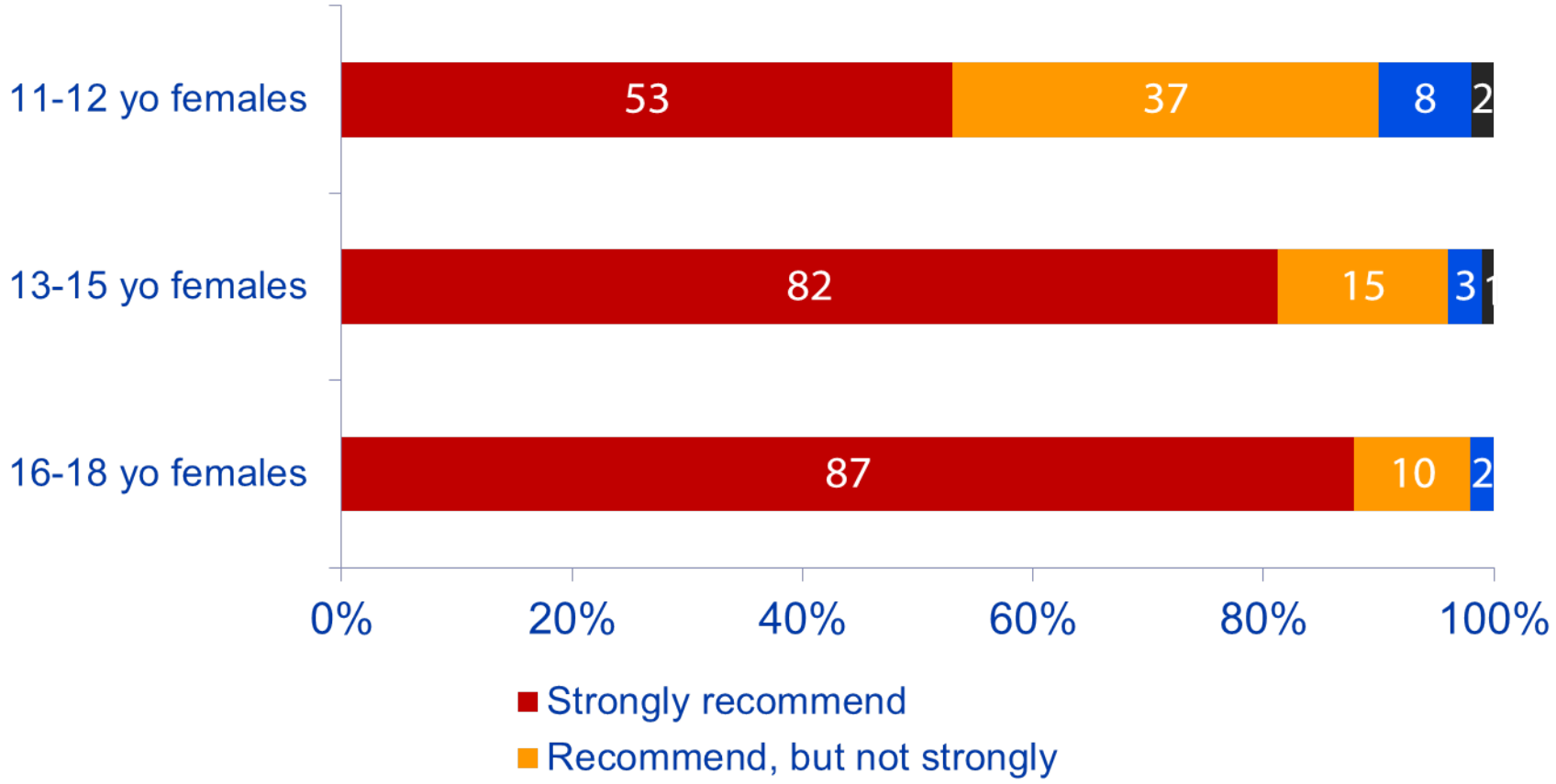


Top 5 reasons for not vaccinating daughter, among parents with no intention to vaccinate in the next 12 months, NIS-Teen 2012

Reason	Percent
Not needed or necessary	19.1%
Not recommended by provider	14.2%
Safety concern/side effects	13.3%
Lack of knowledge	12.6%
Not sexually active	10.1%

MMWR. 2013; 62:591-5

Current Strength of Recommendation in Females, Pediatricians and Family Physicians (N=609)*



Allison et al. Academic Pediatrics. 2013;13:466-74.

Factors that influence parental decisions to vaccinate their adolescents by HPV vaccination status, NIS-Teen 2010

Factor	Vaccinated (%)	Not Vaccinated (%)
At visits made for [TEEN]'s vaccinations, did his/her healthcare provider:		
Talk to you about the vaccine	89.6	68.4*
Recommend the vaccine	87.8	54.4*

*Significantly different ($p<0.05$)

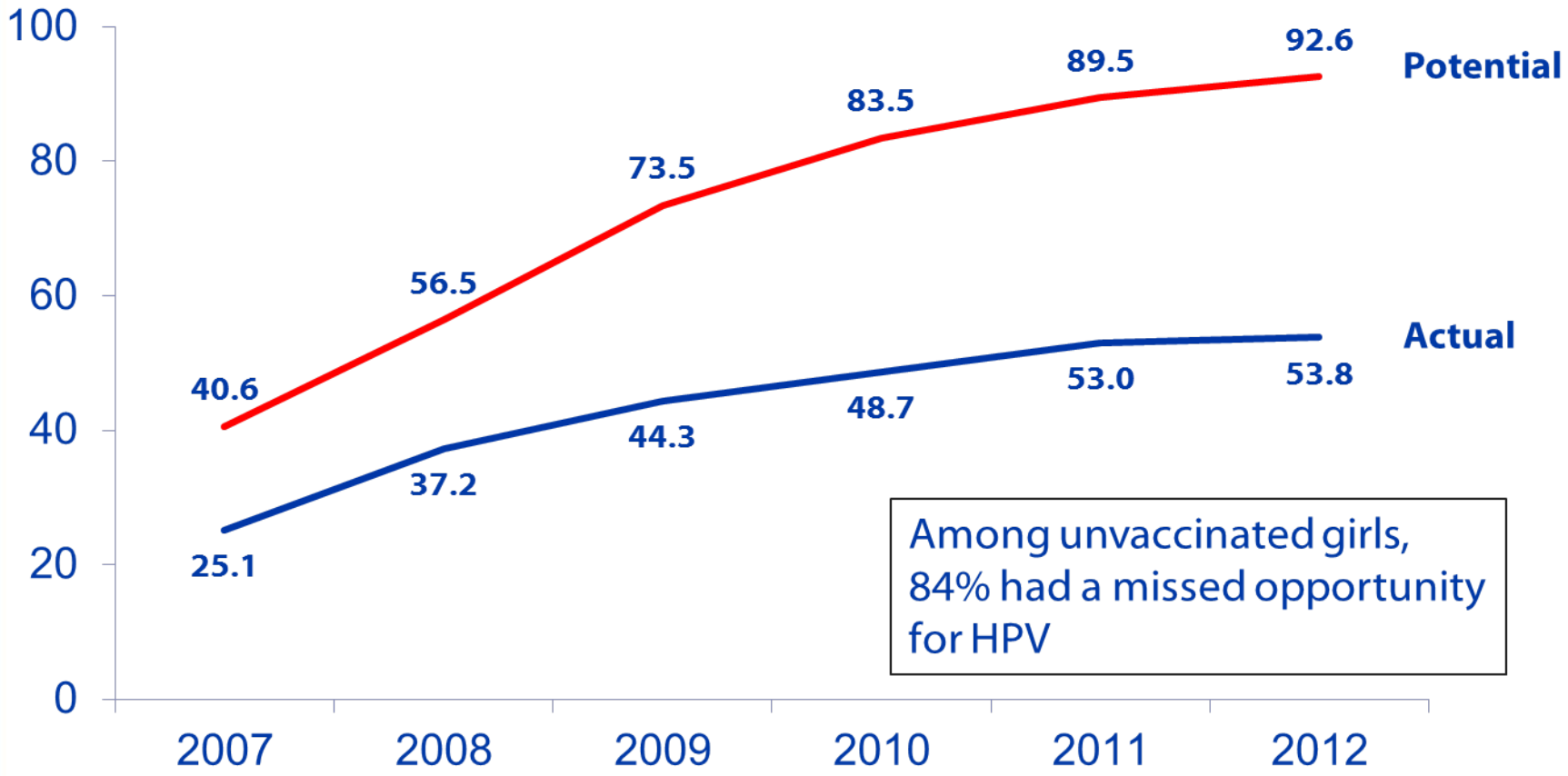
Dorell et al. Clinical Pediatrics. 2012. DOI: 10.1177/0009922812468208

HPV Vaccine Communications During the Healthcare Encounter

- HPV vaccine is often presented as ‘optional’ whereas other adolescent vaccines are recommended
- Some expressed mixed or negative opinions about the ‘new vaccine’ and concerns over safety/efficacy
- When parents expressed reluctance, providers were hesitant to engage in discussion
- Some providers shared parents’ views that teen was not at risk for HPV and could delay vaccination until older

Goff S et al. Vaccine 2011;10:7343-9
Hughes C et al. BMC Pediatrics 2011;11:74

Actual and potentially achievable vaccination coverage of ≥1 HPV among adolescent girls if missed opportunities* were eliminated, NIS-Teen



*Missed opportunity defined as having a healthcare encounter where at least one vaccine was administered but HPV was not

MMWR. 2013; 62:591-5

Summary

- **Progress with improving HPV vaccination coverage among U.S. adolescent girls has stalled**
- **Vaccination coverage among boys is increasing**
- **Main reasons parents give for vaccinating daughters indicate lack of awareness/gaps in understanding need for vaccination**
- **Primary care providers are key to help increase vaccination coverage**
  - Provide strong recommendations
  - Do not delay vaccination
  - Implement evidence-based strategies to improve vaccine delivery
  - Prevent missed vaccination opportunities

CDC Activities

- Funding Opportunity Announcement for federal immunization awardees to conduct targeted activities to increase HPV coverage
- Initiating study to improve physicians' communication skills and comfort level with talking about and recommending HPV vaccines
- Research-based outreach and education to parents to improve awareness and vaccine uptake

Additional CDC Communication Activities

- Developed TIPS sheet for clinicians (http://www.cdc.gov/vaccines/who/teens/for-hcp-tipsheet-hpv.html)
- Created speakers bureau of HPV-related cancer specialists to present to pediatricians and family physicians on the importance of HPV vaccination
- Other outreach activities to clinicians include CME/CNE/CE courses and collaboration with medical professional societies

HPV and HEDIS

- **Proposed measure for HPV**
  - Percentage of female adolescents 13 years of age who had three doses of the HPV vaccine by their 13 birthday
- **Measure has been tested for 2 years**
- **Final decision on the measure will occur mid-September**
- **HEDIS currently has reportable measures for Tdap and meningococcal conjugate vaccine (receipt by age 13 years)**

Thank you

For more information please contact Centers for Disease Control and Prevention

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Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: http://www.cdc.gov