

# Adolescent Vaccination Coverage Update National Immunization Survey-Teen

Sarah Reagan-Steiner, MD, MPH  
Immunization Services Division  
National Center for Immunization and Respiratory  
Diseases

AIM Promising Practices Webinar  
September 18, 2014

# Outline

- ❑ **National Immunization Survey (NIS)-Teen objectives**
- ❑ **NIS-Teen methodology**
- ❑ **2013 vaccination coverage estimates**
- ❑ **Other applications of NIS-Teen data**

## NIS-Teen Objectives

- ❑ **Assess national, state and selected local area vaccination coverage**
  - Adolescent vaccines: Tdap, HPV, MenACWY
  - Catch-up vaccines: MMR, Varicella and Hepatitis B
- ❑ **Monitor vaccination coverage trends and progress towards *Healthy People 2020* objectives**
- ❑ **Identify disparities in vaccination coverage by selected socio-demographic characteristics**
- ❑ **Evaluate and refine ongoing strategies to improve vaccination coverage**
- ❑ **Monitor the introduction of new vaccines**

Tdap = Tetanus, diphtheria, acellular pertussis, HPV = Human papillomavirus, MenACWY= Meningococcal conjugate, MMR=measles, mumps, rubella

## **NIS-Teen Methodology**

- ❑ **Annual survey implemented in 2006**
  - Expanded in 2008 to obtain state and local level estimates
- ❑ **Uses National Immunization Survey (NIS) sample frame methodology**
  - Random digit dial telephone survey (landline and cell phone)
  - National sample of parents of adolescents aged 13-17 years
  - Provider record check mailed to verify vaccination history
  - Data are weighted to adjust for non-response and phoneless households
- ❑ **All analyses limited to adolescents with provider reported vaccination histories**

# NIS-Teen Data Collection

## ❑ Household questionnaire

- Socio-demographic characteristics (teen, maternal and household)
- Health insurance status
- Vaccination behavior, knowledge and intentions
- Receipt of provider recommendation
- Healthcare utilization (e.g., well-child visit at 11-12 yrs, healthcare visits in past year)

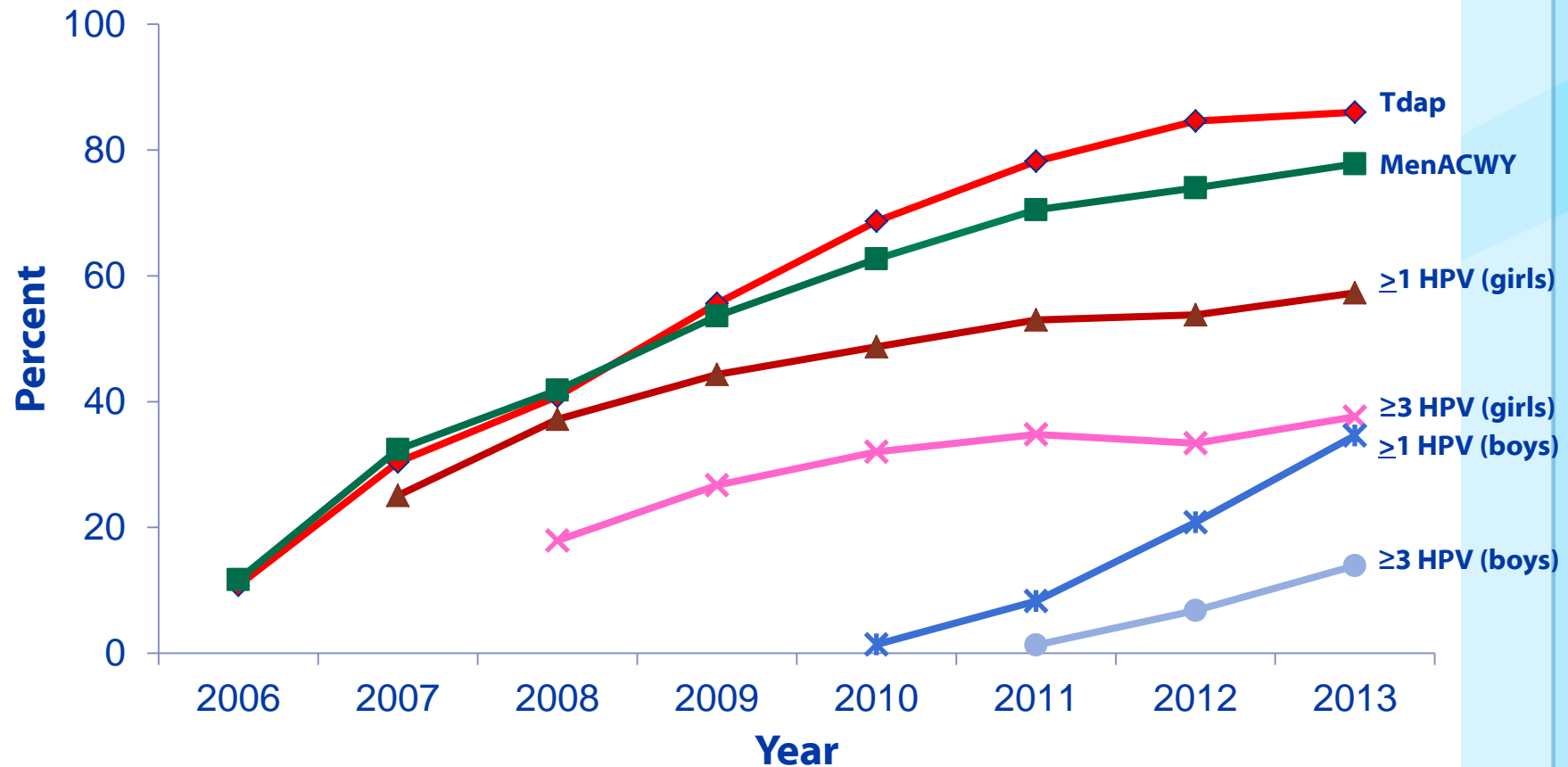
## ❑ Provider record check questionnaire

- Teen vaccination history (types, dates administered)
- Provider characteristics (e.g., physician specialty, type of facility)

## 2013 NIS-Teen Results

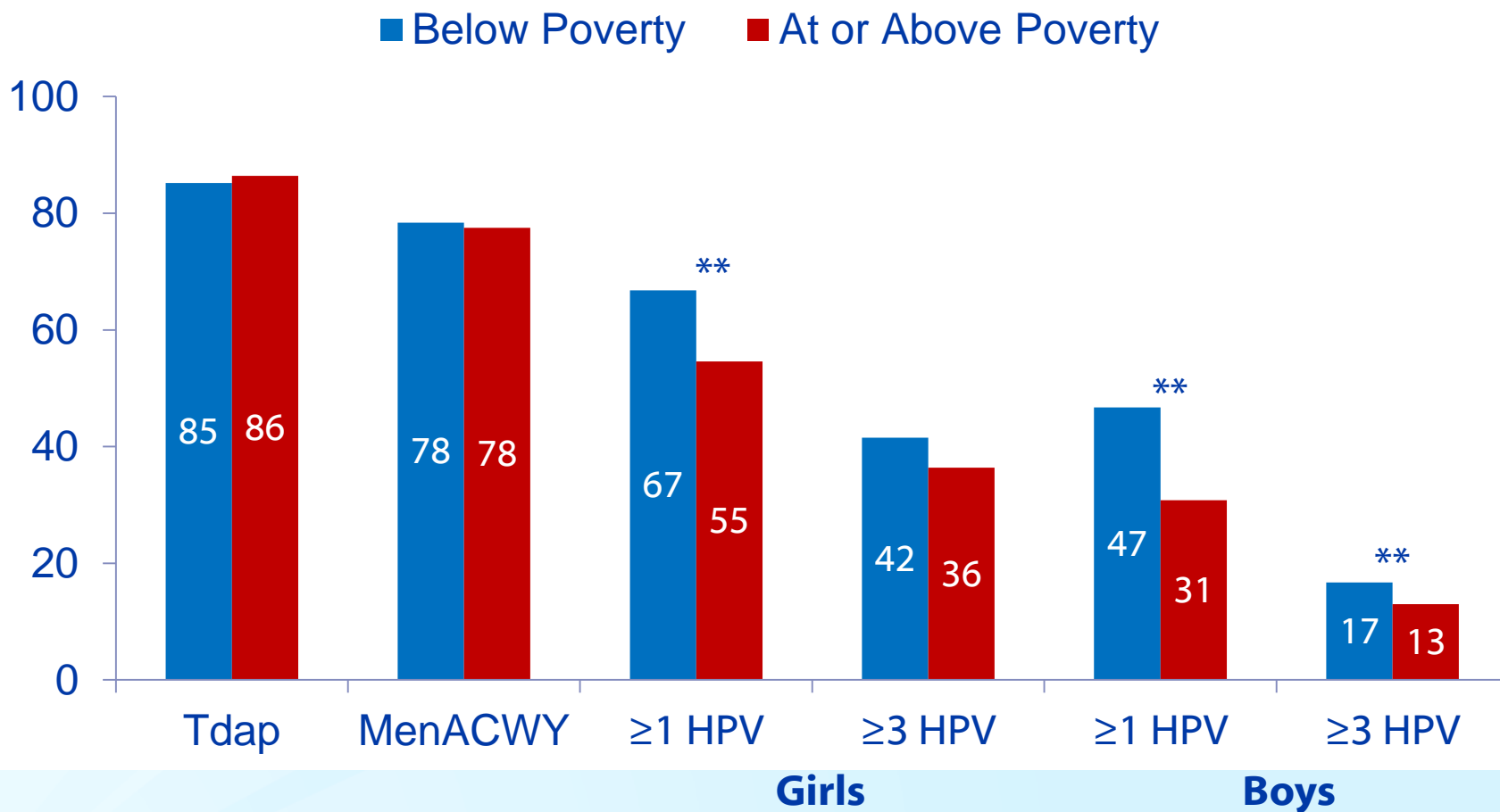
- ❑ **CASRO response rates:**
  - 51.1% for landline sample
  - 23.3% for cell phone sample
- ❑ **Adequate provider data available for 18,264 adolescents**
  - 59.5% of landline interviews (6,039 adolescents)
  - 54.5% of cellphone interviews (12,225 adolescents)

# National Estimated Vaccination Coverage Levels among Adolescents 13-17 Years, NIS-Teen 2006-2013



Source: MMWR. 2014;63;625-33

# Vaccination Estimates among Adolescents 13-17 Years by Poverty Status, NIS-Teen 2013

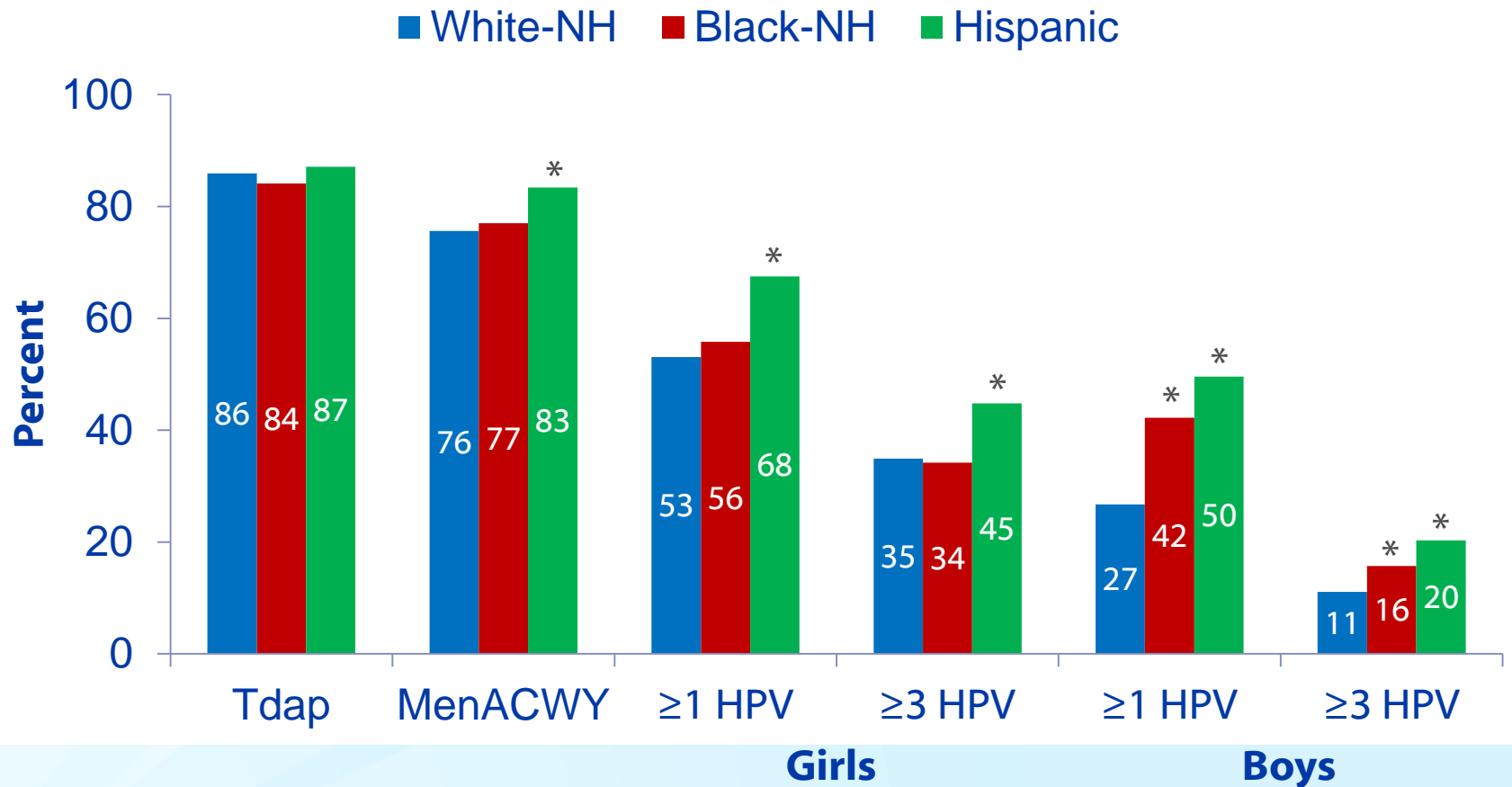


\*\* statistically different (p<0.05)

Source: MMWR. 2014;63;625-33



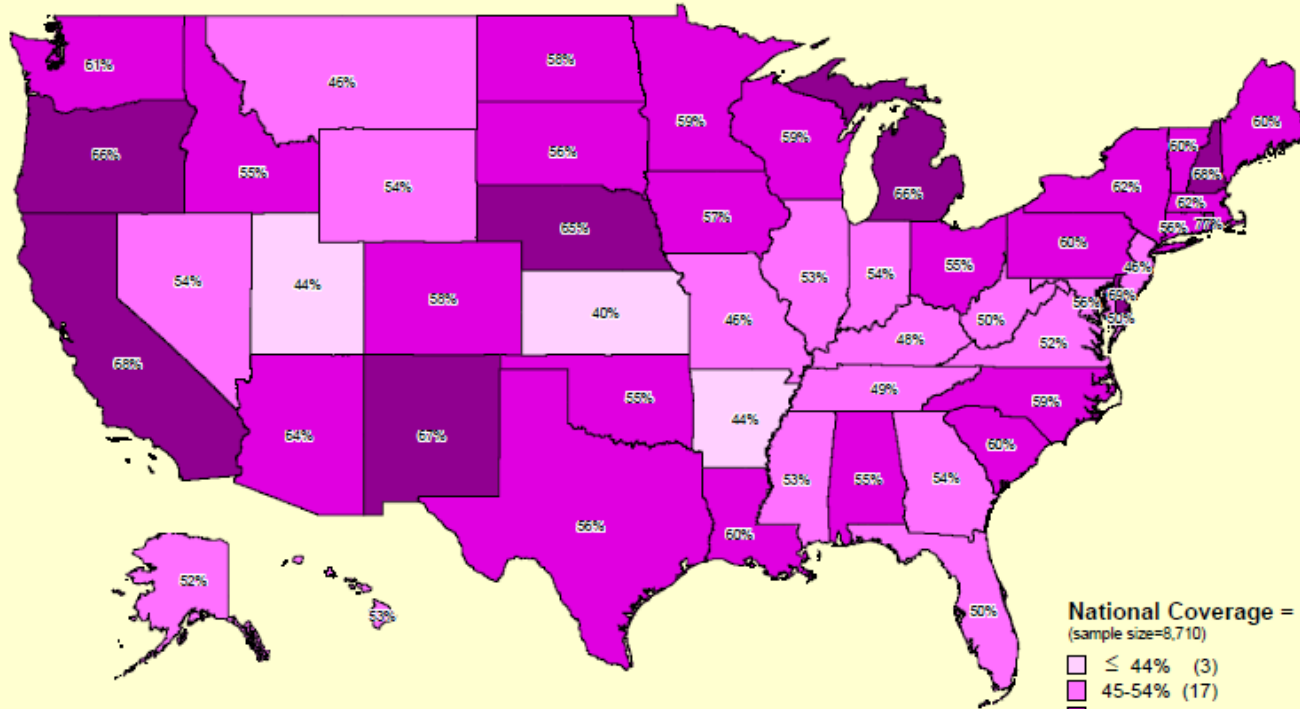
# HPV Vaccination Estimates among Adolescent 13-17 Years by Race/Ethnicity, NIS-Teen 2013



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

Source: MMWR. 2014;63;625-33

**Estimated Vaccination Coverage of  $\geq 1$  Doses of HPV Vaccine\*  
Among Female Adolescents Aged 13-17 Years†, National Immunization Survey - Teen,  
United States, 2013**



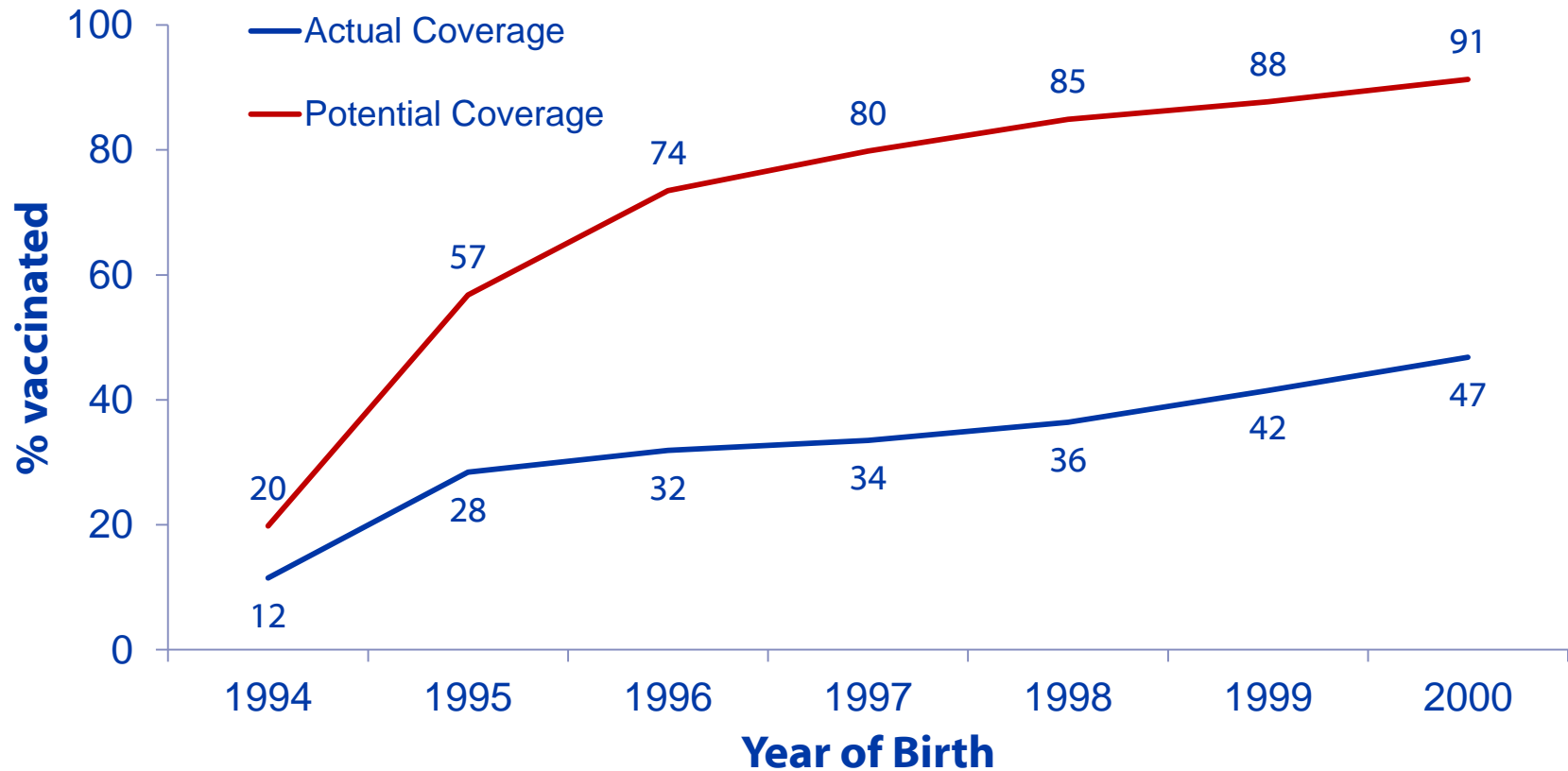
**National Coverage = 57%**  
(sample size=8,710)

- $\leq 44\%$  (3)
- 45-54% (17)
- 55-64% (23)
- $\geq 65\%$  (8)

\*Human Papillomavirus (HPV) Vaccine, either quadrivalent or bivalent. Percentages reported among females only.  
†Includes female adolescents born January 1995 through February 2001



## Actual and potentially achievable vaccination coverage of $\geq 1$ HPV vaccine by age 13 years among adolescent girls if missed opportunities\* were eliminated, NIS-Teen 2007-2013 combined

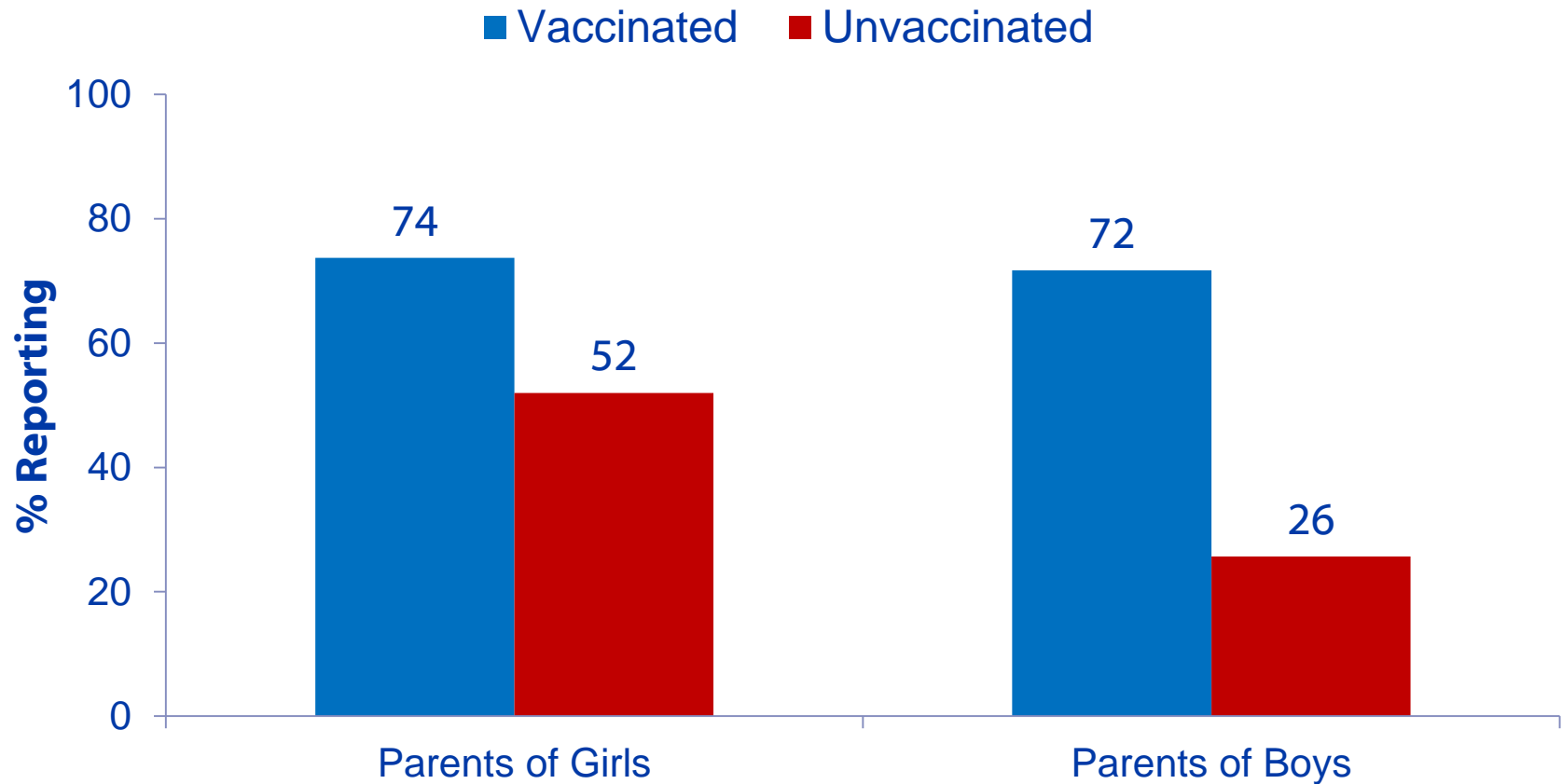


\*Missed opportunity defined as having a healthcare encounter where at least one vaccine was administered but HPV was not  
MMWR. 2014; 63:620-4

## Top 5 reasons for not vaccinating adolescents with HPV vaccine – NIS-Teen 2013

Reason	Parents of Boys	Parents of Girls
Not Recommended	22.8	13.0
Not needed or necessary	17.9	14.7
Lack of knowledge	15.5	15.5
Not sexually active	7.7	11.3
Safety concern/Side Effects	6.9	14.2

# Percent of parents reporting that they received an HPV vaccine recommendation from their health-care provider, NIS-Teen 2013



## Summary of 2013 NIS-Teen findings

- ❑ **Vaccination coverage significantly increased between 2012 and 2013 for all vaccines recommended for adolescents**
  - HPV vaccination coverage remains low
- ❑ **For some vaccines, coverage is significantly higher for:**
  - Teens living below the poverty level (HPV vaccine)
  - Racial/ethnic minorities (MenACWY, HPV vaccine)
- ❑ **Missed vaccine opportunities are common for HPV vaccine**
- ❑ **A recommendation for HPV vaccine is important**
  - HPV vaccine should be recommended on the same day and in the same way as other recommended vaccines

## Other Key NIS-Teen Findings

- ❑ **Higher rates of HPV vaccine delay or refusal in girls who are non-Hispanic white, live in households with higher income, or are privately-insured <sup>1</sup>**
- ❑ **Fifty-seven percent of girls initiating HPV series did so prior to age 13, and 46% did not complete series on-time <sup>2</sup>**

# Immunization Program Opportunities

- ❑ **Sampling additional areas of interest to obtain additional local area vaccination coverage estimates**
- ❑ **NIS-IIS match to evaluate completeness and quality of IIS vaccination histories vs. NIS**



# Acknowledgements

- ❑ **Laurie Elam-Evans**
- ❑ **Jim Singleton**
- ❑ **Shannon Stokley**

# Thank you

sor1@cdc.gov

**For more information please contact Centers for Disease Control and Prevention**

1600 Clifton Road NE, Atlanta, GA 30333

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

E-mail: [cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov) Web: <http://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.