# Increasing HPV Vaccine Coverage in the United States

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# Outline of Presentation

- Brief review of timeline for ACIP's recommendations for HPV vaccination
- 2016 National Immunization Survey (NIS)-Teen results
- Brief review of some of the activities CDC has undertaken since 2013 to increase HPV vaccine coverage
- Current thoughts about strategies and scale

# Timeline of ACIP's Recommendations for HPV Vaccination

- **June 2006:** ACIP recommended HPV4 as a 3 dose series for females at age 11-12 years, with catch up for those 13-26 years who were not previously vaccinated. HPV4 can be given as young as age 9 years.
- **October 2009:** ACIP updated recommendations to include HPV2 for use in females and provided guidance that HPV4 could be used in males
- **October 2011:** ACIP recommended HPV4 as a 3 dose series for males at age 11-12 years, with catch up for those 13-21 years who were not previously vaccinated. HPV4 can be given to males 9-26 years of age.
- **February 2015:** ACIP updated recommendations to include HPV9 as a 3 dose series for use in both males and females.
- **October 2016:** ACIP recommended 2 doses of HPV vaccine, at least 6 months apart, for adolescents beginning the vaccine series before their 15$^{th}$ birthday and are immunocompetent, and 3-doses of HPV vaccine for persons 15-26 years of age or persons who are immunocompromised

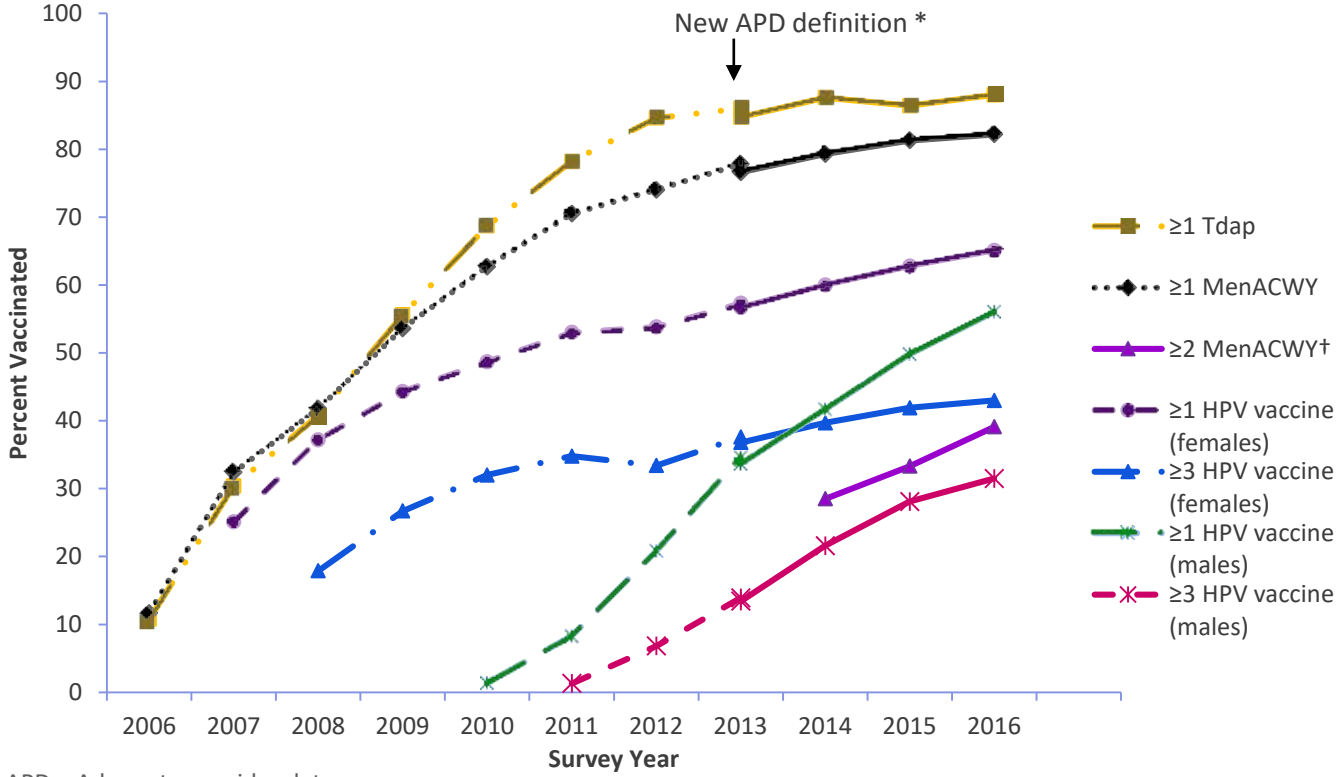
# National Immunization Survey (NIS)-Teen Methodology

- Conducted annually since 2006
- Conducted among parents and guardians of eligible adolescents identified using a random-digit–dialed sample of landline and cellular telephone numbers
- Two phases:
  - Household interview
  - Mailed survey to vaccination providers to collect vaccination history
- All vaccination coverage estimates based on provider-reported vaccination histories

# 2016 NIS-Teen New HPV Vaccine Coverage Measures

- HPV vaccine measure for females and males combined
  - to reflect the convergence of vaccination coverage among the two groups
- HPV up-to-date (HPV UTD) measure
  - to account for the revised HPV vaccination schedule.
  - HPV UTD includes
    - those who received ≥3 HPV vaccine doses, or
    - (1) those who received 2 HPV vaccine doses, (2) the first HPV vaccine dose was initiated before age 15 years, and (3) the interval between the first and second dose was at least 5 months minus 4 days.

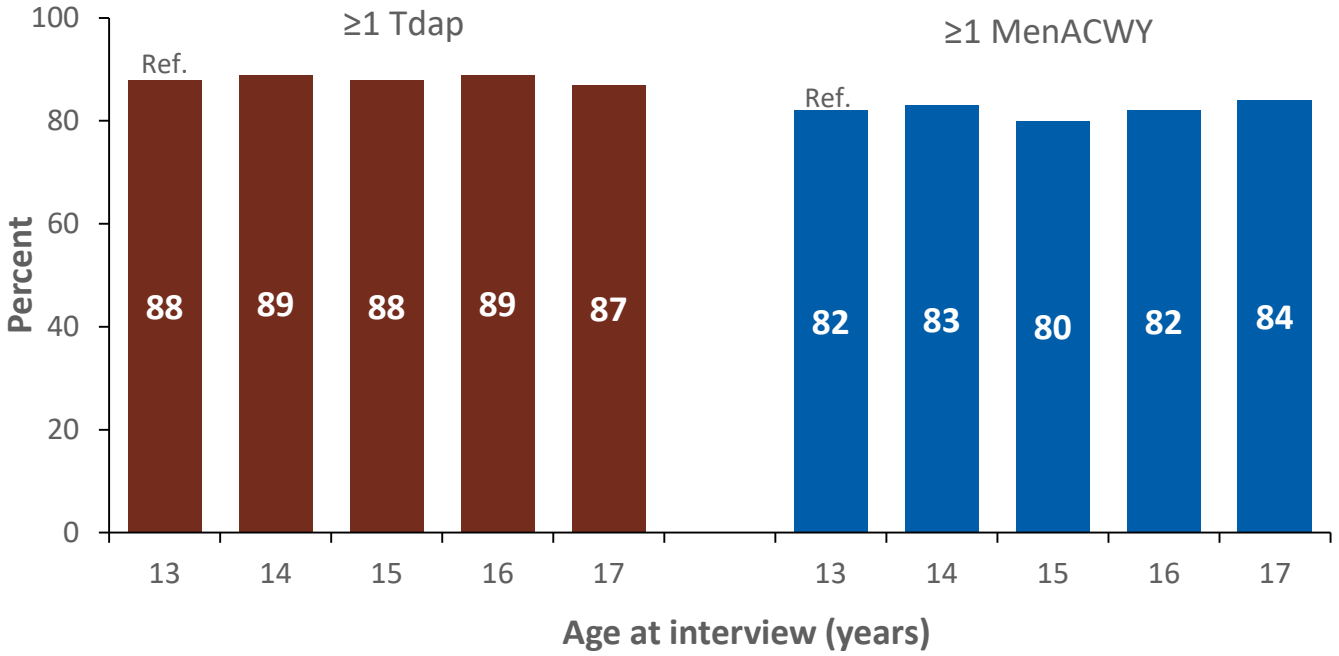
# Estimated Vaccination Coverage among Adolescents Aged 13-17 Years, NIS-Teen, United States, 2006-2016




* APD = Adequate provider data

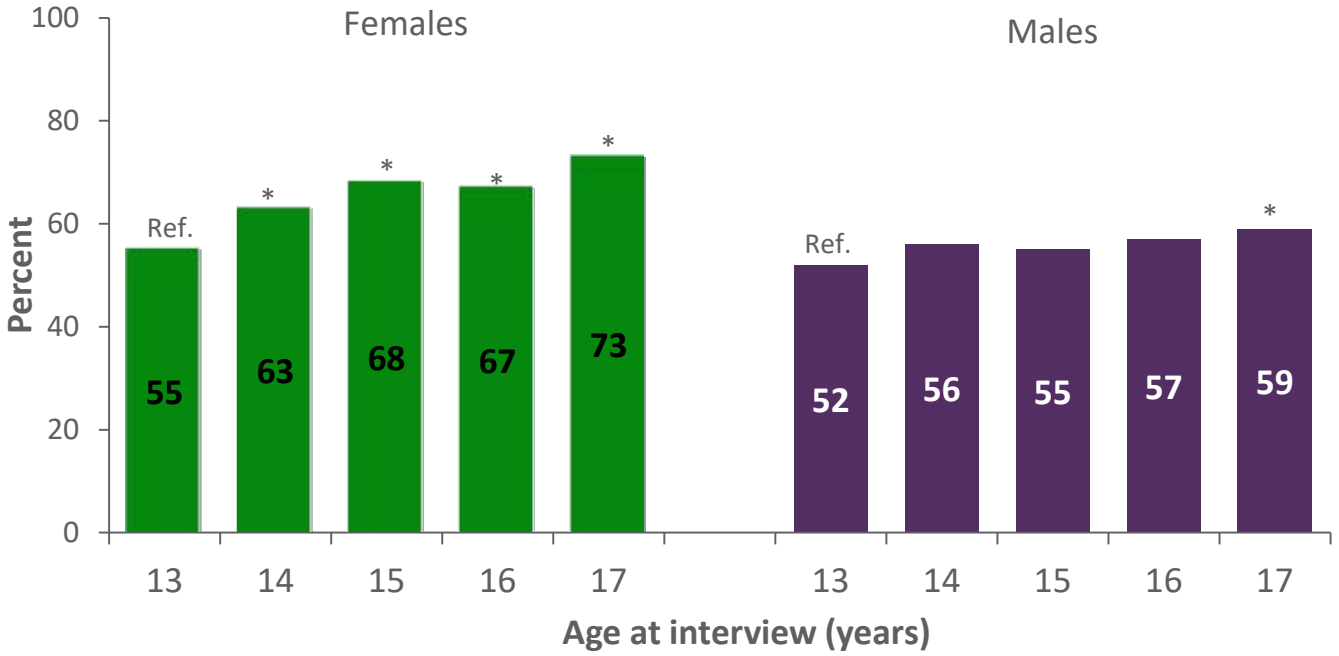
†≥2 doses MenACWY among adolescents aged 17 years

# Coverage with ≥1 Tdap and ≥1 MenACWY among Adolescents Aged 13-17 Years, by Age at Interview, NIS-Teen, United States, 2016



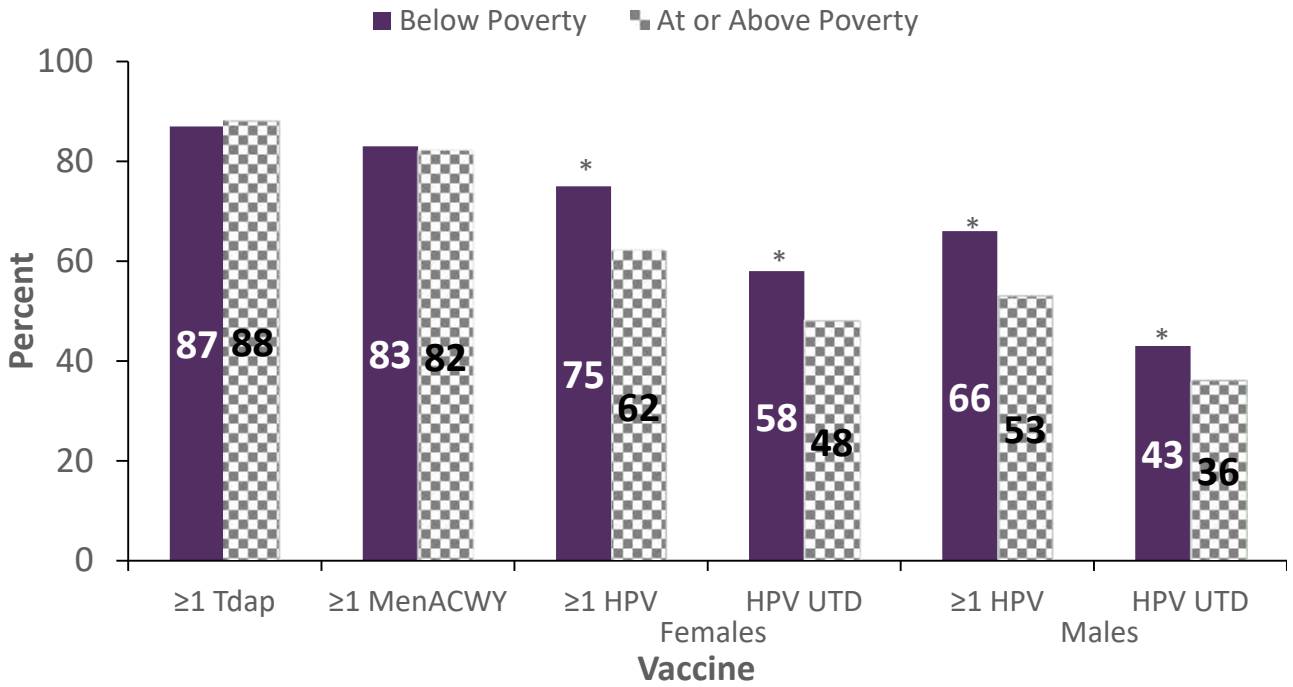

* Statistically different from adolescents aged 13 years at interview (p<0.05)

# Coverage with ≥1 HPV Vaccine Dose among Adolescents Aged 13-17 Years, by Age at Interview, NIS-Teen, United States, 2016




* Statistically different from adolescents aged 13 years at interview (p<0.05)

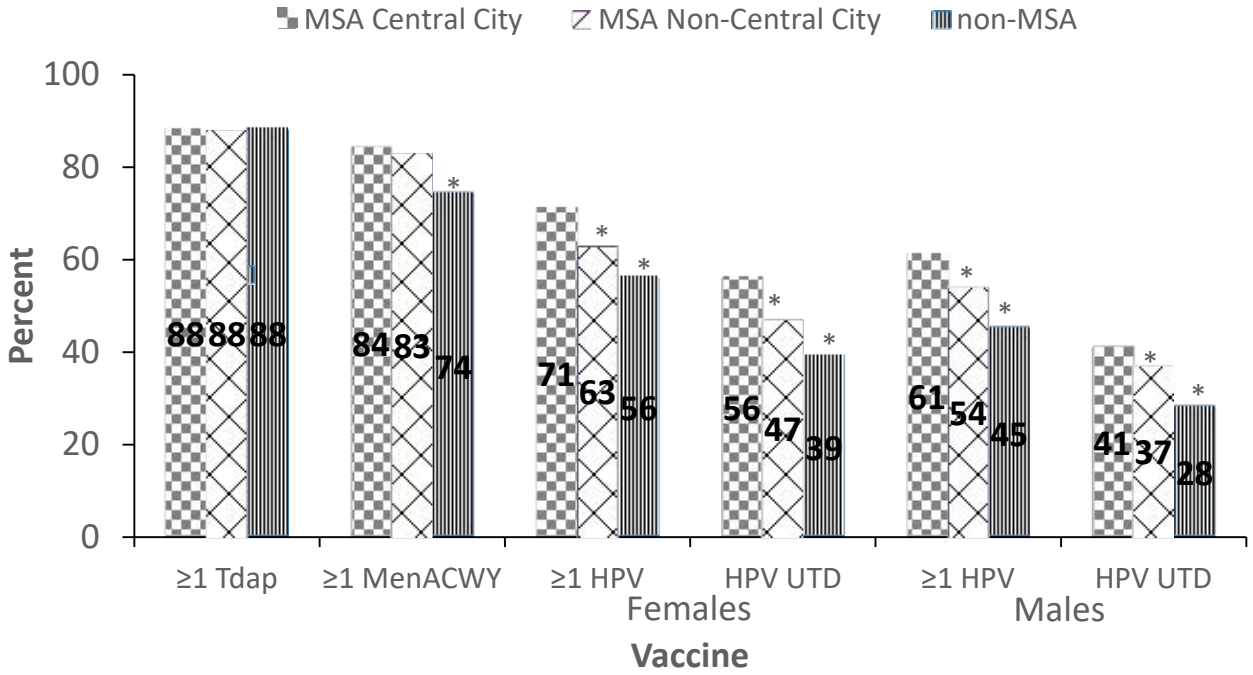
# Vaccination Coverage Estimates among Adolescents Aged 13-17 Years by Poverty Status, NIS-Teen, United States, 2016




* Statistically different from adolescents at or above the poverty level (p<0.05).

Adolescents with unknown poverty status (n=724) were excluded from analysis.

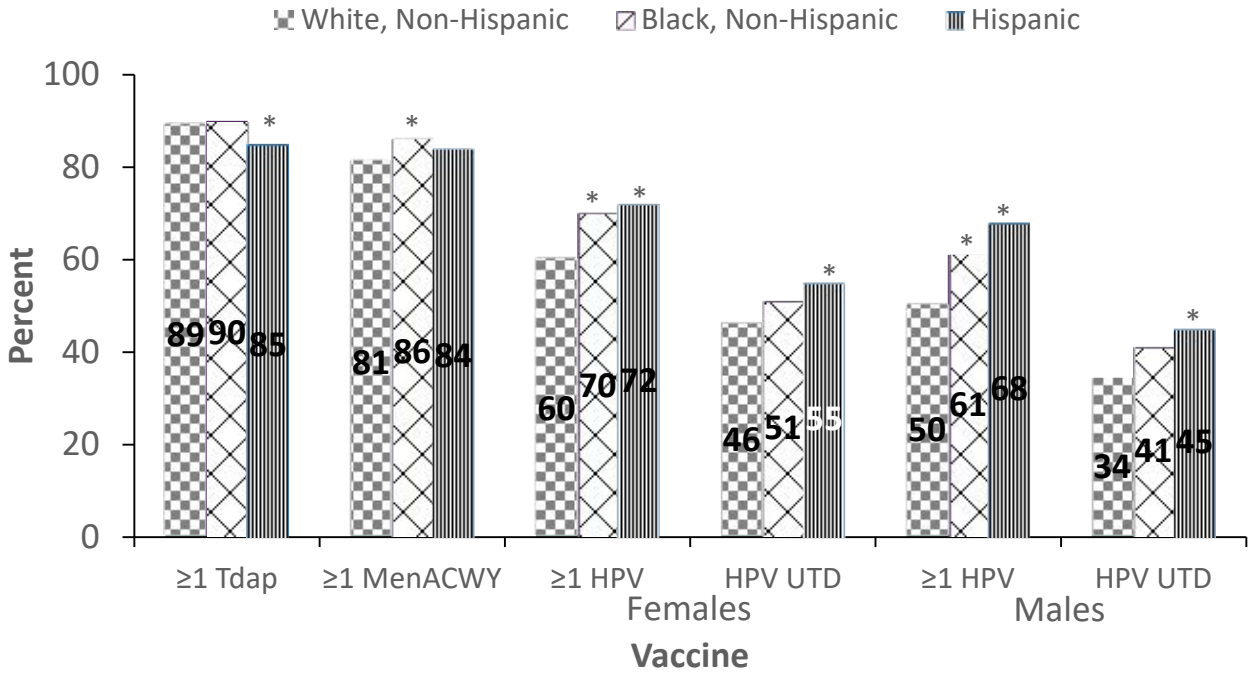
# Vaccination Coverage Estimates among Adolescents Aged 13-17 Years by MSA status, NIS-Teen, United States, 2016




MSA = Metropolitan statistical area

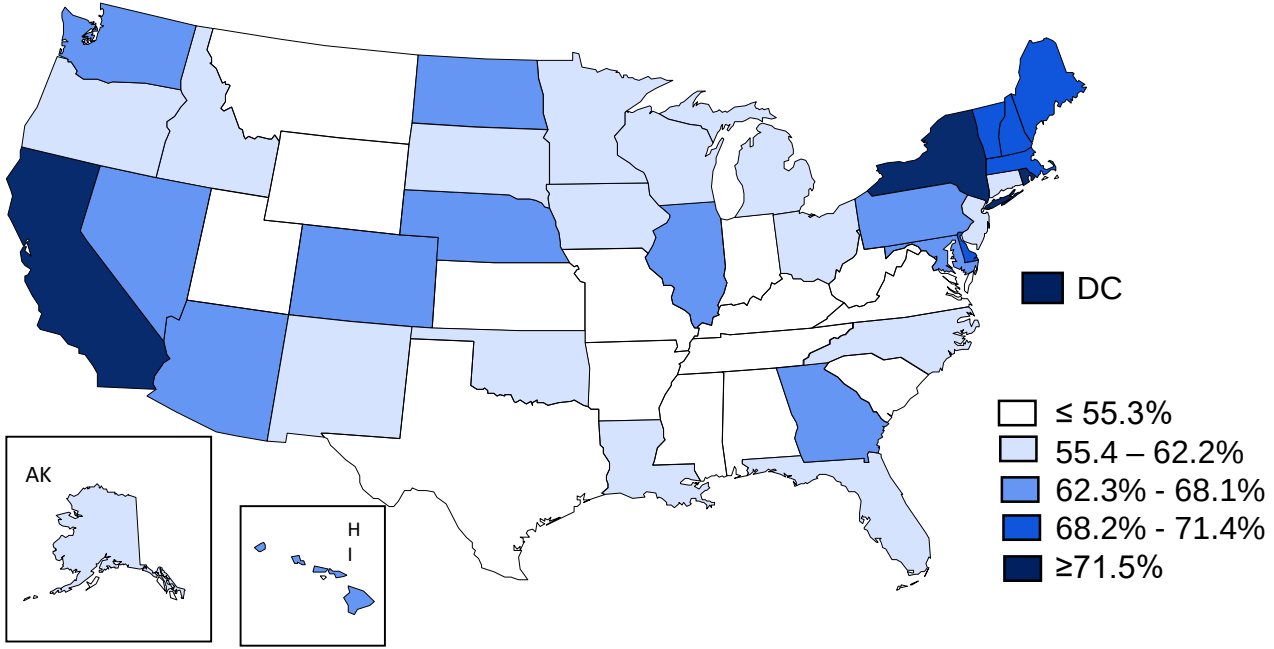
* Statistically different from adolescents living in MSA central cities ($p<0.05$).

# Vaccination Coverage Estimates among Adolescents Aged 13-17 Years by Race/Ethnicity, NIS-Teen, United States, 2016



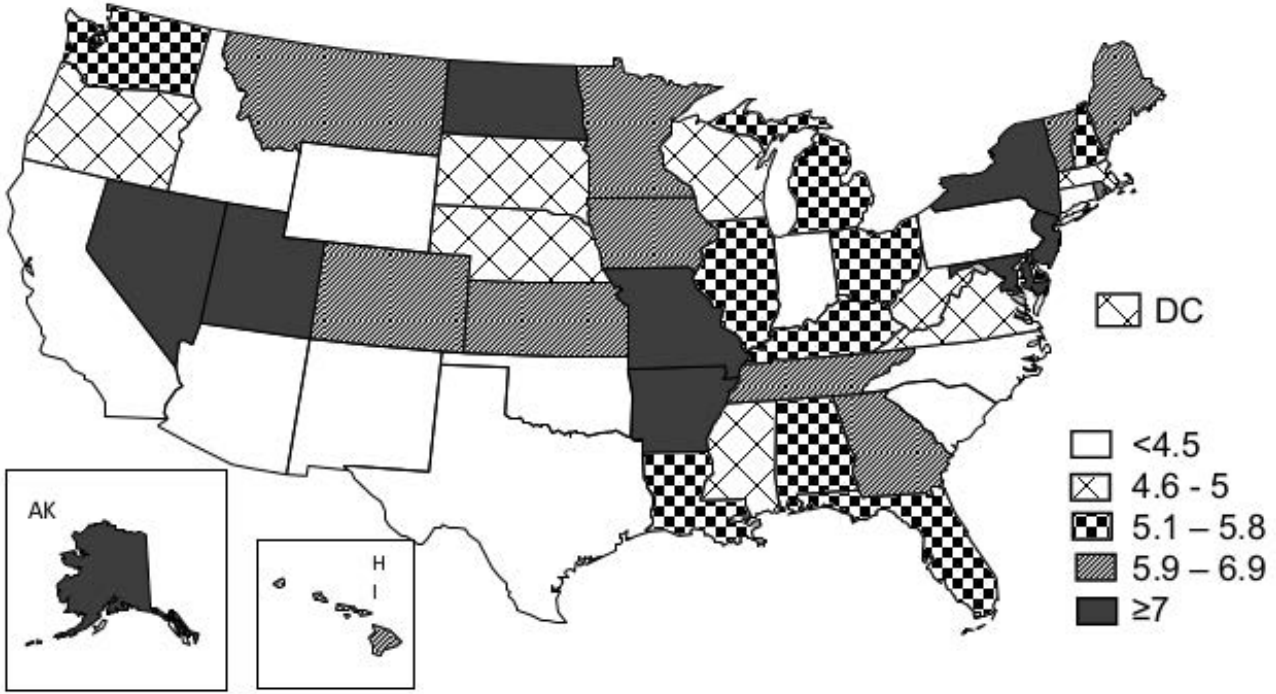

* Statistically different from White, Non-Hispanic adolescents ($p<0.05$).

# Estimated Vaccination Coverage with ≥1 HPV, Adolescents Aged 13-17 Years, NIS-Teen, United States, 2016




**Coverage ranged from 43.4% (Wyoming) to 88.9% (Rhode Island)**

# Average Annual Increase in Coverage with ≥1 HPV, Adolescents Aged 13-17 Years, NIS-Teen, United States, 2013-2016




**National Average Annual Increase = 5.0 percentage points**

The greatest statistically significant average annual increases were in New York City (7.7 percentage points), Nevada (7.6), Maryland (7.4), New York (7.2), and Alaska (7.1)

# Selected NCIRD-Supported Activities to Improve HPV Vaccine Coverage, 2013-2018

- Partner with national provider and quality improvement organizations
- National HPV Vaccination Roundtable (with CDC's Division of Cancer Prevention and Control)
- Multicomponent intervention to improve HPV vaccination in 22 jurisdictions
- Technical assistance to selected states to
  - Support stakeholder engagement
  - Develop statewide plans
  - Implement effective strategies
- NACCHO partnership
- Support health services research in large health systems
- Communications campaigns targeting both providers and parents of pre-teen children

**Clinicians**

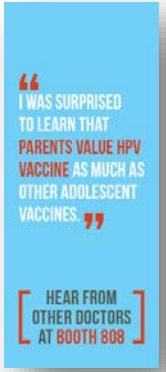
8 Research Studies Conducted
7 CEU Activities Produced
3 Medscape Commentaries
5 Clinician Factsheets
8 Posters for Clinics
1 Infographics
3 Broadcast Quality Videos
10+ Print Ads
Numerous Digital Ads

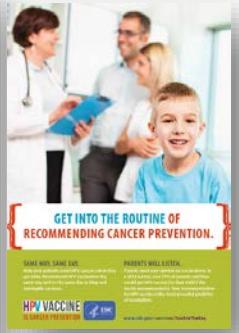
**Parents**

9 Research Studies Conducted
1 Easy-to-Read Schedule
6 Parent Factsheets
6 Broadcast Quality Videos
14 Radio PSAs
4 Print Ads
1 Infographic
5 CDC Features
Numerous Digital Ads

**All Audiences**

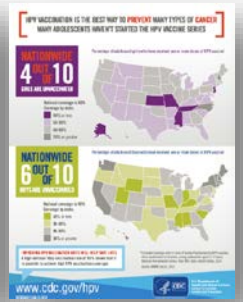
4 Broadcast Quality Videos
10 Drop-In Articles
1 Partner Toolkit
1 Infographic

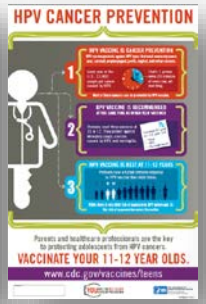


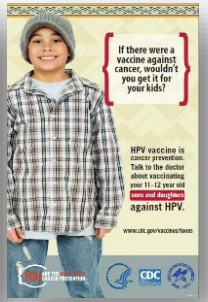











https://www.cdc.gov/hpv/

# HEDIS Measures for HPV Vaccine Coverage

- CDC partnered with the National Committee for Quality Assurance (NCQA) to develop a HEDIS measure for HPV vaccination coverage of girls
  - Proportion of girls who have received three doses of HPV vaccine by their 13th birthday
- The measure was first publicly reported in HEDIS 2014 (MMWR 2015)
- The NCQA/HEDIS was included Core Set of Children's Health Care Quality Measures for Medicaid and CHIP in FY2014
- CDC partnered with NCQA to update the measure:
  - HEDIS 2017: include receipt of 3 doses of HPV vaccine by age 13 in the Adolescent Immunization measure
  - HEDIS 2018: align with the ACIP's recommendation for a 2 dose series

# Improving HPV Vaccine Coverage in the United States

- Provider-level interventions are effective, but difficult to bring to scale
- Ongoing engagement and coalition-building at the national, state, and local level continues to be important
- Updated Adolescent Immunization measure in HEDIS 2018 provides an opportunity for systems interventions
  - State level:  encouraging state planning efforts to include major payers and health systems, including Medicaid managed care organizations
  - National level:  including HPV vaccine coverage in conversations with national payers, the health systems sector, and Medicaid

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