

# Update on Activities to Improve HPV Vaccination Coverage

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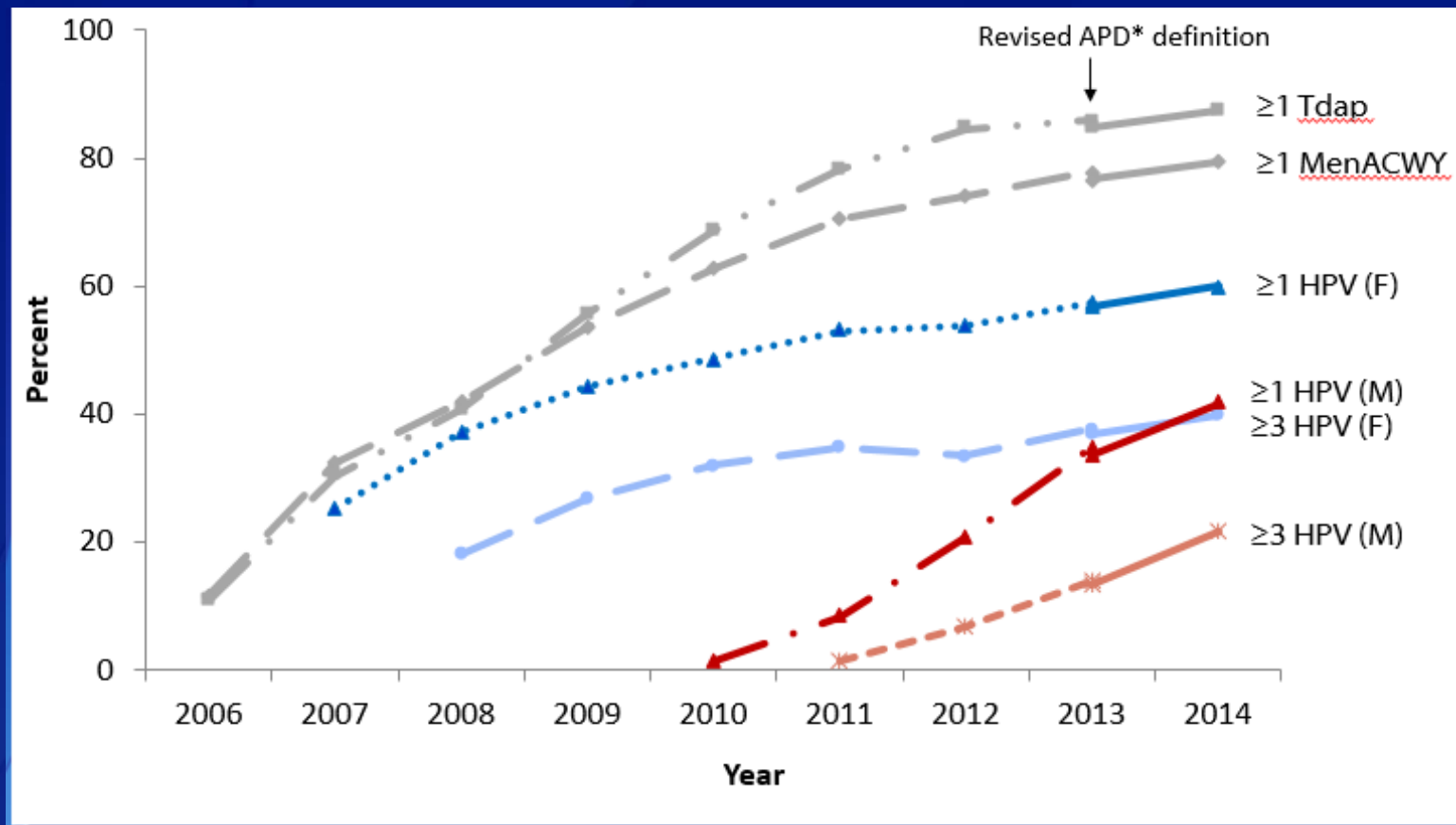


National Center for Immunization and Respiratory Diseases

Immunization Services Division

# Estimated HPV Vaccination Coverage among Adolescents Aged 13-17 Years, NIS-Teen, United States, 2006-2014

Text only version



Source: MMWR. 2014;63:625 33

# Activities to Improve HPV Vaccination Coverage

- ❑ States Immunization Grantees
  - 2013/2014 PPHF Immunization Awardees
- ❑ Partnerships
  - Provider organizations
- ❑ Immunization Information Systems
  - Sentinel sites
- ❑ Additional projects underway
  - Promising practices
  - AFIX

## Abbreviations:

PPHF Prevention and Public Health Fund

HPV Human papillomavirus

AFIX Assessment Feedback Incentives and EXchange

# 2013/2014 PPHF HPV Immunization Awardees

Text only version



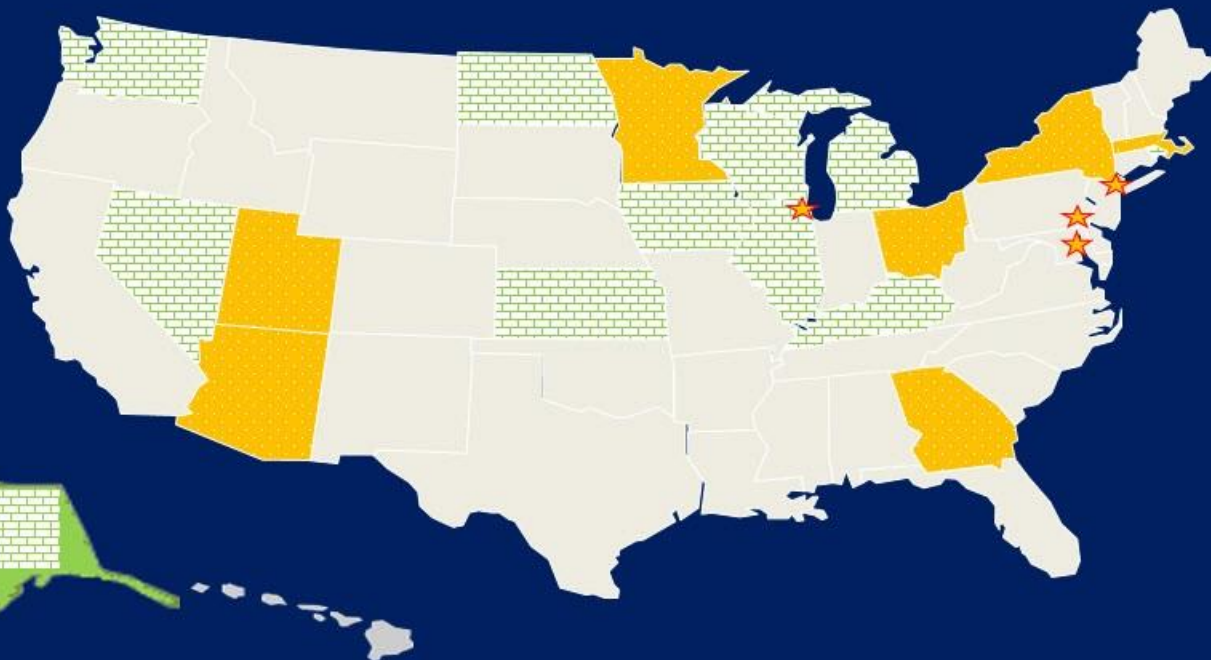
## 2014 Awardees

- Washington
- North Dakota
- Michigan
- Wisconsin
- Rhode Island
- Illinois
- Iowa
- Kentucky
- Kansas
- Nevada
- Alaska



## 2013 Awardees

- Minnesota
- Massachusetts
- New York
- New York City
- Philadelphia
- District of Columbia
- Ohio
- Chicago
- Georgia
- Utah
- Arizona



### Abbreviations:

PPHF Prevention and Public Health Fund  
HPV Human papillomavirus

# **2013 and 2014 PPHF HPV Immunization Awardee Activities Specified in the Funding Opportunity Announcement (FOA)**

- ❑ Developing a jurisdiction-wide joint initiative with immunization stakeholders
- ❑ Implementing a comprehensive communication campaign targeted to the public
- ❑ Implementing Immunization Information System (IIS)-based reminder/recall for adolescents aged 11–18 years
- ❑ Using assessment and feedback to evaluate and improve the performance of immunization providers in administering the 3-dose HPV vaccine series consistent with current ACIP recommendations

## **Abbreviations:**

**PPHF** Prevention and Public Health Fund

**HPV** Human papillomavirus

# States and Local Areas with Increases\* in HPV Vaccination Coverage among Females Aged 13–17 Years, NIS-Teen, 2014

## ≥1 HPV Dose

States and Local Areas	Estimate (95% CI)	Percentage point increase
Dist. of Columbia**	75.2(±9.4)	22.8
Georgia**	--	--
Illinois <sup>††</sup>	64.4(±6.5)	13.2
Illinois-Chicago**	78.1(±8.1)	13.2
Montana	57.2(±9.2)	13.8
North Carolina	71.1(±8.1)	13.9
Utah**	59.2(±8.3)	17.7

## ≥3 HPV Dose

States and Local Areas	Estimate (95% CI)	Percentage point increase
Dist. of Columbia**	56.9(±10.9) <sup>†</sup>	28.6
Georgia**	47.1(±9.7)	14.5
Illinois <sup>††</sup>	47.7(±6.9)	15.4
Illinois-Chicago**	52.6(±10.7) <sup>†</sup>	16.1
Montana	42.9(±9.1)	16
North Carolina	54.0(±9.2)	22.3
Utah**	--	--

\* Statistically significant difference from 2013 (Revised) estimates ( $p < 0.05$ ).

\*\* Received 2013 PPHF awards to increase HPV vaccination coverage.

<sup>†</sup> Estimates with confidence interval (CI) half-widths >10 might not be reliable.

<sup>††</sup> Received 2014 PPHF award to increase HPV vaccination coverage.

MMWR 2015; 64(29):784–792.

## **2013 and 2014 PPHF HPV Immunization Awardee Activities (cont.)**

- ❑ Implementing strategies targeted to immunization providers to:
  - Increase knowledge of HPV-related diseases (including cancers) and HPV vaccination safety and effectiveness
  - Improve skills needed to deliver strong, effective HPV vaccination recommendations
  - Decrease missed opportunities for timely HPV vaccination and series completion
  - Increase administration of HPV vaccine doses consistent with current ACIP recommendations

### **Abbreviations:**

**PPHF** Prevention and Public Health Fund

**HPV** Human papillomavirus

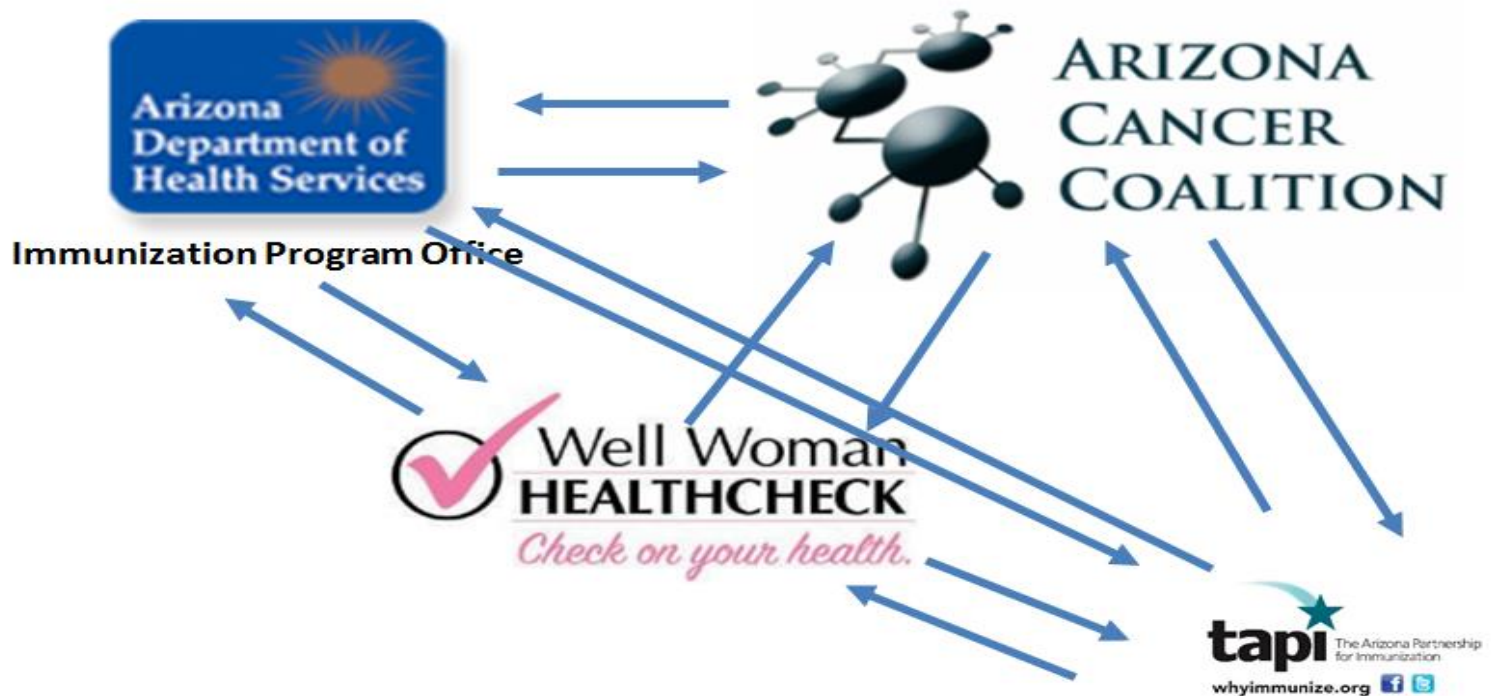
# **Varied Combinations of Interventions Identified as Important by 6 of 7 Jurisdictions**

- ❑ **Activities specified in PPHF FOA:**
  - **Joint initiatives with cancer prevention and immunization stakeholders**
  - **Public communication campaigns**
  - **IIS-based reminder/recall**
  - **Assessment and feedback:**
    - **Conducting visits consistent with federal AFIX guidance**
    - **Ensuring clinical practice decision makers participate**
    - **Including clinician-to-clinician educational component**
  - **Provider- and practice-focused strategies aimed at improving HPV vaccination administration consistent with ACIP recommendations**
- ❑ **Other activities:**
  - **Using all opportunities to educate parents and clinicians about importance of routine HPV vaccination at ages 11-12 years**
  - **Incorporating HPV vaccination into cancer control plans**



# Collaborate Across Disciplines

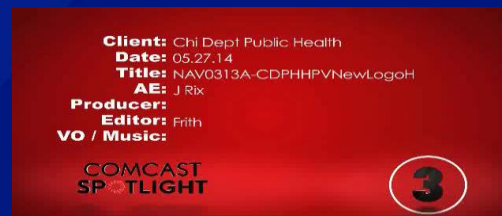
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## Print and Outdoor Ads



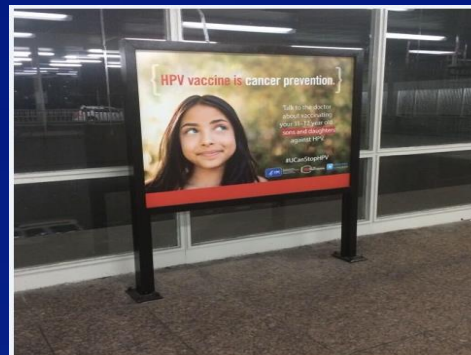
## Radio and TV



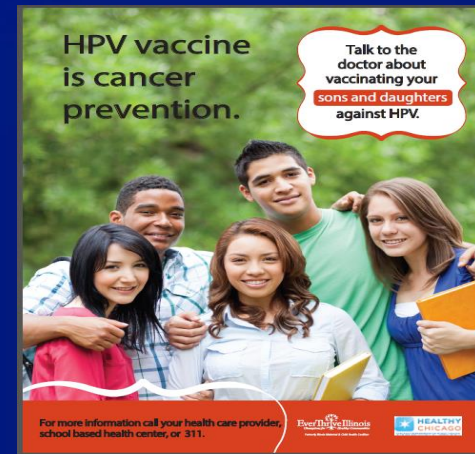
## School Outreach

## Social Media

#UCanStopHPV



facebook



Slide courtesy of Maribel Chavez Torres and the Chicago Department of Public Health; presented at PPHF HPV Immunization Reverse Site Visit, Atlanta, GA, 11/17/14.

# Varied Combinations of Interventions Identified as Important by 6 of 7 Jurisdictions

## ■ Activities specified in PPHF FOA:

- Joint initiatives with cancer prevention and immunization stakeholders
- Public communication campaigns
- IIS-based reminder/recall

## ■ Assessment and feedback:

- Conducting visits consistent with federal AFIX guidance
- Ensuring clinical practice decision makers participate
- Including clinician-to-clinician educational component

- Provider- and practice-focused strategies aimed at improving HPV vaccination administration consistent with ACIP recommendations

## ■ Other activities:

- Using all opportunities to educate parents and clinicians about importance of routine HPV vaccination at ages 11-12 years
- Incorporating HPV vaccination into cancer control plans

## **AFIX Visits Enhanced with Clinician-to-Clinician Education—Chicago**

- ❑ Visits conducted 12/13–12/14 (n=80)
- ❑ HD staff member and 1 of 7 medical professionals (trained under contract with AAP Illinois Chapter) conducted each visit; most conducted with a well-respected retired OB/GYN faculty physician
- ❑ All required attendance of at least one practice MD/NP
- ❑ Practices were selected based on:
  - Having a minimum of 200 adolescent patient records
  - Doses administered data were entered into IIS (ICARE) or an electronic medical record daily or weekly

## **AFIX Visits Enhanced with Clinician-to-Clinician Education—Chicago**

- ❑ 100% of practices that received enhanced AFIX visits had one or more practice physicians participate; on average, 3.2 practice MDs or NPs attended each visit
- ❑ 76/80 (95%) practices had a coverage level increase\* for first HPV vaccine dose (range: 1–30%; mean: 11%)
- ❑ 77/80 (96%) practices had a coverage level increase\* for third HPV vaccine dose (range: 1–27%; mean: 7%)

\*When assessed 12-13 months after the first assessment

## HPV Partnership Projects

- ❑ **Activities to strengthen the recommendation for HPV vaccine through:**
  - Direct clinician outreach and education
  - Educational materials for clinicians at national and local levels
  - Formation and expansion of strong partnerships
  - Prioritization of HPV vaccination
    - National and professional clinical organizations
    - Local health departments

## HPV Partnership Projects (cont.)

### ❑ PPHF-funded key partners

- National Association of County and City Health Officials (NACCHO)
- American Academy of Pediatrics (AAP)
- Academic Pediatric Association (APA)
- National AHEC (Area Health Education Center) Organization (NAO)
- American Cancer Society (ACS)

# National Association of County and City Health Officials (NACCHO)

## □ Goal:

- Increase the capacity of LHDs\* to work with health care providers, as well as other stakeholders in the community

## □ Activities:

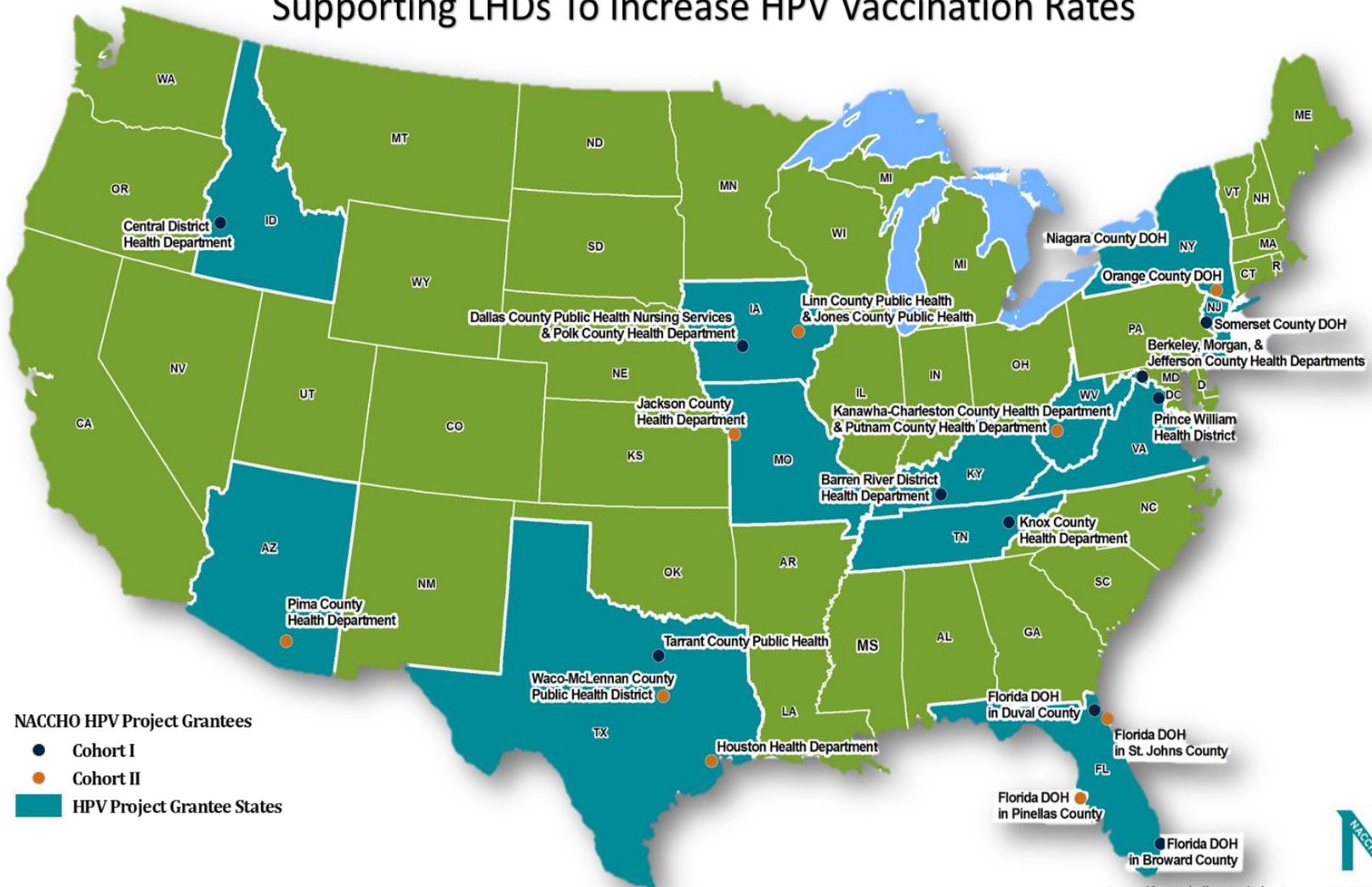
- Scan environment and conduct partner inventory
- Meet to develop plan
- Finalize action plan (Cohort 2; 10 LHDs)
- Document and share lessons learned
- Implement action plan (Cohort 1; 10 LHDs)

**\*LHDs= Local Health Departments**



# NACCHO Status

## Supporting LHDs To Increase HPV Vaccination Rates



# Academic Pediatric Association (APA)

## □ Goal:

- Enhance education, awareness, and strength of HPV vaccine recommendations for providers, including those who train primary care residents across the U.S.

## □ Activities:

- Grand Rounds presentations to primary care providers
- Edit pediatric residency curricula to include HPV vaccine information
- Quality Improvement interventions
  - 15 Continuity research network (CORNET) ped. residency training clinics
  - 50 National Improvement Partnership Network (NIPN)

## □ Highlights:

- Reaching 2,000 practicing clinicians and 7,000 residents
- Increased vax rates in 15 ped. residency training clinics in 50 practices
- Reduced missed opportunities in 15 ped. residency training clinics and in 50 NIPN practices

# American Academy of Pediatrics (AAP)

## □ Goal:

- Develop coordinate “action-based” sets of QI activities

## □ Activities:

- Training for pediatric offices
- Interventions for quality improvement
- Mobilize state AAP chapters
- Work with immunization registries to evaluate immunization rate increases

## □ Highlights:

- Over 175 AAP leaders have been trained in quality improvement basics
- The HPV Champion Toolkit is being used to support practice change and to advocate for improvements in HPV rates

# National AHEC Organization (NAO)

## □ Goal:

- Create a National Training Center (NTC) that will develop and provide HPV-related training sessions to clinicians nationally

## □ Activities:

- Prioritization of HPV within AHECs
- Creation of resources and training for AHEC staff (toolkit, HPV Vaccine status sheet, webinars)
- Webinars on vaccine promotions—archived for clinicians
- In-person Continuing Education trainings

## □ Highlights:

- Training of AHEC staff and regional project coordinators
- 259 training programs for clinicians were delivered, hosted, or supported by AHEC in 43 states with 9,475 participants
- 3 national clinician webinars

# American Cancer Society (ACS)

## □ Goal:

- Increase HPV vaccination rates at safety net clinics through improved provider awareness and education and improved system-wide processes

## □ Activities: (HPV VACs -Vaccinate Adolescents against Cancers):

- Implement practice change demonstration projects with select FQHCs/CHCs
- Partner with state health departments and other state-based entities to facilitate system changes

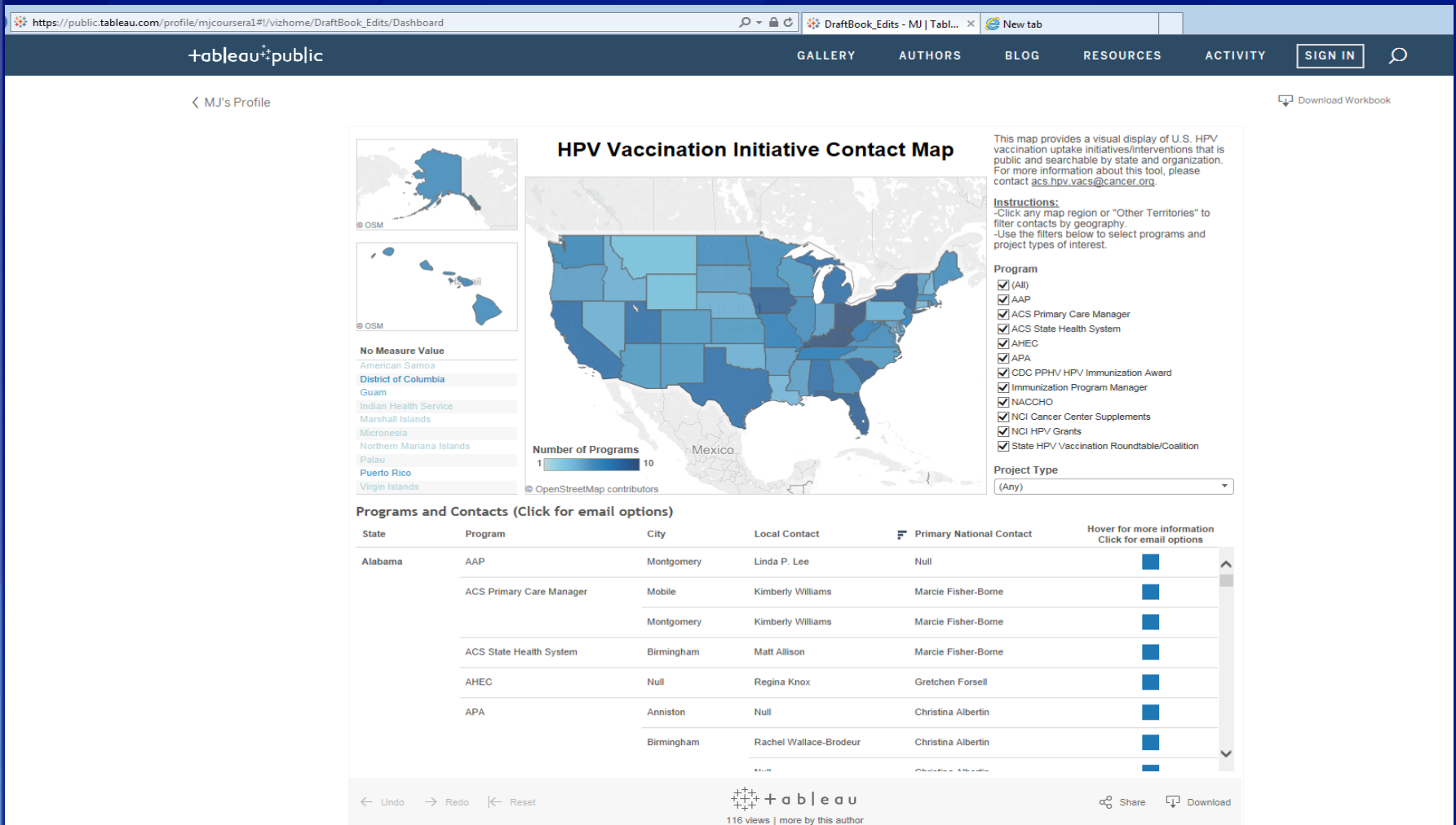
## □ Highlights:

- Project at 29 FQHCs
- Educating internal ACS staff (health system staff and primary care staff)
- Tools created: steps guide for clinicians, HPV initiative contact map with state-level HPV projects, Just the Facts, education resources list

### Abbreviations:

FQHCs = Federally Qualified Health Centers; CHCs= Community Health Centers

# HPV Vaccination Initiative Contact Map



<http://Bit.ly/HPVVaccineInitiativeMap>



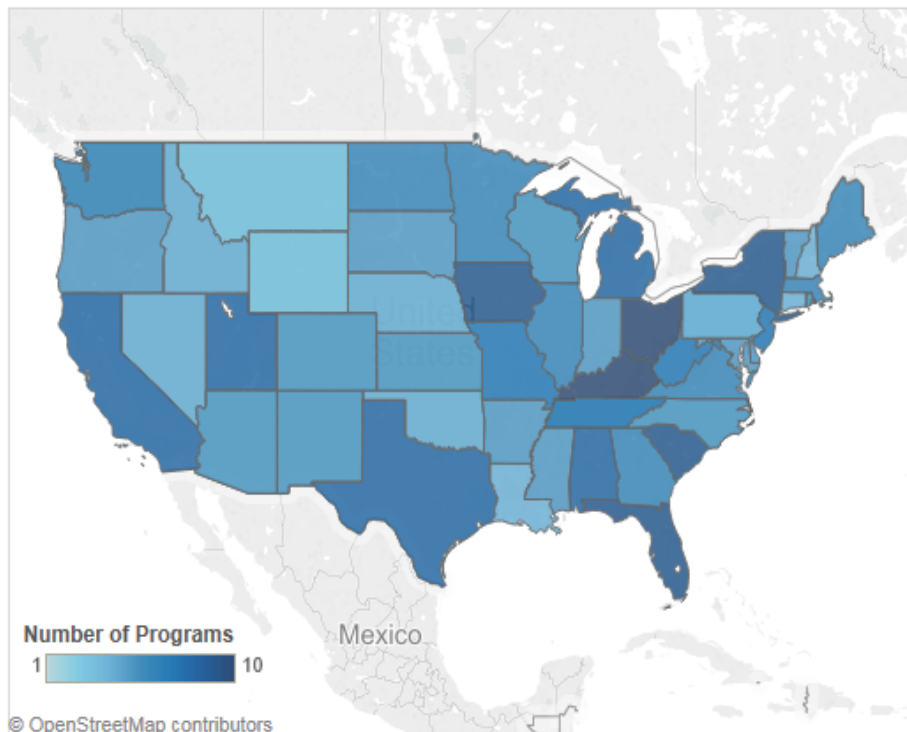
## Find Partners



### No Measure Value

American Samoa  
District of Columbia  
Guam  
Indian Health Service  
Marshall Islands  
Micronesia  
Northern Mariana Islands  
Palau  
Puerto Rico  
Virgin Islands

## HPV Vaccination Initiative Contact Map



This map provides a visual display of U.S. HPV vaccination uptake initiatives/interventions that is public and searchable by state and organization. For more information about this tool, please contact [acs.hpv.vacs@cancer.org](mailto:acs.hpv.vacs@cancer.org).

### Instructions:

- Click any map region or "Other Territories" to filter contacts by geography.
- Use the filters below to select programs and project types of interest.

### Program

- ☒ (All)
- ☒ AAP
- ☒ ACS Primary Care Manager
- ☒ ACS State Health System
- ☒ AHEC
- ☒ APA
- ☒ CDC PPHF HPV Immunization Award
- ☒ Immunization Program Manager
- ☒ NACCHO
- ☒ NCI Cancer Center Supplements
- ☒ NCI HPV Grants
- ☒ State HPV Vaccination Roundtable/Coalition

### Project Type

(Any)

HPV  
VACS

<http://Bit.ly/HPVVaccineInitiativeMap>

## Next Steps/Challenges

- ❑ Coordination of partner activities at the local, state and national level
- ❑ Evaluation of activities
- ❑ Promotion of partner resources
- ❑ Coordination of activities with other funded organizations



# Utilizing the IIS to increase HPV Provider Participation and Vaccination Coverage

- ❑ **Supplemental cooperative agreement for IIS Sentinel Sites**
  - Increase HPV provider participation in IIS
  - Explore linking IIS with HPV-related clinical outcomes data sources for the purpose of conducting HPV vaccine effectiveness (VE) studies
  - Document barriers to data linkage
  - Cooperative agreement period: 9/ 2014–9/2017
- ❑ **Collaboration between CDC IIS branch, IIS Sentinel Sites (MI, MN, ND, NYC, OR, WI), state cancer registries, and the CDC Cancer Surveillance Branch**

# IIS Activities(cont.)

## Required

- ❑ **Increasing HPV-specific adolescent and adult provider enrollment and reporting to the IIS**
  - Goal: Identify adolescent and adult HPV providers for targeted outreach to increase HPV provider report to the IIS
  - Since September 2014, IIS **Sentinel Sites have enrolled 581 new HPV provider sites** in the IIS, with **317 of those sites actively reporting** to the IIS
- ❑ **Identifying and documenting barriers to data linkage**
  - Goal: Determine technical, legislative, or other barriers to facilitating data linkage
  - Key barriers include data sensitivity, competing priorities, lack of necessary data elements for linkage, and data sharing regulations

## Optional

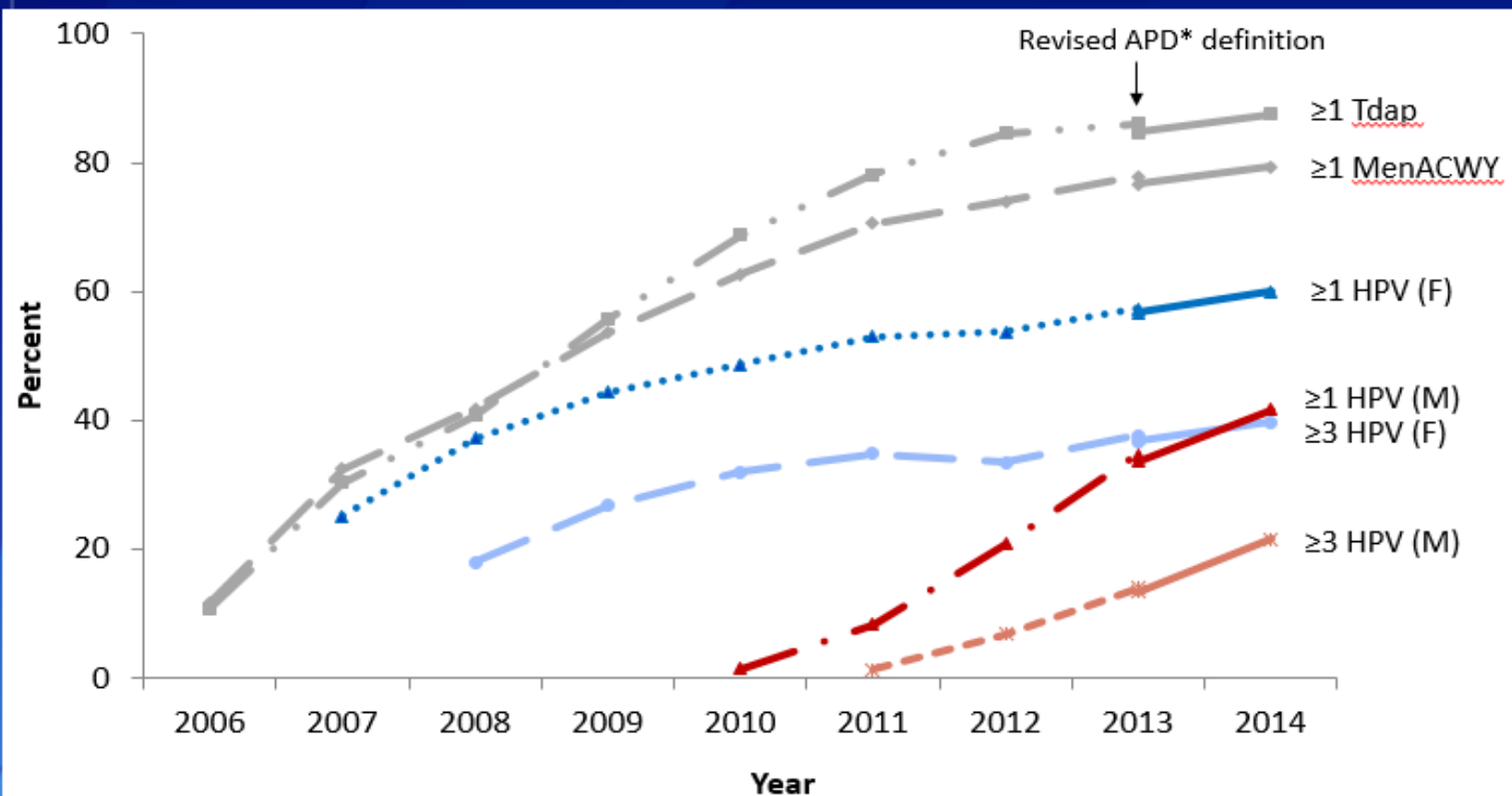
- ❑ **Developing a protocol for data linkage with HPV-related clinical outcomes databases**
  - Goal: Determine the feasibility of facilitating a data linkage between IIS and HPV related outcomes data sources
  - One site (MI) is **actively linking IIS and cancer registry data**
  - Three sites (NYC, WI, MN) have established linkage protocols undergoing IRB Review

## Next Steps/Challenges

- ❑ Identifying strategies to reach adult HPV providers
- ❑ Addressing legislative, operational, technical, and data quality barriers to data linkage
- ❑ Challenges in encouraging providers to report to the IIS
- ❑ Variability among sites regarding the collection of precancerous clinical outcomes
- ❑ Sustainability of routine data linkage
- ❑ Challenges to assessing HPV vaccine effectiveness

# Estimated HPV Vaccination Coverage among Adolescents Aged 13-17 Years, NIS-Teen, United States, 2006-2014

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Source: MMWR. 2014;63;625-33

## **Current Activities: Awardee-level Promising Practices Project**

- ❑ **Objective:** Identify factors, both internal and external to the immunization program, associated with awardee-level HPV vaccination coverage
- ❑ **Methods:**
  - Using NIS-Teen data, select ~20 awardees with consistently high and consistently low  $\geq 1$  dose HPV vaccination coverage among females
  - Gather available data on each selected awardee from various sources
  - Conduct standardized key informant interviews with awardee staff
  - Analyze/summarize information
- ❑ **Status:**
  - Launch interviews and other activities after publication of 2015 NIS-Teen data (August 2016) and subsequent selection of awardees

## **Current Activities:**

### **New Adolescent AFIX FOA (non-research)**

#### **❑ Objectives:**

- Increase the number of adolescent AFIX visits to increase HPV vaccination coverage
- Improve the quality of adolescent AFIX visits
- Implement creative strategies to improve the efficiency and effectiveness of AFIX visits (optional)

#### **❑ Status:**

- FOA posted May 6
- September 2016
- Project period: 2 years
- Estimated number of awards: 20
- Total project period funding: \$10 million

# Thank you

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

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Visit: [www.cdc.gov](http://www.cdc.gov) | Contact CDC at: 1 800 CDC INFO or [www.cdc.gov/info](http://www.cdc.gov/info)

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.

National Center for Immunization & Respiratory Diseases  
Immunization Services Division



## Slide 2

This graph shows trends in adolescent vaccination coverage from 2006-2014. NIS Teen underwent a methodologic change in 2014 which revised the sample inclusion criteria, and coverage estimates using this revised definition of adequate provider data or APD are not directly comparable to those from previous years. Revised estimates for 2013 were calculated for the purposes of comparability. Estimates using previous APD definition are connected with a dashed line, those with revised APD definition are connected with a solid line. There are 2 estimates for 2013, original published and revised.

In 2014, saw increases in coverage for all vaccines routinely recommended during adolescence as compared to 2013 revised estimates. However, a notable gap remains between coverage with Tdap and MenACWY vaccines (in gray) and HPV vaccine in females (in blue) and males (in red).

In 2014, Among Females, coverage with 1 or more HPV vaccine doses was 60.0%; for 3 or more doses was 39.7%. There were increases of about 3pct points for each HPV vaccine dose from 2013 revised estimates. This was the second consecutive year of increases in HPV vaccination coverage in females. Among males, coverage with 1 or more doses was 41.7%, and with 3 or more doses was 21.6%, these were larger increases, around 8 percentage points compared to 2013

Year	Tdap	MenACWY	≥ 1 HPV (females)	≥ 3 HPV (females)	≥ 1HPV (males)	≥ 3HPV (males)	≥2 MenACWY
2006	10.8	11.7					
2007	30.4	32.4	25.1				
2008	40.8	41.8	37.2	17.9			
2009	55.6	53.6	44.3	26.7			
2010	68.7	62.7	48.7	32.0	1.4		
2011	78.2	70.5	53.0	34.8	8.3	1.3	
2012	84.6	74.0	53.8	33.4	20.8	6.8	
2013	86.0	77.8	57.3	37.6	34.6	13.9	
2014							28.5



## Slide 4

In mid 2013, due to low, stagnating HPV vaccination coverage levels nationally and in every public health jurisdiction, CDC published a Funding Opportunity Announcement with the goal of increasing HPV vaccination coverage among adolescents. In the Fall of 2013, CDC began providing technical assistance and funding (Prevention and Public Health Funds) to selected applicants.. The 11 awardees that received funding in Sept 2013 are shown in gold, while those funded in August 2014 are in green.

### 2014 Awardees (Green)

Washington  
North Dakota  
Michigan  
Wisconsin  
Rhode Island  
Illinois  
Iowa  
Kentucky  
Kansas  
Nevada  
Alaska

### 2013 Awardees (Orange)

Minnesota  
Massachusetts  
New York  
New York City  
Philadelphia  
District of Columbia  
Ohio  
Chicago  
Georgia  
Utah  
Arizona

## Slide 28

This graph shows trends in adolescent vaccination coverage from 2006-2014. NIS Teen underwent a methodologic change in 2014 which revised the sample inclusion criteria, and coverage estimates using this revised definition of adequate provider data or APD are not directly comparable to those from previous years. Revised estimates for 2013 were calculated for the purposes of comparability. Estimates using previous APD definition are connected with a dashed line, those with revised APD definition are connected with a solid line. There are 2 estimates for 2013, original published and revised.

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2007	30.4	32.4	25.1				
2008	40.8	41.8	37.2	17.9			
2009	55.6	53.6	44.3	26.7			
2010	68.7	62.7	48.7	32.0	1.4		
2011	78.2	70.5	53.0	34.8	8.3	1.3	
2012	84.6	74.0	53.8	33.4	20.8	6.8	