

# Immunization Strategies for Healthcare Practices and Providers

National Center for Immunization and Respiratory Diseases  
Immunization Services Division



# Comparison of 20<sup>th</sup> Century Annual Morbidity and Current Morbidity: Vaccine-Preventable Diseases

Disease	20th Century Annual Morbidity <sup>†</sup>	2014 Reported Cases <sup>††</sup>	Percent Decrease
Diphtheria	21,053	1	> 99%
Measles	530,217	628	> 99%
Mumps	162,344	1,151	99%
Pertussis	200,752	32,971	86%
Polio (paralytic)	16,316	0	100%
Rubella	47,745	8	> 99%
Congenital Rubella Syndrome	152	0	100%
Tetanus	580	21	96%
<i>Haemophilus influenzae</i>	20,000	27*	> 99%
Total	999,159	34,799	97%

<sup>†</sup> JAMA. 2007;298(18):2155-2163

<sup>††</sup> CDC. MMWR January 9, 2015 / 63(53);ND-733-ND-746. (MMWR 2014 provisional week 53 data)

\* *Haemophilus influenzae* type b (Hib) < 5 years of age. An additional 12 cases of Hib are estimated to have occurred among the 226 reports of Hib (< 5 years of age) with unknown serotype.



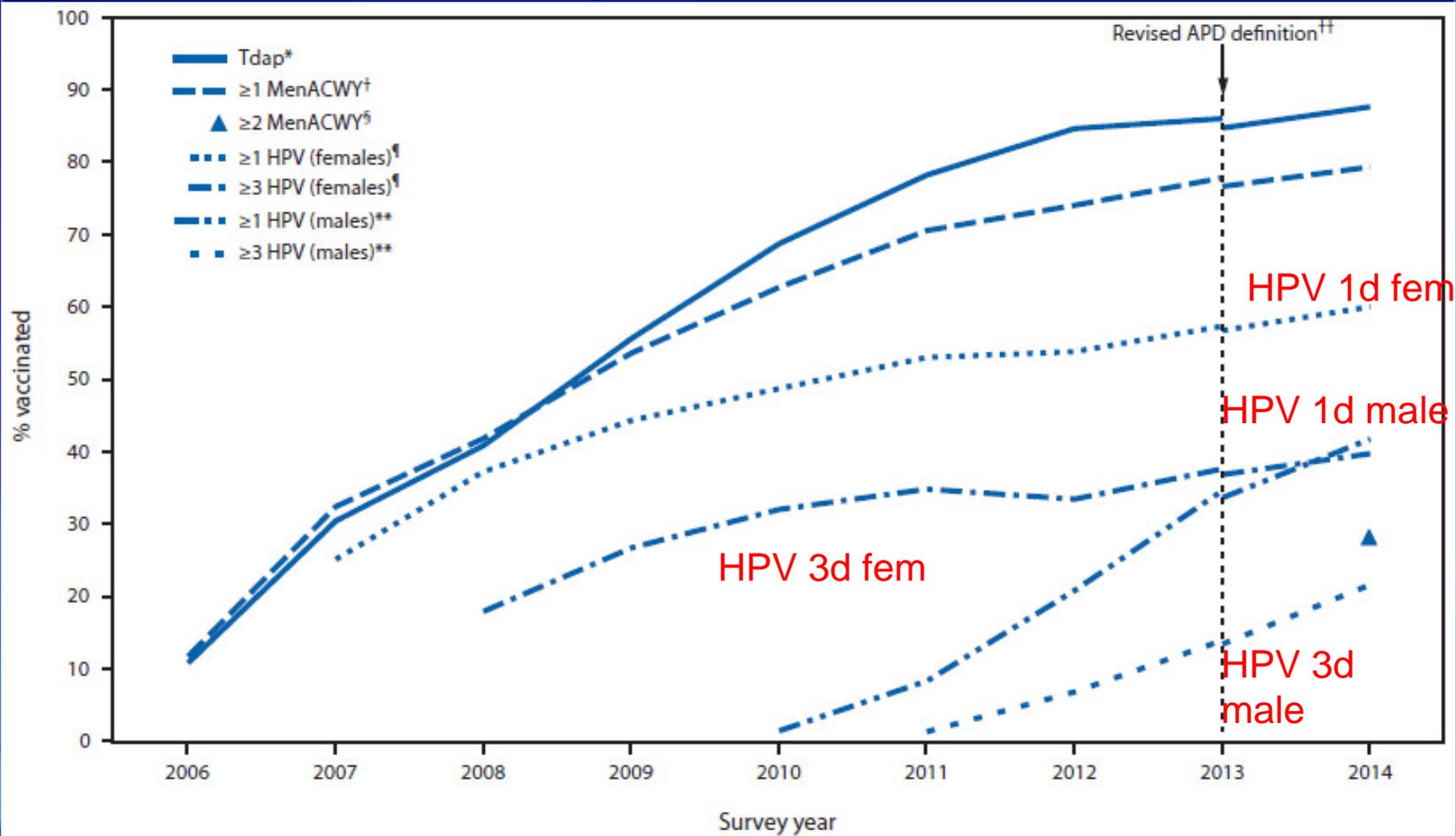
# Estimated Vaccine Coverage Among Children Aged 19-35 Months, NIS 2014

State/Area	Vaccine Series* 4:3:1:3:3:1:4
United States	71.6%

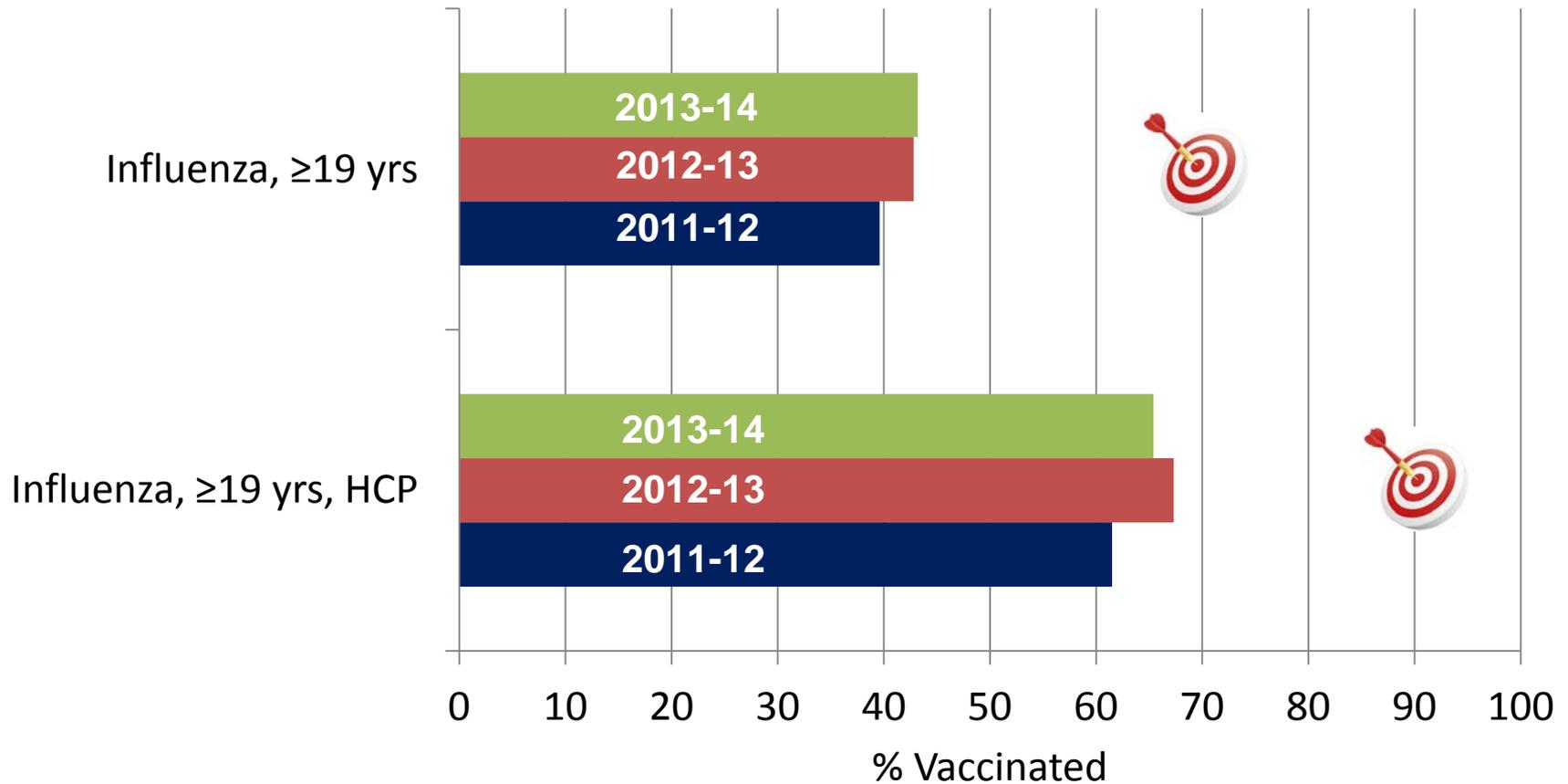
\*Includes  $\geq 4$  doses DTaP/DT/DTP,  $\geq 3$  doses polio,  $\geq 1$  dose MMR, full series Hib,  $\geq 3$  doses Hep B,  $\geq 1$  dose varicella, and  $\geq 4$  doses PCV

*MMWR*. 2015;64(33);889-896

# Estimated vaccination coverage with selected vaccines and doses among adolescents aged 13–17 years, by survey year — National Immunization Survey–Teen, United States, 2006–2014



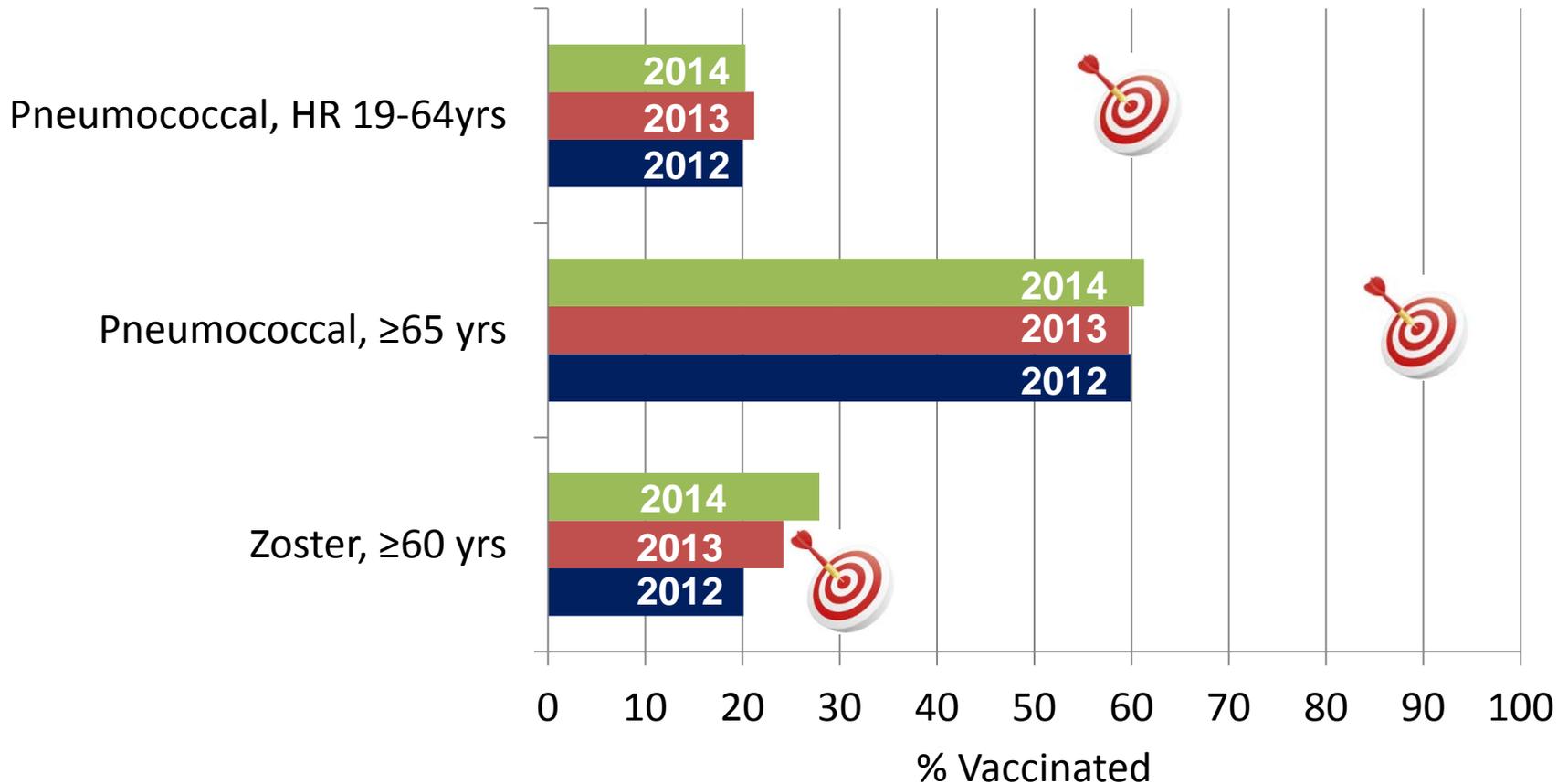
# Adult Influenza Vaccination Coverage, by Age, United States



HP2020 Targets: 70% ≥19 years, 90% HCP ≥19 years

Data Source: 2011, 2012, 2013 and 2014 NHIS

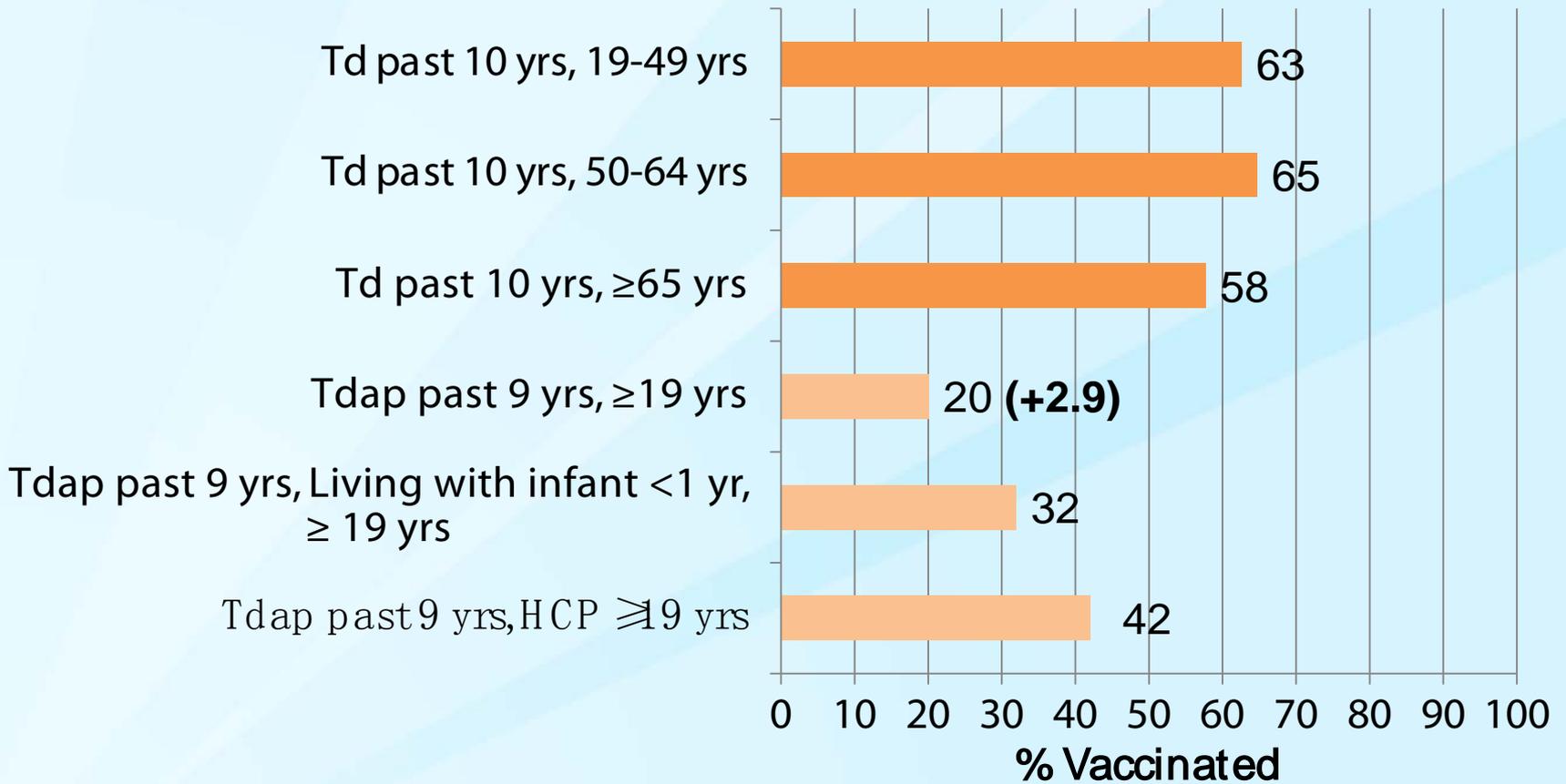
# Adult Immunization Coverage, Selected Vaccines by Age and High-risk Status, United States



HP2020 Targets: 90% PPV ≥65 yrs, 60% PPV HR 19-64 yrs, 30% zoster ≥60 yrs

Data Source: 2012, 2013 and 2014 NHIS

# Adult Tetanus-containing Vaccination Coverage by Age and High-risk Status, United States



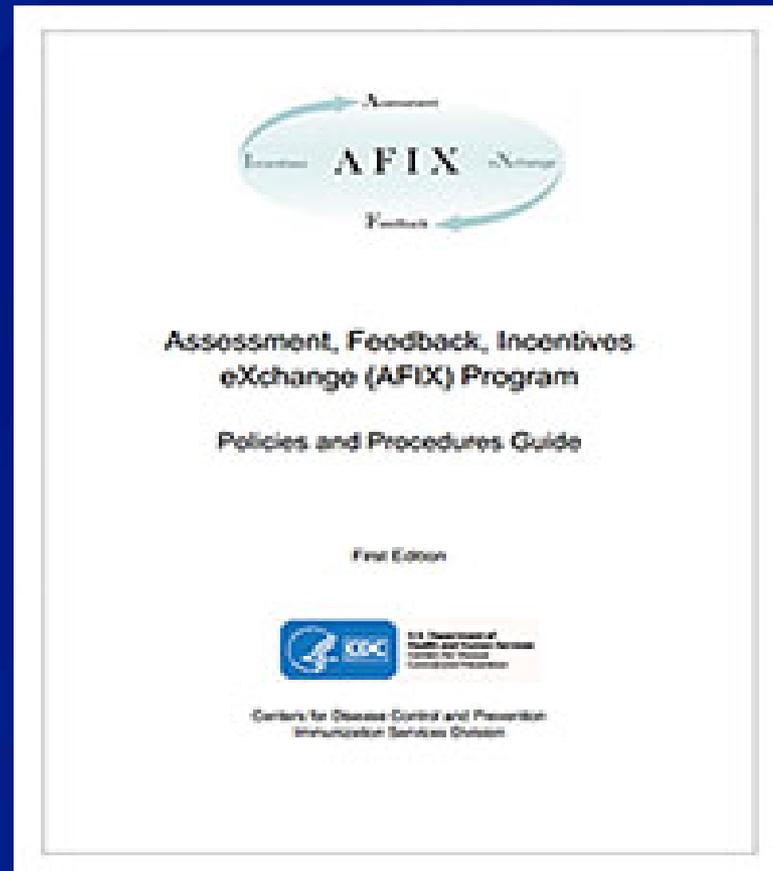
Data Source: 2014 NHIS

# Strategies Overview

- ❑ **Many available strategies**
- ❑ **Some targeted to public and/or non-healthcare settings**
  - School immunization requirements
  - Women Infant and Children (WIC) services
  - Home visits
- ❑ **Match strategy to the problem and population**
- ❑ **Today's focus on healthcare settings**

# AFIX

- ❑ **Assessment**
- ❑ **Feedback**
- ❑ **Incentives**
- ❑ **eXchange**



# Special Characteristics of AFIX

- ❑ **Focuses on outcomes**
- ❑ **Focuses on providers**
- ❑ **Blend of advanced technology and personal interaction**

# Assessment

- ❑ Evaluation of medical records to ascertain the immunization rate for a defined group
- ❑ Targeted diagnosis for improvement
- ❑ Assessment increases awareness

# Feedback

- ❑ **Informing immunization providers about their performance**
  
- ❑ **Assessment with feedback creates the awareness necessary for behavior change**
  
- ❑ **How to Provide Feedback**
  - With feeling and precision
  - Without judgment
  - With confidentiality as appropriate

# Incentives

- ❑ **Something that incites to action or effort**
- ❑ **Vary by provider and stage of progress**
- ❑ **Opportunities for partnership and collaboration**

# eXchange of Information

- ❑ **Allows access to more experience than an individual can accumulate**
- ❑ **Motivates improvement**
- ❑ **Coordinates resources and efforts**

# VFC/AFIX

- ❑ **2000: Incorporate AFIX activities during VFC site visits**
- ❑ **2013: VFC visits performed separately from AFIX visits**
- ❑ **VFC/AFIX visits may be combined if state has robust IIS, which assists with AFIX component**

# Comprehensive Clinic Assessment Software Application (CoCASA)

- ❑ VFC and AFIX results
- ❑ Immediate assessment results
- ❑ Estimate of coverage levels
- ❑ Reasons for deficiencies
- ❑ Reports on patient subsets
- ❑ AFIX Guide to the Core Elements for Training and Implementation
  - Generalizes the AFIX process
  - Provides strategies for modifying AFIX methods

<http://www.cdc.gov/vaccines/programs/cocasa/index.html>

<http://www.cdc.gov/vaccines/programs/afix/index.html>

# Strategies for High Immunization Levels

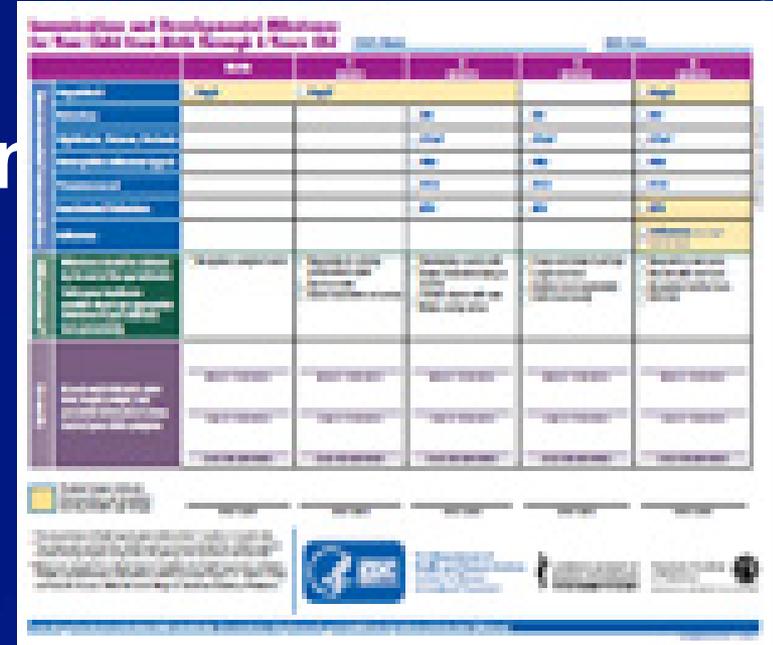
- ❑ Recordkeeping
- ❑ Immunization Information Systems (IIS)
- ❑ Recommendations and reinforcement
- ❑ Reminder and recall to patients
- ❑ Reminder and recall to providers
- ❑ Reduction of missed opportunities
- ❑ Reduction of barriers to immunization



# Records

❑ Available for inspection

❑ Easy to interpret



The image shows a screenshot of a vaccination record table. The table is titled 'Immunization and Developmental Milestones for John Doe (DOB: 01/01/2000)'. It has columns for 'Date', 'Vaccine', 'Status', 'Provider', 'Location', and 'Notes'. The table contains several rows of data, including dates and vaccine names. Below the table, there are logos for the Department of Health and Human Services, the Centers for Disease Control and Prevention (CDC), and other organizations.

Date	Vaccine	Status	Provider	Location	Notes
01/01/2000	MM2	Completed	Dr. Smith	ABC Clinic	
01/01/2000	MM2	Completed	Dr. Smith	ABC Clinic	
01/01/2000	MM2	Completed	Dr. Smith	ABC Clinic	
01/01/2000	MM2	Completed	Dr. Smith	ABC Clinic	
01/01/2000	MM2	Completed	Dr. Smith	ABC Clinic	
01/01/2000	MM2	Completed	Dr. Smith	ABC Clinic	
01/01/2000	MM2	Completed	Dr. Smith	ABC Clinic	
01/01/2000	MM2	Completed	Dr. Smith	ABC Clinic	
01/01/2000	MM2	Completed	Dr. Smith	ABC Clinic	
01/01/2000	MM2	Completed	Dr. Smith	ABC Clinic	

❑ Accurate, up-to-date, and complete

- reflect current patient population
- Reflect all vaccines given

# Immunization Information Systems (IIS)

- ❑ Single data source for all providers
- ❑ Reliable immunization history
- ❑ Produce records for patient use
- ❑ Increase vaccination rates



<http://www.cdc.gov/vaccines/programs/iis/index.html>

# Recommendations and Reinforcement

## □ Recommend the vaccine

- powerful motivator
- patients likely to follow recommendation of the provider

## □ Reinforce the need to return

- verbal
- written
- link to calendar event



# Reminders and Recall to Patients

- ❑ **Reminder**—notification that immunizations are due soon
- ❑ **Recall**—notification that immunizations are past due
- ❑ **Content of message and technique of delivery vary**
- ❑ **Reminders and recall have been found to be effective**



<https://www.whyimmunize.org/product/reminder-postcards-baby-bilingual/>

# Reminders and Recall to Providers

- ❑ **Communication to healthcare providers that a patient's immunizations are due soon or past due**
  
- ❑ **Examples**
  - computer-generated list
  - stamped note in the chart
  - "Immunization Due" clip on chart
  - electronic reminder in an electronic medical record

# Missed Opportunity

- ❑ A healthcare encounter in which a person is eligible to receive vaccination but is not vaccinated completely



# Reasons for Missed Opportunities

- ❑ Lack of simultaneous administration
- ❑ Unaware child (or adult) needs additional vaccines
- ❑ Invalid contraindications
- ❑ Inappropriate clinic policies
- ❑ Reimbursement deficiencies

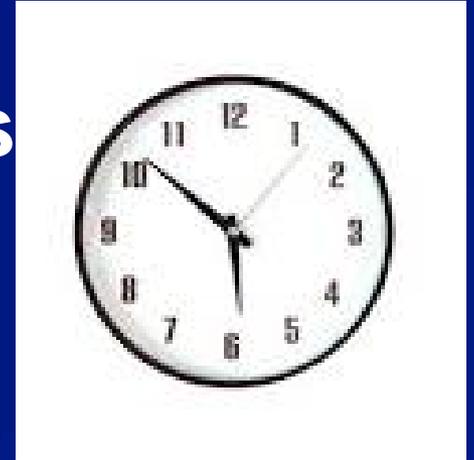
# Strategies for Reducing Missed Opportunities

- ❑ **Standing orders**
- ❑ **Provider education with feedback**
- ❑ **Provider reminder and recall systems**

# Reduction of Barriers to Immunization

## □ Physical barriers clinic hours

- waiting time
- distance
- cost



## □ Psychological barriers

- unpleasant experience
- vaccine safety concerns



# Provider Resources

- ❑ **Conversations with parents:**
  - <http://www.cdc.gov/vaccines/hcp/patient-ed/conversations/>
  
- ❑ **Vaccines for Children Program**
  - <http://www.cdc.gov/vaccines/programs/vfc/index.html>
  
- ❑ **The Guide to Community Preventive Services**
  - <http://www.thecommunityguide.org/>
  
- ❑ **National Vaccine Advisory Committee. Standards for child and adolescent immunization practices. Pediatrics 2003;112:958-63.**
  
- ❑ **National Vaccine Advisory Committee. Recommendations from the National Vaccine Advisory Committee: Standards for Adult Immunization Practice. Public Health Reports 2014;129:115-123.**
  - <http://www.publichealthreports.org/issueopen.cfm?articleID=3145>