



# EpiVac Pink Book Web-on-Demand Series

## Immunization Strategies-2020

Immunization Services Division

National Center for Immunization and Respiratory Diseases

Centers for Disease Control and Prevention

Atlanta, GA

# Learning Objectives

- For each vaccine-preventable disease, identify those for whom routine immunization is recommended.
- For each vaccine-preventable disease, describe characteristics of the vaccine used to prevent the disease.
- Describe an emerging immunization issue.
- Locate current immunization resources to increase knowledge of team's role in program implementation for improved team performance.
- Implement disease detection and prevention health care services (e.g., smoking cessation, weight reduction, diabetes screening, blood pressure screening, immunization services) to prevent health problems and maintain health.

# Today's Agenda

## **EpiVac Pink Book Web-on-Demand Series: Immunization Strategies-2020**

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- Search course number: WD4344-072220
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In compliance with continuing education requirements, all presenters must disclose any financial or other associations with the manufacturers of commercial products, suppliers of commercial services, or commercial supporters, as well as any use of unlabeled product(s) or product(s) under investigational use.

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# Immunization Strategies for Health Care Practices and Providers

July 22, 2020

# Comparison of 20th Century Annual Morbidity and Current Morbidity: Vaccine-Preventable Diseases

Disease	20th Century Annual Morbidity <sup>†</sup>	2017 Reported Cases <sup>††</sup>	Percent Decrease
Diphtheria	21,053	0	100%
Measles	530,217	122	>99%
Mumps	162,344	5,629	97%
Pertussis	200,752	15,808	>92%
Polio (paralytic)	16,316	0	100%
Rubella	47,745	9	>99%
Congenital Rubella Syndrome	152	2	99%
Tetanus	580	32	95%
<i>Haemophilus influenzae</i>	20,000	22	>99%
Total	999,159	24,493	97%

<sup>†</sup> *JAMA* 2007;298(18):2155–2163

<sup>††</sup> CDC. National Notifiable Diseases Surveillance System, Week 52, 2017 Weekly Tables of Infectious Disease Data. Atlanta, GA. CDC Division of Health Informatics and Surveillance, 2018. Available at: [www.cdc.gov/nndss/infectious-tables.html](http://www.cdc.gov/nndss/infectious-tables.html). Accessed on January 4, 2018.

\* *Haemophilus influenzae* type b (Hib) <5 years of age. An additional 11 cases of Hib are estimated to have occurred among the 237 notifications of Hib (<5 years of age) with unknown serotype.

# Estimated Vaccination Coverage among Children Aged 19–35 Months, NIS birth years 2015 and 2016

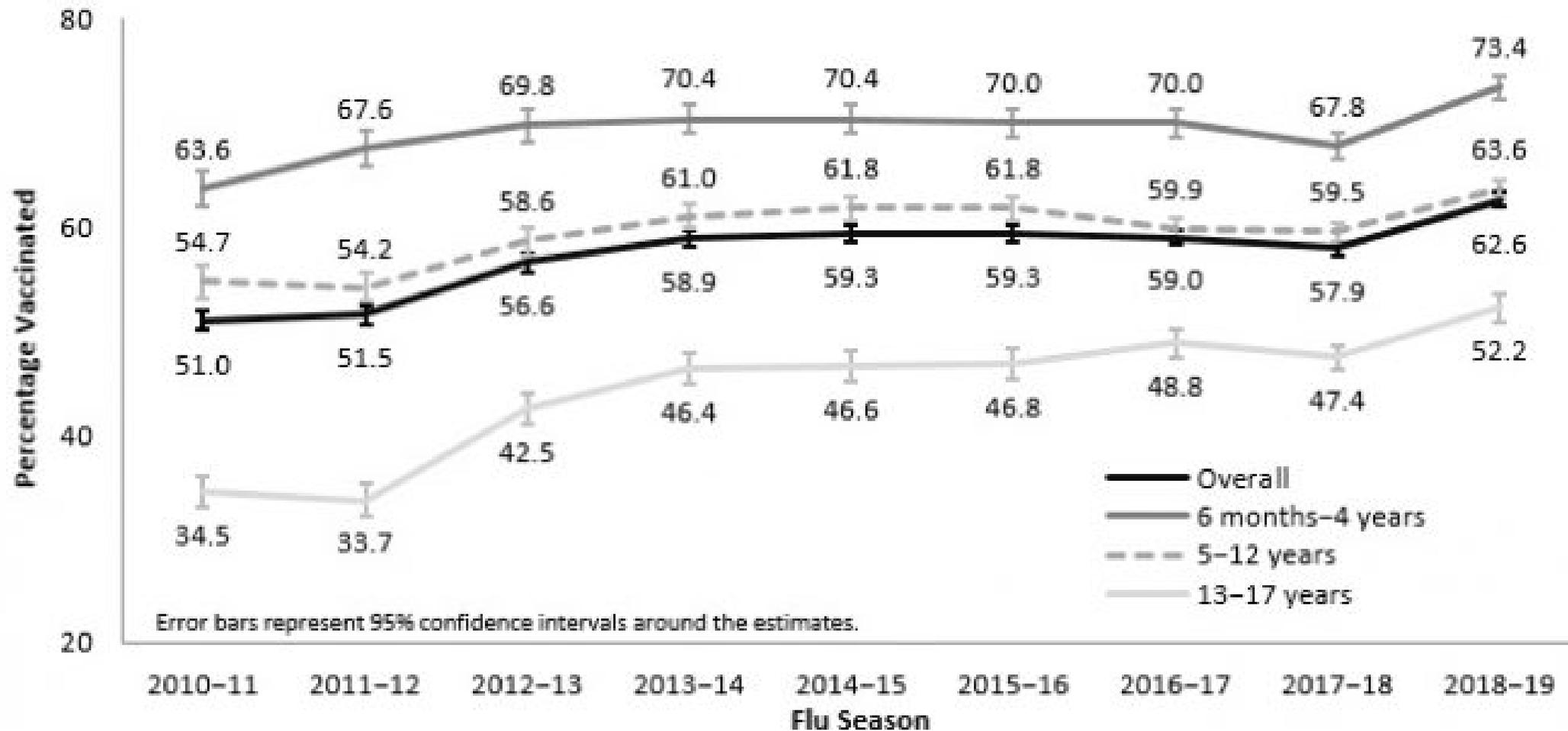
State/Area	Combined Series† 4:3:1:3*:3:1:4 by 24 months
United States	68.5%

†The combined 7-vaccine series (4:3:1:3\*:3:1:4) includes ≥4 doses of DTaP, ≥3 doses of poliovirus vaccine, ≥1 dose of measles-containing vaccine, the full series of Hib (≥3 or ≥4 doses, depending on product type of vaccine), ≥3 doses of HepB, ≥1 dose of varicella vaccine, and ≥4 doses of PCV.

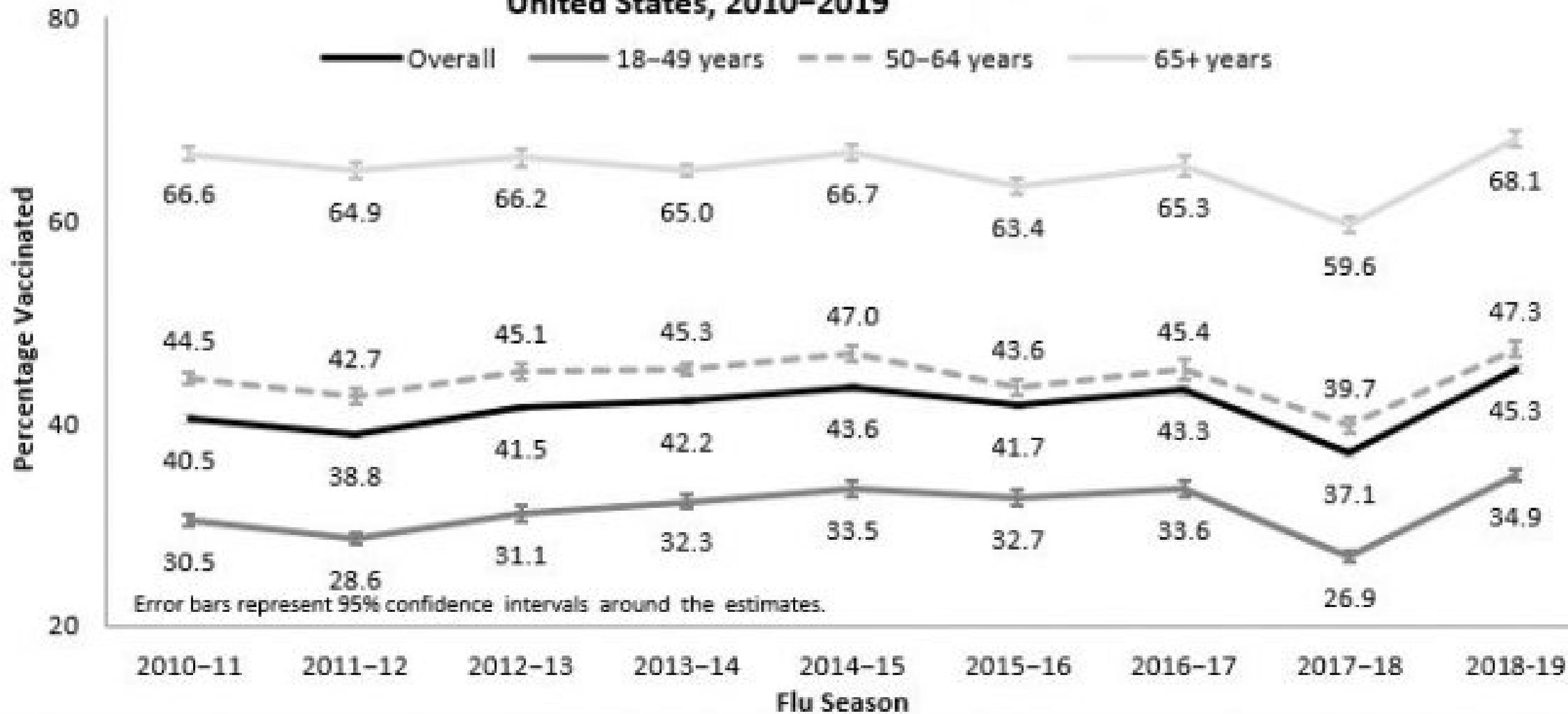
# Estimated Vaccination Coverage among Adolescents Aged 13–17 Years, NIS-Teen, 2018

Vaccine	United States
≥1 Tdap	88.9%
≥1 HPV (M and F)	68.1%
UTD HPV (M and F)	51.1%
≥1 MenACWY	86.6%

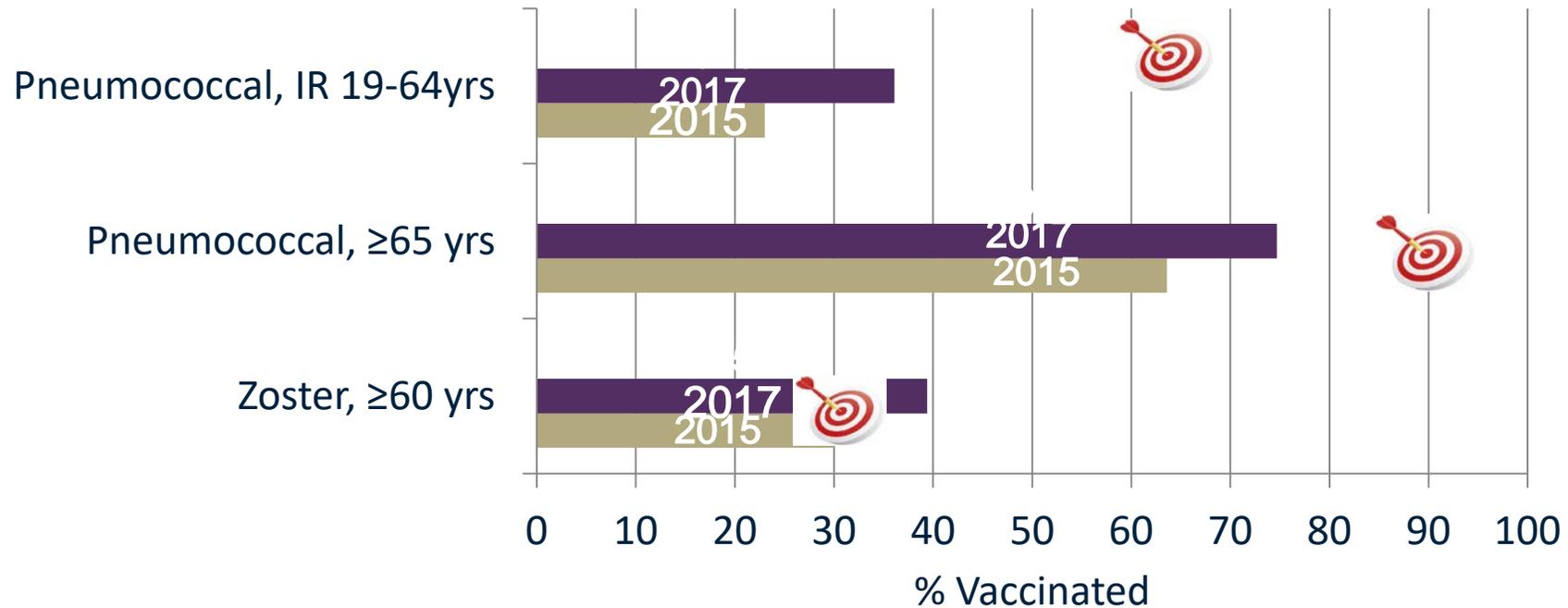
**Figure 1. Flu Vaccination Coverage of Children 6 months—17 years, United States, 2010–2019**



**Figure 3. Flu Vaccination Coverage of Adults 18 years and older,  
United States, 2010–2019**



## Adult Immunization Coverage, Selected Vaccines by Age and Increased-Risk Status, 2013–2015, United States



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

Data Source: 2015 NHIS, Surveillance of Vaccination Coverage Among Adult Populations —United States, 2015. *MMWR* Surveillance Summaries / May 5, 2017 / 66(11):–28, 2017 Behavioral Risk Factor Surveillance System

# Strategies Overview

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



- **Immunization Quality Improvement for Providers (IQIP)**
- **IQIP is designed by CDC and implemented by CDC's 61 state and local immunization program awardees.**
- **IQIP promotes and supports implementation of provider-level strategies designed to increase on-time vaccination among children and adolescents.**

<https://www.cdc.gov/vaccines/programs/iqip/index.html>

# **IQIP Promotes On-Time Vaccination**

- **On-time vaccination provides maximum protection against vaccine-preventable diseases for children and adolescents by ensuring they are getting the vaccines they need when they need them.**
- **IQIP uses a 12-month technical assistance process to support VFC providers in applying quality improvement strategies to increase on-time vaccination.**

# **IQIP Promotes Three (Sometimes Four) Strategies**

- Schedule the next vaccination visit before the patient leaves the office.**
  - Leverage immunization information system (IIS) functionality to improve immunization practice.**
  - Give a strong vaccine recommendation (including effective responses to vaccine hesitancy).**
- 
- The immunization program awardees may choose to promote a fourth (custom) strategy to address local priorities.**

# IQIP Timeline

- **Site visit**
- **2-month check-in**
- **6-month check-in**
- **12-month follow-up**

# **IQIP Site Visit**

- **Observe the provider's vaccination workflow.**
- **Review vaccination coverage and set 12-month coverage goals.**
- **Select appropriate quality improvement strategies.**
- **Provide technical assistance to support implementation of selected quality improvement strategies.**
- **Create a Strategy Implementation Plan with action items that are tailored to best meet the provider's needs.**

# **IQIP Check-Ins (2-Month and 6-Month)**

- **Review progress made on the action items in the Strategy Implementation Plan.**
  - **Provide technical assistance for each strategy as needed.**
  - **Update the Strategy Implementation Plan with new or revised action items for each strategy selected.**
- 

# **IQIP Follow-Up (12-Month)**

- **Review progress made on the action items in the Strategy Implementation Plan.**
- **Provide technical assistance for each strategy as needed.**
- **Review year-over-year changes in vaccination coverage and compare to the coverage goals set 12 months earlier.**
- **Update the Strategy Implementation Plan with new or revised action items for each strategy selected.**

# Benefits of IQIP for Providers

- **Increase efficiency by ensuring children and adolescents get the vaccines they need when they need them.**
- **Save provider time by ensuring more patient visits do not have to be scheduled for catch-up vaccinations.**
- **Save money by reducing staff resources spent on catch-up and follow-up.**
- **Assist in meeting childhood and adolescent HEDIS measures.**

# Knowledge Check

Which of the following is an IQIP strategy

- a) Track down every patient who may have left the clinic
- b) Educate providers who have made mathematical errors with their catch-up timing
- c) Dose inventory for adequate storage temperature
- d) Give a strong vaccine recommendation (including effective responses to vaccine hesitancy)
- e) Contact the manufacturer frequently to clarify ACIP recommendations



# Answer

Which of the following is an IQIP strategy

- a) Track down every patient who may have left the clinic
- b) Educate providers who have made mathematical errors with their catch-up timing
- c) Dose inventory for adequate storage temperature
- d) **Give a strong vaccine recommendation (including effective responses to vaccine hesitancy)**
- e) Contact the manufacturer frequently to clarify ACIP recommendations





**Other  
Strategies**

# Strategies for High Vaccination Coverage

- Record-keeping
- Immunization information systems (IISs)
- Recommendations and reinforcement
- Schedule next immunization visit before patient leaves the office
- 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
- Accurate, up-to-date, and complete
  - Reflect current patient population
  - Reflect all vaccines given

The image shows a screenshot of a software interface for managing vaccination records. At the top, there is a header with the text 'Vaccination and Management History' and 'For the period from 01/01/2014 through 01/01/2014'. Below this is a table with several columns, including 'Name', 'Age', 'Sex', 'Status', and 'Vaccine'. The table contains multiple rows of data, with some cells highlighted in yellow. Below the table, there is a section with a blue header and a search bar. At the bottom of the interface, there are logos for 'NHS.uk' and 'NHS.uk'.

# Immunization Information Systems (IISs)

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



<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.whymmunize.org/product/reminder-postcards-baby-bilingual/>



# Reminders and Recall to Providers

- **Communication to health care 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 health care 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

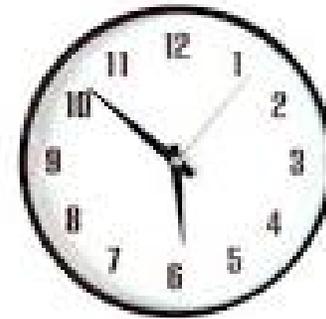
# Strategies for Reducing Missed Opportunities

- **Standing orders**
- **Provider education with feedback**
- **Schedule the next immunization visit before the patient leaves the office.**
- **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



# Costs of Implementing Strategies

Intervention Strategy	Median Intervention Group Size	Median cost per person per year	Median cost per vaccinated person (US\$)
Home visits	575	56	786
Client/family incentive, reducing costs	774	209	399
<b><u>Vac in schools, child care</u></b>	<b><u>5,840</u></b>	<b><u>22</u></b>	<b><u>29</u></b>
Vac in WIC settings	4,967	16	66
<b><u>Client reminder/recall</u></b>	<b><u>654</u></b>	<b><u>2.13</u></b>	<b><u>15</u></b>
Community-based strategies in combination	429	54	15
Provider reminders/assessment/fdback	2,705	4	111
<b><u>Standing orders</u></b>	<b><u>11,813</u></b>	<b><u>6</u></b>	<b><u>29</u></b>
<b><u>Health care systems strategies in combination</u></b>	<b><u>20,000</u></b>	<b><u>4</u></b>	<b><u>12</u></b>

*Am J Prev Med 2016;50(6):797–808*

# 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>

# Frequently Asked Questions

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# E-mail Your Immunization Questions to Us

[NIPINFO@cdc.gov](mailto:NIPINFO@cdc.gov)

Write “Web-on-Demand–  
Strategies” in the subject line



# EpiVac Pink Book Web-on-Demand Resources

- Comprehensive list of resources for ALL sessions
- Located on the web page for this web-on-demand session at [www.cdc.gov/vaccines/ed/webinar-epv/index.html](http://www.cdc.gov/vaccines/ed/webinar-epv/index.html)
- Additional materials located on this webpage include:
  - Principles of Vaccination slide set
  - Web-on-demand questions and answers
  - Transcript of this session
  - Continuing education instructions

## COURSE RESOURCES

### Epidemiology and Prevention of Vaccine-Preventable Diseases

- ▶ Epidemiology and Prevention of Vaccine-Preventable Diseases (Pink Book) Supplement: [www.cdc.gov/vaccines/pubs/pinkbook/supplement.html](http://www.cdc.gov/vaccines/pubs/pinkbook/supplement.html)

#### Overall Resources

- ▶ Current childhood and adult immunization schedules: [www.cdc.gov/vaccines/schedules/index.html](http://www.cdc.gov/vaccines/schedules/index.html)
- ▶ CDC Vaccine Schedules App for Health Care Providers: [www.cdc.gov/vaccines/schedules/hcp/schedule-app.html](http://www.cdc.gov/vaccines/schedules/hcp/schedule-app.html)
- ▶ Advisory Committee on Immunization Practices (ACIP) recommendations: [www.cdc.gov/vaccines/hcp/acip-recs/index.html](http://www.cdc.gov/vaccines/hcp/acip-recs/index.html)
- ▶ CDC General Best Practice Guidelines for Immunization: [www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html](http://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html)
- ▶ CDC Continuing Education Information: [www.cdc.gov/vaccines/ed/ce-credit-how-to.html](http://www.cdc.gov/vaccines/ed/ce-credit-how-to.html)
- ▶ Health Care Personnel Vaccination Recommendations: [www.immunize.org/catg.d/p2017.pdf](http://www.immunize.org/catg.d/p2017.pdf)
- ▶ Pink Book Webinar Series: [www.cdc.gov/vaccines/ed/webinar-epv/index.html](http://www.cdc.gov/vaccines/ed/webinar-epv/index.html)
- ▶ Vaccines Licensed for Use in the United States Package Inserts: [www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm093833.htm](http://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm093833.htm)
- ▶ You Call the Shots: [www.cdc.gov/vaccines/ed/youcalltheshots.html](http://www.cdc.gov/vaccines/ed/youcalltheshots.html)

#### Course Intro and Objectives

- ▶ What is the Advisory Committee on Immunization Practices (ACIP)?: [www.cdc.gov/vaccines/hcp/conversations/downloads/vacsafe-acip-color-office.pdf](http://www.cdc.gov/vaccines/hcp/conversations/downloads/vacsafe-acip-color-office.pdf)
- ▶ CDC Immunization Resources for You and Your Patients: [www.cdc.gov/vaccines/hcp/admin/downloads/Resource-Booklet.pdf](http://www.cdc.gov/vaccines/hcp/admin/downloads/Resource-Booklet.pdf)
- ▶ Parents' Guide to Childhood Immunizations: [www.cdc.gov/vaccines/parents/tools/parents-guide/index.html](http://www.cdc.gov/vaccines/parents/tools/parents-guide/index.html)
- ▶ Order Information for Free CDC Immunization Materials for Providers and Patients: [www.cdc.gov/pubs/CDCInfoOnDemand.aspx](http://www.cdc.gov/pubs/CDCInfoOnDemand.aspx)

#### Principles of Vaccination

- ▶ Immune System Research: [www.niaid.nih.gov/research/immune-system-research](http://www.niaid.nih.gov/research/immune-system-research)
- ▶ What is the Immune System?: [www.vaccines.gov/basics/work/prevention](http://www.vaccines.gov/basics/work/prevention)
- ▶ Understanding How Vaccines Work: [www.cdc.gov/vaccines/hcp/conversations/downloads/vacsafe-understand-color-office.pdf](http://www.cdc.gov/vaccines/hcp/conversations/downloads/vacsafe-understand-color-office.pdf)
- ▶ Vaccines Work: [www.vaccines.gov/basics/work/index.html](http://www.vaccines.gov/basics/work/index.html)
- ▶ Vaccine Basics: How Vaccines Work: [www.vaccineinformation.org/how-vaccines-work/](http://www.vaccineinformation.org/how-vaccines-work/)
- ▶ The History of Vaccines: How Vaccines Work: [www.historyofvaccines.org/content/how-vaccines-work](http://www.historyofvaccines.org/content/how-vaccines-work)

#### General Best Practice Guidelines

- ▶ Ask the Experts-Scheduling Vaccines FAQs: [www.immunize.org/askexperts/scheduling-vaccines.asp](http://www.immunize.org/askexperts/scheduling-vaccines.asp)
- ▶ Ask the Experts-Combination Vaccines FAQs: [www.immunize.org/askexperts/experts\\_combo.asp](http://www.immunize.org/askexperts/experts_combo.asp)
- ▶ Ask the Experts-Precautions and Contraindications FAQs: [www.immunize.org/askexperts/precautions-contraindications.asp](http://www.immunize.org/askexperts/precautions-contraindications.asp)
- ▶ Foreign Language Vaccine-Preventable Disease Terms: [www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/foreign-products-tables.pdf](http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/foreign-products-tables.pdf)
- ▶ Guide to Contraindications and Precautions to Commonly Used Vaccines: [www.immunize.org/catg.d/p3072a.pdf](http://www.immunize.org/catg.d/p3072a.pdf)
- ▶ Guidelines for Vaccinating Pregnant Women: [www.cdc.gov/vaccines/pregnancy/hcp/guidelines.html](http://www.cdc.gov/vaccines/pregnancy/hcp/guidelines.html)
- ▶ IDSA 2013 Clinical Practice Guideline for Vaccination of the Immunocompromised Host: [www.idsociety.org/Guidelines/Patient\\_Care/IDSA\\_Practice\\_Guidelines/Vaccination\\_of\\_the\\_Immunocompromised\\_Host/](http://www.idsociety.org/Guidelines/Patient_Care/IDSA_Practice_Guidelines/Vaccination_of_the_Immunocompromised_Host/)
- ▶ Interval Between Antibody-Containing Products and Measles- and Varicella-Containing Vaccines: [www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/a/mmr\\_ig.pdf](http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/a/mmr_ig.pdf)



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