



# Knowledge, Roles and Strategies: Ingredients for Improving Immunization Coverage

Amy Groom, MPH

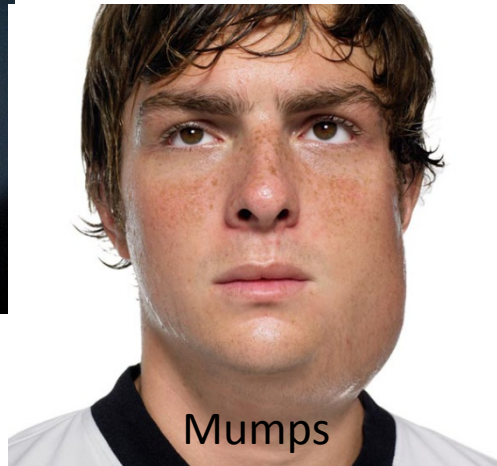
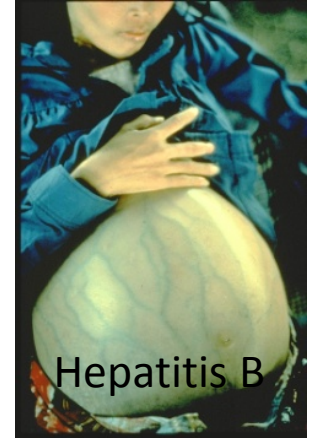
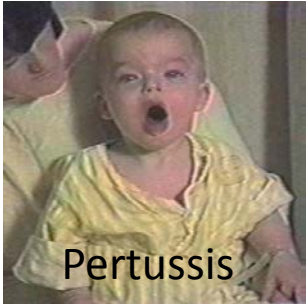
IHS Immunization Program Manager

[Amy.Groom@ihs.gov](mailto:Amy.Groom@ihs.gov)

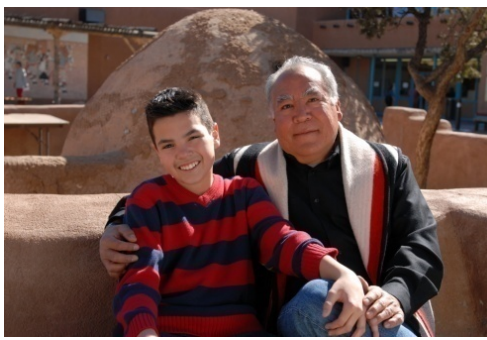


# Achieving the Goal

- Immunizations protect people from potentially deadly diseases
- Vaccine coverage goals (GPRA, HP 2020, HEDIS) are about protecting PEOPLE
- Every person who is not vaccinated is unprotected



Photos courtesy of the Immunization Action Coalition



# ADULT IMMUNIZATIONS

# Background

## High burden of illness from infectious diseases among adults in the United States for which vaccines are available

- From 3,000 to about 49,000 influenza-related deaths per year
  - ~90% among adults 65 years and older
- 9,419 cases of acute hepatitis B in 2009
- 43,500 cases invasive pneumococcal disease (IPD) in 2009, including ~5,000 deaths
  - 85% of IPD and nearly all IPD deaths among adults
- Over 27,000 reported cases of pertussis in US in 2010
  - 6,640 among adults, 4% of which are hospitalized
- About 1 million cases of zoster annually U.S

1.CDC. Active Bacterial Core Surveillance. <http://www.cdc.gov/abcs/reports-findings/survreports/spneu09.pdf>

2.Huang et al . Vaccine 2011

3.2009 NNDSS

4.Thompson AJPH 2009

5.CDC. Prevention of Herpes Zoster. MMWR 2008. 57(RR-5): p. 1-30

**Slide courtesy of Dr. Carolyn Bridges, presented at the 2012 National Adult Immunization Summit**

# Case Study #1

- Patient:
  - 25 year old female
  - Pregnant (27 weeks)
- Vaccine History:
  - Tdap: 11/15/11
  - HPV: 9/1/12
- Notes: Allergic to eggs (hives)

# Case Study #2

- Patient: 20 year old male
- Vaccine history:
  - Td – 1/25/11
- Notes: Heading to college – freshman, living in dorms

# Case Study # 3

- Patient: 65 year old female
- Vaccine History:
  - Td – 1/23/2010
  - PPSV23 – 5/1/2007
- Notes: History of shingles, Diabetes




# Adult Immunization Schedule

## Age Based

VACCINE ▼	AGE GROUP ►	19-21 years	22-26 years	27-49 years	50-59 years	60-64 years	≥ 65 years
Influenza <sup>1,2</sup>		1 dose annually					
Tetanus, diphtheria, pertussis (Td/Tdap) <sup>1,*</sup>		Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs					
Varicella <sup>1,*</sup>		2 doses					
Human papillomavirus (HPV) Female <sup>3,*</sup>		3 doses					
Human papillomavirus (HPV) Male <sup>3,*</sup>		3 doses					
Zoster <sup>6</sup>						1 dose	
Measles, mumps, rubella (MMR) <sup>1,*</sup>		1 or 2 doses					
Pneumococcal polysaccharide (PPSV23) <sup>1,3</sup>		1 or 2 doses					1 dose
Pneumococcal 13-valent conjugate (PCV13) <sup>1,3</sup>		1 dose					
Meningococcal <sup>11,*</sup>		1 or more doses					
Hepatitis A <sup>11,*</sup>		2 doses					
Hepatitis B <sup>11,*</sup>		3 doses					

\*Covered by the Vaccine Injury Compensation Program

 For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster

 Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indication)

 No recommendation

Report all clinically significant postvaccination reactions to the Vaccine Adverse Event Reporting System (VAERS). Reporting forms and instructions on filing a VAERS report are available at [www.vaers.hhs.gov](http://www.vaers.hhs.gov) or by telephone, 800-832-7967.

Information on how to file a Vaccine Injury Compensation Program claim is available at [www.hrsa.gov/vaccinecompensation](http://www.hrsa.gov/vaccinecompensation) or by telephone, 800-338-2382. To file a claim for vaccine injury, contact the U.S. Court of Federal Claims, 717 Madison Place, N.W., Washington, D.C. 20005; telephone, 202-357-6400.

Additional information about the vaccines in this schedule, extent of available data, and contraindications for vaccination is also available at [www.cdc.gov/vaccines](http://www.cdc.gov/vaccines) or from the CDC-INFO Contact Center at 800-CDC-INFO (800-232-4636) in English and Spanish, 8:00 a.m. - 8:00 p.m. Eastern Time, Monday - Friday, excluding holidays.

Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.




The recommendations in this schedule were approved by the Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP), the American Academy of Family Physicians (AAFP), the American College of Physicians (ACP), American College of Obstetricians and Gynecologists and American College of Nurse-Midwives (ACNM).

# Adult Immunization Schedule

## Risk-based

VACCINE ▼	INDICATION ►	Pregnancy	Immuno-compromising conditions (excluding human immunodeficiency virus (HIV)) <sup>1,2,3,4,5</sup>	HIV infection CD4+ T lymphocyte count <sup>6,7,8,9,10</sup>		Men who have sex with men (MSM)	Heart disease, chronic lung disease, chronic alcoholism	Asplenia (including elective splenectomy and persistent complement deficiencies) <sup>11,12</sup>	Chronic liver disease	Kidney failure, end-stage renal disease, receipt of hemodialysis	Diabetes	Healthcare personnel
				< 200 cells/µL	≥ 200 cells/µL							
Influenza <sup>1,2</sup>			1 dose IIV annually			1 dose IIV or LAVI annually	1 dose IIV annually					1 dose IIV or LAVI annually
Tetanus, diphtheria, pertussis (Td/Tdap) <sup>1,2</sup>		1 dose Tdap each pregnancy	Substitute 1-time dose of Tdap for Td booster; then boost with Td every 10 yrs									
Varicella <sup>1,2</sup>		Contraindicated		2 doses								
Human papillomavirus (HPV) Female <sup>1,2</sup>		3 doses through age 26 yrs		3 doses through age 26 yrs								
Human papillomavirus (HPV) Male <sup>1,2</sup>		3 doses through age 26 yrs		3 doses through age 21 yrs								
Zoster <sup>1</sup>		Contraindicated		1 dose								
Measles, mumps, rubella (MMR) <sup>1,2</sup>		Contraindicated		1 or 2 doses								
Pneumococcal polysaccharide (PPSV23) <sup>1,3</sup>				1 or 2 doses								
Pneumococcal 13-valent conjugate (PCV13) <sup>1,3</sup>				1 dose								
Meningococcal <sup>11,12</sup>				1 or more doses								
Hepatitis A <sup>1,2</sup>				2 doses								
Hepatitis B <sup>1,2</sup>				3 doses								

\*Covered by the Vaccine Injury Compensation Program

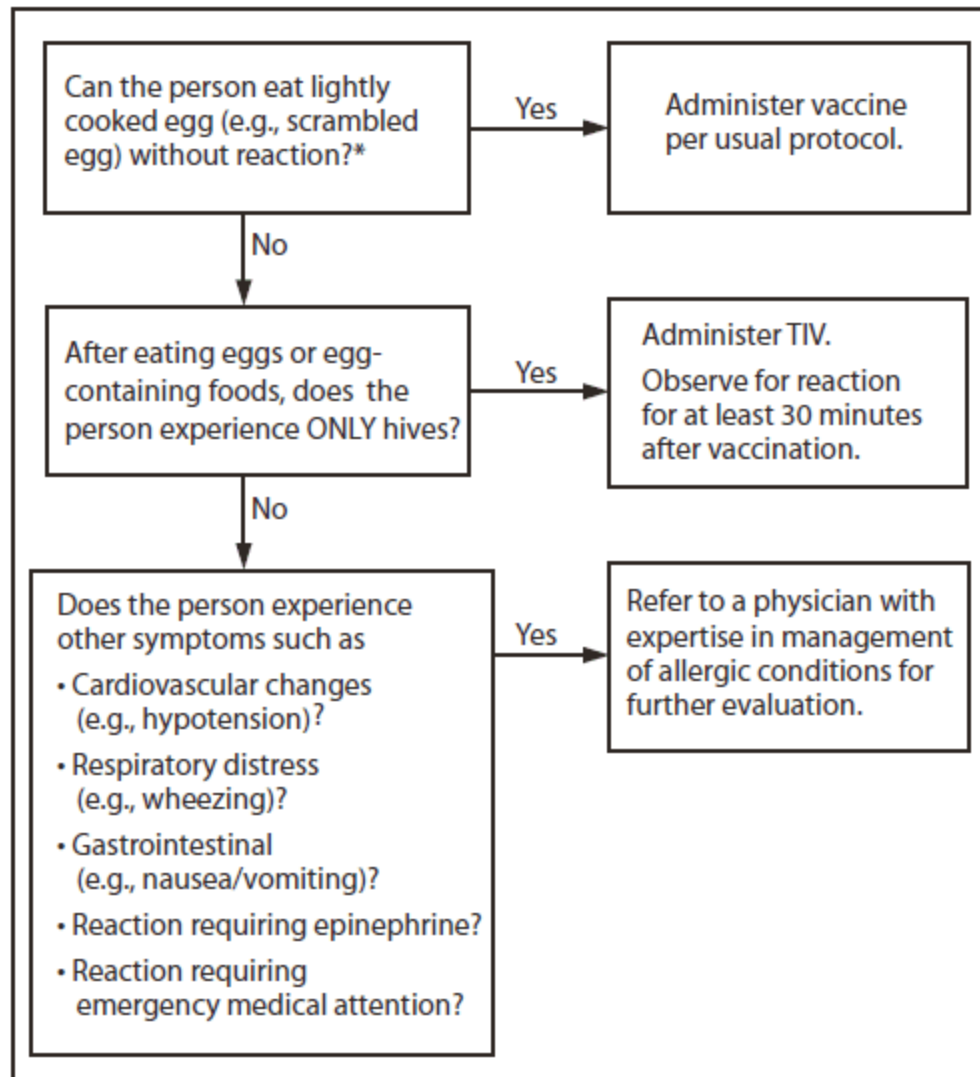
-  For all persons in this category who meet the age requirements and who lack documentation of vaccination or have no evidence of previous infection; zoster vaccine recommended regardless of prior episode of zoster
-  Recommended if some other risk factor is present (e.g., on the basis of medical, occupational, lifestyle, or other indications)
-  No recommendation

These schedules indicate the recommended age groups and medical indications for which administration of currently licensed vaccines is commonly indicated for adults ages 19 years and older, as of January 1, 2013. For all vaccines being recommended on the Adult Immunization Schedule, a vaccine series does not need to be restarted, regardless of the time that has elapsed between doses. Licensed combination vaccines may be used whenever any components of the combination are indicated and when the vaccine's other components are not contraindicated. For detailed recommendations on all vaccines, including those used primarily for travelers or that are issued during the year, consult the manufacturers' package inserts and the complete statements from the Advisory Committee on Immunization Practices ([www.cdc.gov/vaccines/pubs/acip-list.htm](http://www.cdc.gov/vaccines/pubs/acip-list.htm)). Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

# New(er) Recommendations

- Hepatitis B vaccine for all unvaccinated diabetics 19 – 59 years (Dec. 2011)
  - Can be considered for those 60 yrs and older
- Routine Tdap for all adults, including those 65 years and older (June 2012)
- Tdap during EVERY pregnancy (Dec. 2012)
  - To protect the infant through passive antibody transfer
  - Optimal window is 27 – 36 weeks gestation
- 13-valent Pneumococcal Conjugate vaccine (PCV13) for adults with immunocompromising conditions (Oct. 2012)

# Influenza Vaccine and Egg Allergy



Source: ACIP Influenza Vaccine Recommendations 2012-2013.

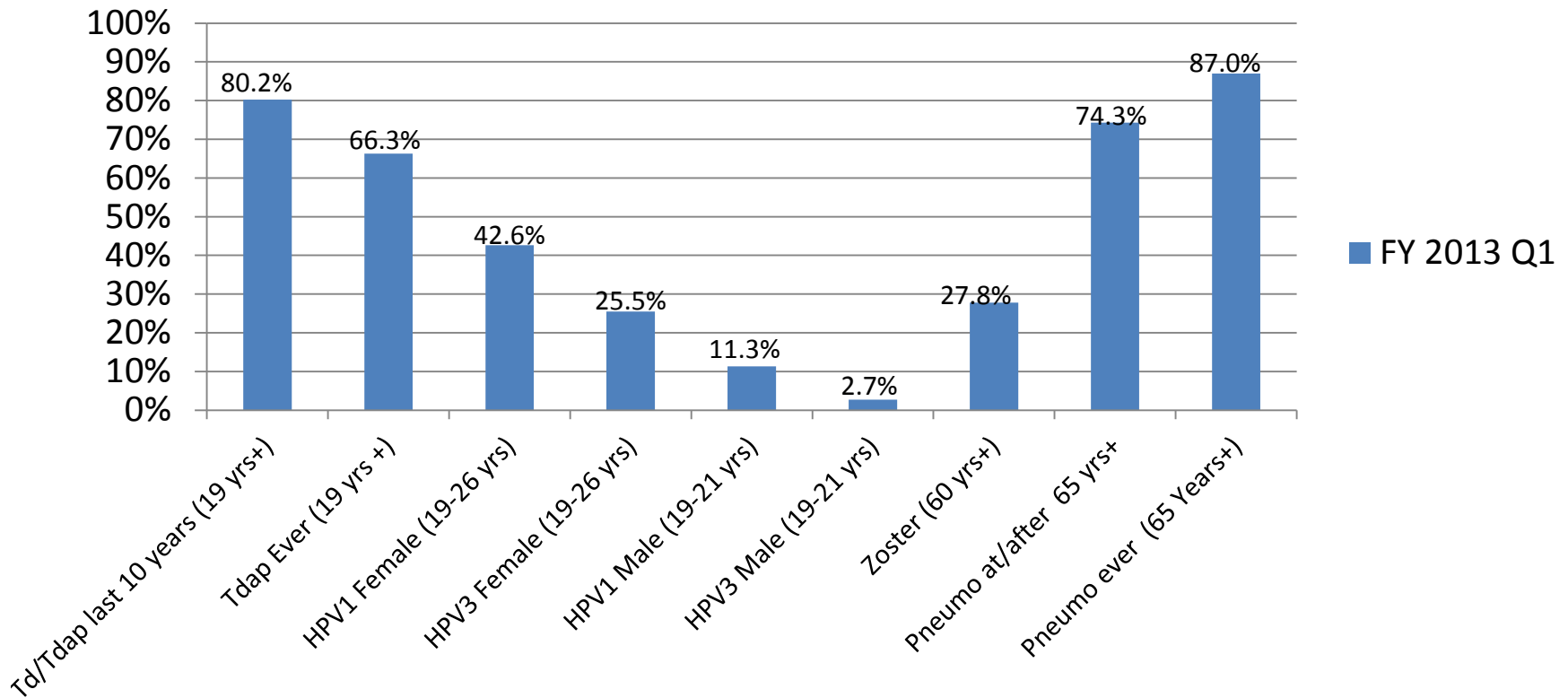
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6132a3.htm#fig2>

# COVERAGE DATA



# IHS Adult Immunization Coverage

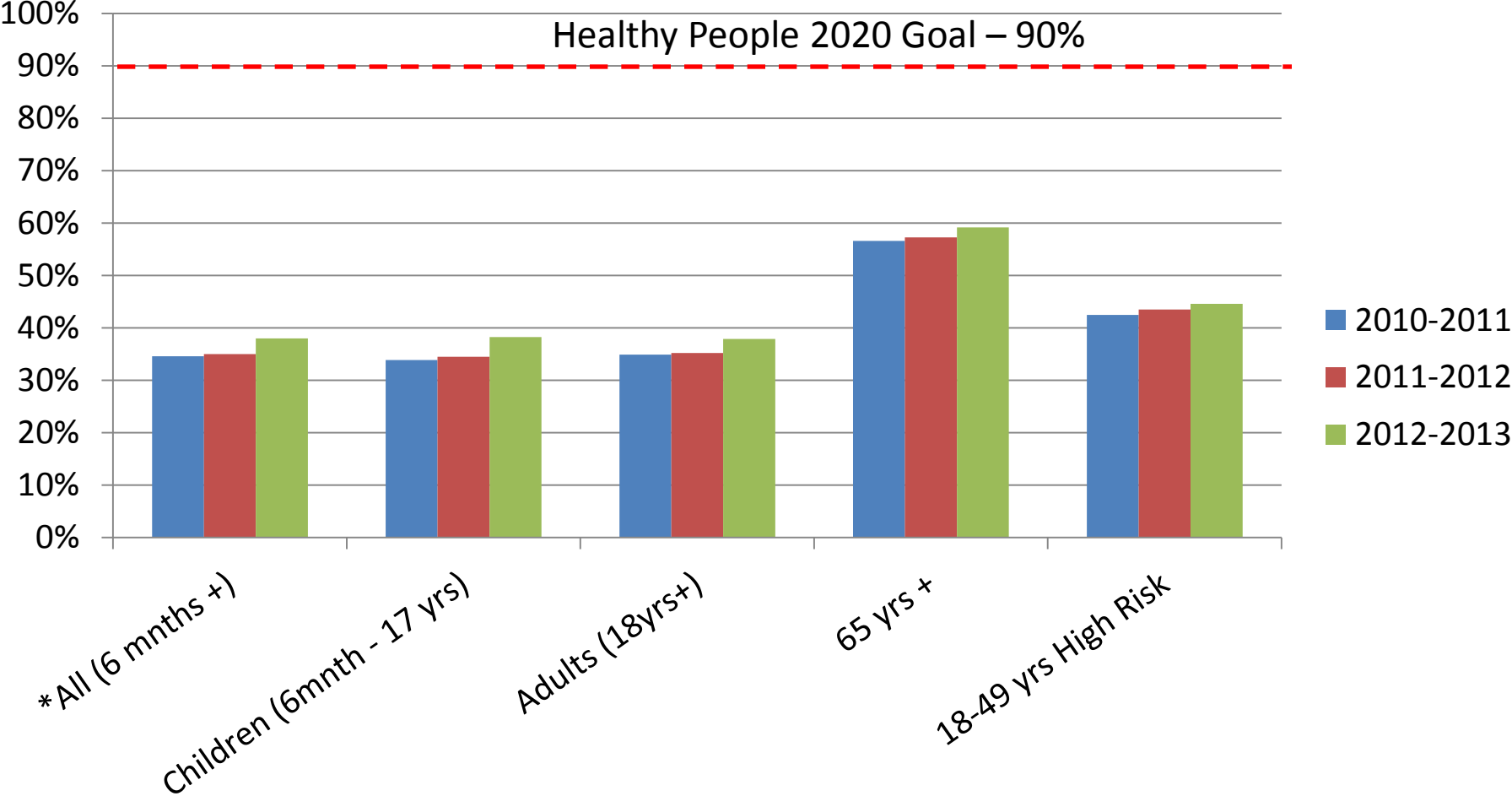
IHS Adult Vaccination Coverage\*  
FY 2013 Q1 Reports



\* Based on Active Clinical Users (2 visits in 3 years), N = 522,310

# IHS Influenza Vaccine Coverage 2010-2013

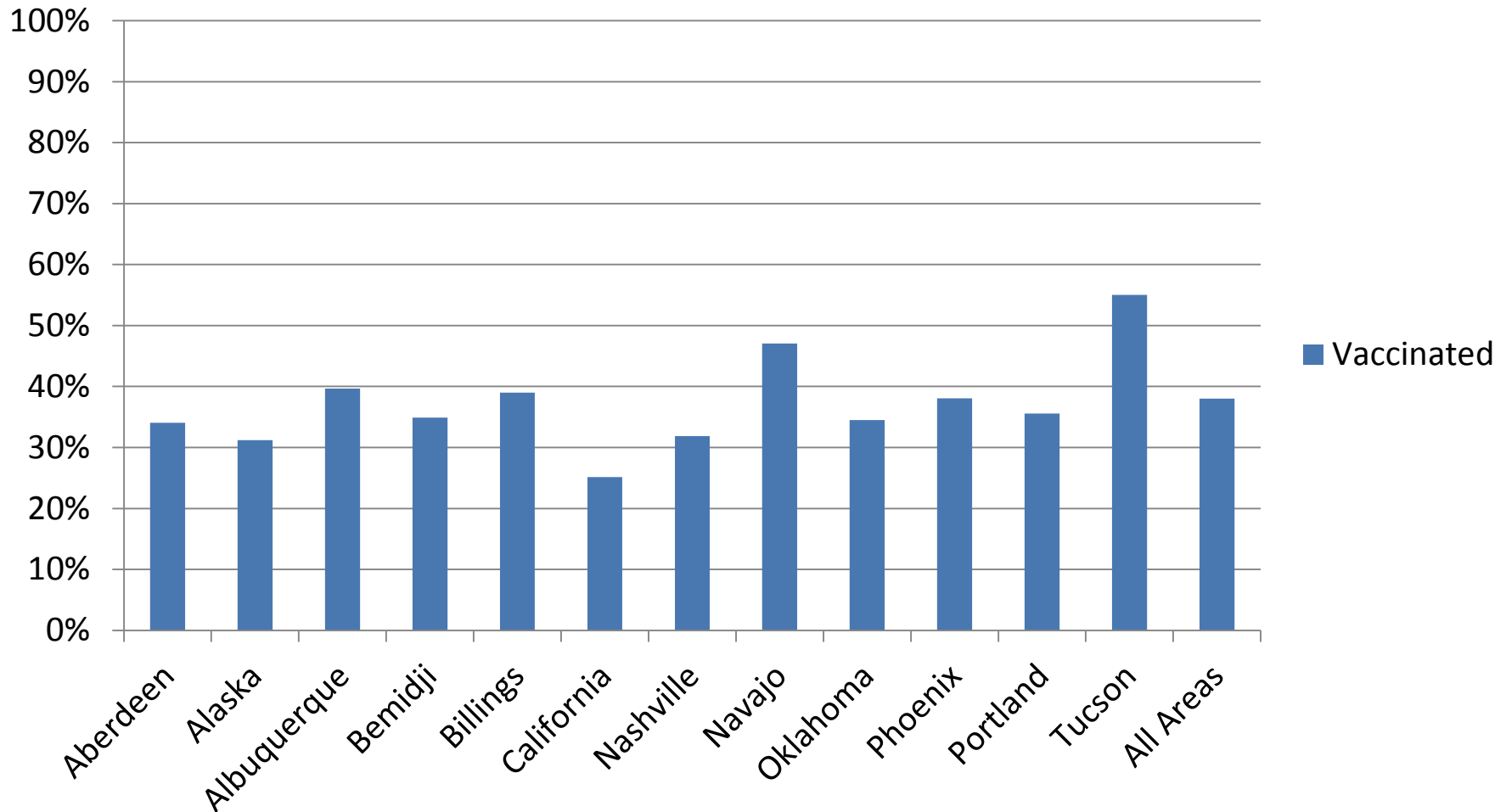
## RPMS Reports



Based on Active Clinical Users – 2 visits in the last 3 years

# Influenza Vaccine Coverage by IHS Area

## All Ages



Based on RPMS Reports.

N = 810,312. Based on Active Clinical Users





**SO WHAT'S THE PROBLEM?**



# Challenges to Adult Vaccination

- Provision of some adult vaccines limited
  - No “Vaccines for adults” program
- Dispersed/diverse sources of medical care
- Adult vaccination less integral to adult medical practices
  - Lack of strong provider recommendation
  - Missed opportunities
- Few settings in which vaccination of adults is “required”



# Vaccinating Adults in IHS

## Challenges

- Patients may access care infrequently
  - Only use ER/Urgent Care services
- Competing priorities, limited time
- Limited funding for vaccine purchase
- Patient education
- Provider buy in?

## Advantages

- Integrated care
- EHR and provider reminders
- No financial barriers for patients
- Relationships with the community
  - PHNS, CHRs



# THE HOW



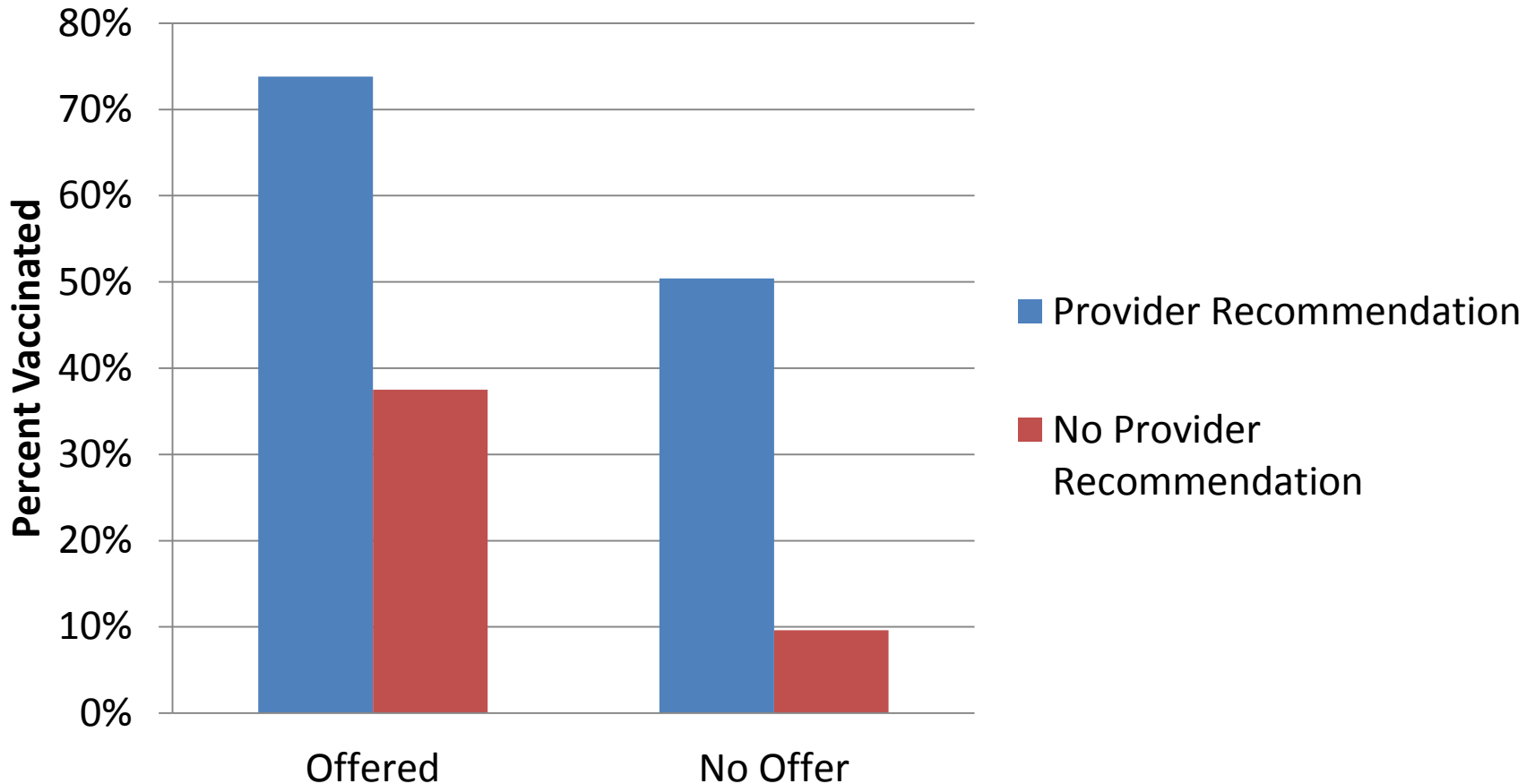


# Evidenced-based Strategies

- Standing Orders
  - The most consistently effective method for increasing adult vaccination rates
- Computerized Record Reminder
- Chart Reminder
- Performance Feedback
- Home Visits
- Mailed/Telephoned Reminders
  - Most useful in settings with low baseline coverage
- Expanding Access in Clinical Settings
  - Recommended as part of a multi-component intervention
- Patient Education
- Personal Health Records
  - Recommended as part of a multi-component intervention

# Provider Recommendation

## Influenza Vaccination Among Pregnant Women




Data courtesy Erin Kennedy. Presented at 2013 Adult Immunization Summit



# Build a Team

- It takes a team
  - Vaccination is not just one person's responsibility
- Engage facility leadership and all staff
  - Share current immunization coverage data
  - Educate employees on the importance of immunizations
    - Are your staff vaccinated?
  - Incorporate the immunization message everywhere
    - Receptionists, Medical Assistants, Pharmacists, Dentists, Nurses, Doctors



# Identify the Gap - Review the data

- What is current coverage?
- What is the goal?
- What are the issues?
  - Missed opportunities?
  - Patient resistance?
  - Provider resistance?





# Make a plan and monitor progress

- Provide feedback to individual providers on immunization coverage among their patients
- Post monthly coverage results and goals
- Review progress towards meeting goals at staff meetings
- Figure out what's working, what's not, and adjust



# Vaccine Coverage Reports in RPMS

- Childhood Reports
  - 3-27 months, 2 years
- Adolescent Report
  - 13-17 years
- Adult Report
  - Reports on vaccines for different adult age groups
  - HPV for 19-26/21 yrs, Tdap for 19+, Zoster for 60+
- Influenza Report
  - Report on flu vaccine coverage in all age groups
- For all reports – can select patient group
  - Active clinical , User pop, All, Active in immunization registry
- Can generate list of Current/Not Current patients



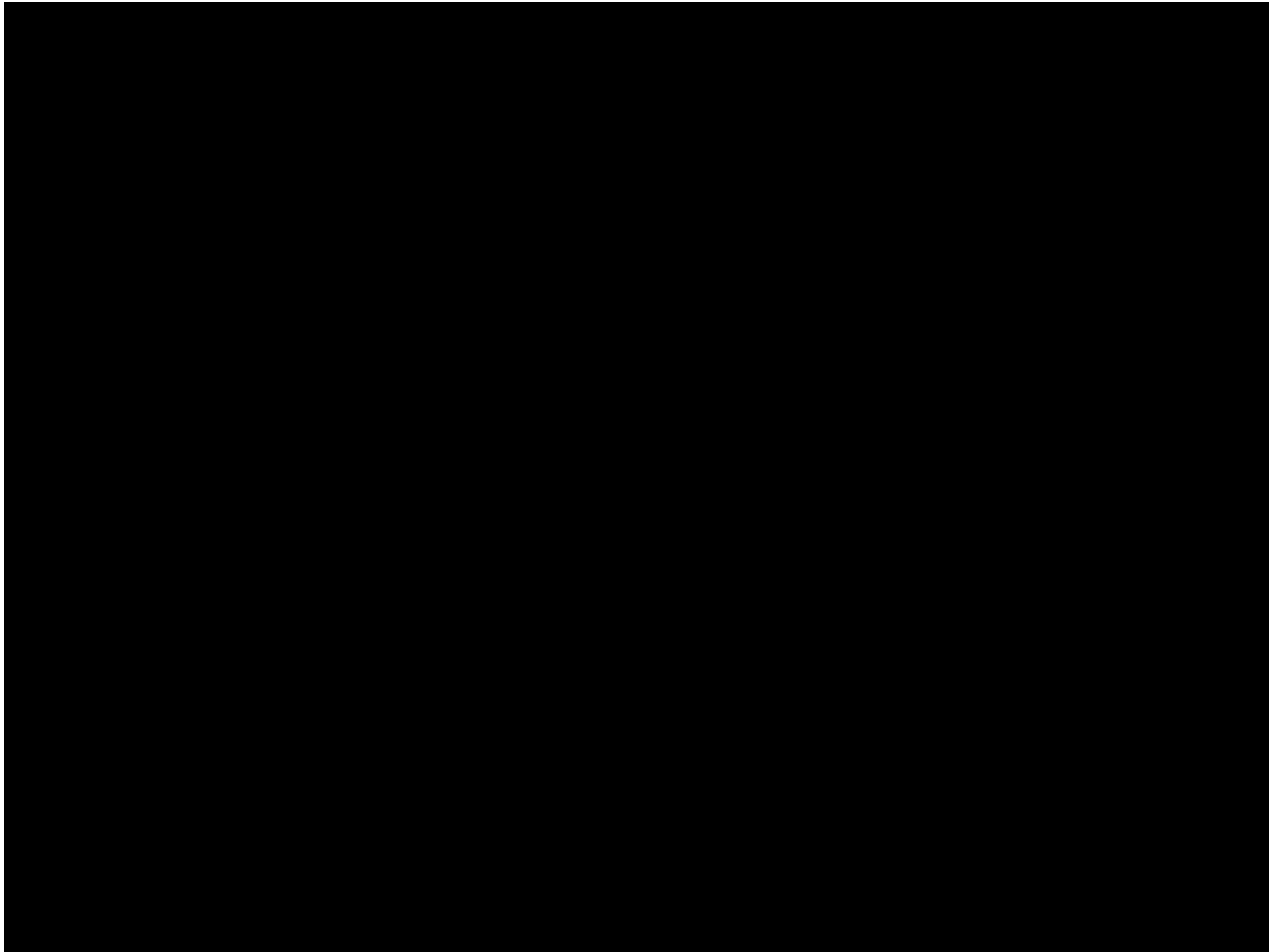
# Reduce Missed Opportunities

- Expand access
  - Utilize standing orders
  - Walk-in immunization clinics
  - \*Pharmacy-based immunizations\*
- Provide immunizations at ALL visits
- Reminder/Recall for patients

# Resources

- Immunization Schedules and Resources:  
<http://www.cdc.gov/vaccines>
- American College of Physicians:  
[http://www.acponline.org/clinical\\_information/resources/adult\\_immunization/](http://www.acponline.org/clinical_information/resources/adult_immunization/)
- Personal Testimonials – [www.immunize.org](http://www.immunize.org)
- Merck HPV Reminder Recall Program
  - 3 To Complete -  
<https://www.merckvaccines.com/Products/Gardasil/Pages/patientcomplianceprogram>

# Ramona's Story



Courtesy of the IHS Portland Area, Joe Law.

# RPMS Immunization Package Reports

IMMUNIZATION v8.5\*1

\* REPORTS MENU \*

Site: DEMO HOSPITAL

=====

User: GROOM, AMY

ADO Adolescent Report  
ADL Adult Report  
FLU Influenza Report  
H1 H1N1 Accountability Report  
PCV PCV Report  
QTR 3-27 Month Report  
TWO Two-Yr-Old Rates Report  
VAC Vaccine Accountability Report

**You've got PRIORITY mail!**

Select Reports Menu Option:

# Adult Immunization Report

Training DB - TNVPlus  
Session Edit View Commands Script Help

Immunization v8.5\*1 Jun 12, 2012 14:34:31 Page: 1 of 1

ADULT IMMUNIZATION REPORT

1 - Quarter Ending Date.....: 06/12/2012  
2 - Community.....: ALL  
3 - Health Care Facility.....: ALL  
4 - Beneficiary Type.....: INDIAN/ALASKA NATIVE  
5 - Include CPT Coded Visits...: NO  
6 - Patient Population Group...:

Select a left column number to change an item.

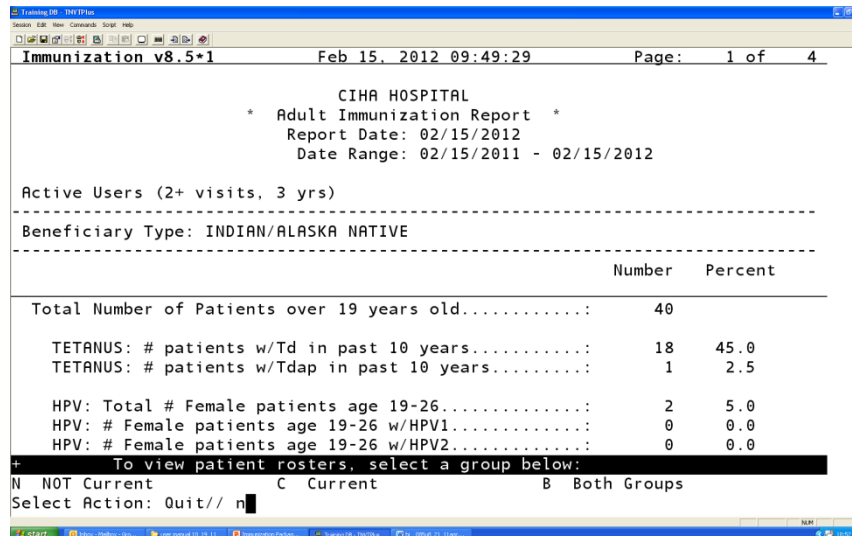
V View Adult Report      P Print Adult Report      H Help

Select Action: Quit//

start | Inbox - Mailbox - ... | RE: antipyretics - ... | Immunizations2 - ... | Training DB - TNV... | 3:34 PM

# Current vs. Not Current

- All patient reports allow you to generate a list of the patients who are Not Current, Current, or Both groups
- To View, type in “N” for Not Current, “C” for current, or “B” for both groups



Training:PH - PH IP110

Immunization v8.5\*1 Feb 15, 2012 09:49:29 Page: 1 of 4

CIHA HOSPITAL  
\* Adult Immunization Report \*  
Report Date: 02/15/2012  
Date Range: 02/15/2011 - 02/15/2012

Active Users (2+ visits, 3 yrs)

Beneficiary Type: INDIAN/ALASKA NATIVE

	Number	Percent
Total Number of Patients over 19 years old.....:	40	
TETANUS: # patients w/Td in past 10 years.....:	18	45.0
TETANUS: # patients w/Tdap in past 10 years.....:	1	2.5
HPV: Total # Female patients age 19-26.....:	2	5.0
HPV: # Female patients age 19-26 w/HPV1.....:	0	0.0
HPV: # Female patients age 19-26 w/HPV2.....:	0	0.0

+ To view patient rosters, select a group below:  
N NOT Current C Current B Both Groups  
Select Action: Quit// n



# Patient Lists of “Not Current”

Training DB - TNVPlus  
Session Edit View Commands Script Help

Immunization v8.5\*1 Feb 15, 2012 09:53:40 Page: 1 of 3

WARNING: Confidential Patient Information, Privacy Act applies.

CIHA HOSPITAL  
-----

Report Date: 15-Feb-2012 Total Patients: 23 (19+ Years) \*01  
Report Title: ADULT Patient Group: Report - Not Current

Name	HRCN#	DOB	Age Today	Sex	Current	Community
ABERNATHY, SUMMER MA	112797	10/22/1981	(30 yrs)	F		BIG COVE
HEATH, RICHARD	100343	02/21/1941	(70 yrs)	M		BIG Y
TAYLOR, JACQUELINE M	103584	01/21/1951	(61 yrs)	F		BIG Y
JOHNSON, ANN C	108220	10/15/1983	(28 yrs)	F		BIG Y
SMALL, LINDA SUE	101935	01/25/1947	(65 yrs)	F		BIRDTOWN
COOPER, DIANE	107027	08/09/1965	(46 yrs)	F		BIRDTOWN
PERRY, JENNIFER	108681	09/13/1954	(57 yrs)	F		BRYSON CITY
ABERCROMBIE, JAMES M	129969	06/13/1958	(53 yrs)	M		CANDLER
WILSON, JACK	100800	03/22/1948	(63 yrs)	M		CHEROKEE
ABERNATHY, KERMIT	136389	11/08/1959	(52 yrs)	M		OHIO UNK
ABBOTT, RODOLFO ALMA	103922	06/27/1948	(63 yrs)	M		PAINTTOWN

+ Enter ?? for more actions

Edit Patient Print List (no queuing)

Select Action: Quit// e Edit Patient

Select Patient Name or Chart#: 103922

start | Inbox - Mailbox - Gro... | user manual 10\_19\_11 | Immunization Packag... | Training DB - TNVPlus | bl\_085u6\_21\_11agc... | NUM | 10:55 AM

- To view an individual patient record, select “E” for edit patient
- Enter patient chart number
- Enter forecast date (or accept default)
- Patients Imm Record and complete history will be pulled up

# Immunization Package – Lists and Letters

Immunization v8.5\*1

May 24, 2012 11:01:31

Page: 1 of 1

## IMMUNIZATION LISTS & LETTERS

- 1 - Date of Forecast/Clinic...: 24-May-2012
- 2 - Age Range.....: 1-72 Months
- 3 - Patient Group (01).....: Active
- 4 - Community.....: ALL
- 5 - Case Manager.....: ALL
- 6 - Designated Provider.....: ALL
- 7 - Immunizations Received...: ALL
- 8 - Immunizations Due.....: ALL
- 9 - Health Care Facility.....: DEMO HOSPITAL
- 10 - Lot Number.....: ALL
- 11 - Additional Information...: None
- 12 - Order of Listing.....: by Patient Age
- 13 - Include Deceased.....: No

Select a left column number to change an item.

List of Patients

Print Due Letters

Help

Select Action: Quit//