

The Pharmacist's Role in Immunization Practice

Jeff Goad, Pharm.D., MPH

Professor and Chair, Department of Pharmacy Practice

Chapman University School of Pharmacy

Objectives

- **Describe the role of pharmacists in immunization practice according to State and Federal guidelines**
- **Discuss the use of CAIR and other means by which pharmacists communicate with other providers**
- **Introduce the Pharmacist Patient Care Process as it applies to immunization practice**

What are *Standards for Adult Immunization Practice*?

- All providers, including those who don't provide vaccine services, have role in ensuring patients up-to-date on vaccines
- Call to action for ALL healthcare professionals to:
 - Assess immunization status of all patients at every clinical encounter
 - Strongly recommend vaccines that patients need
 - Administer needed vaccines or refer to a provider who can immunize
 - Document vaccines received by patients in state vaccine registries

www.cdc.gov/vaccines/hcp/patient-ed/adults/for-practice/standards/index.html

Pharmacists are Health Care Providers in California



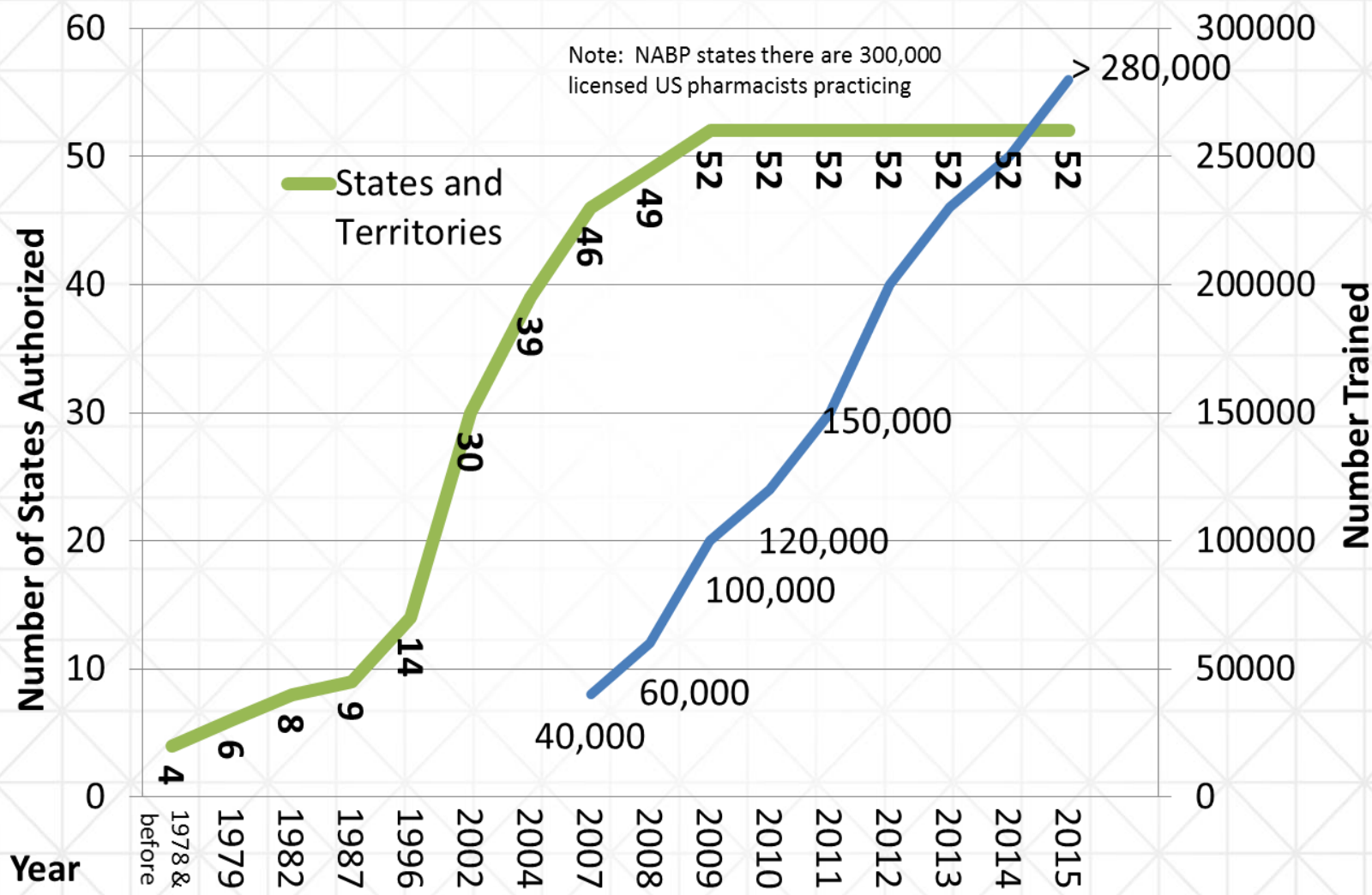
4050(c): pharmacists are health care providers who have the authority to provide health care services

Pharmacist Immunization Training

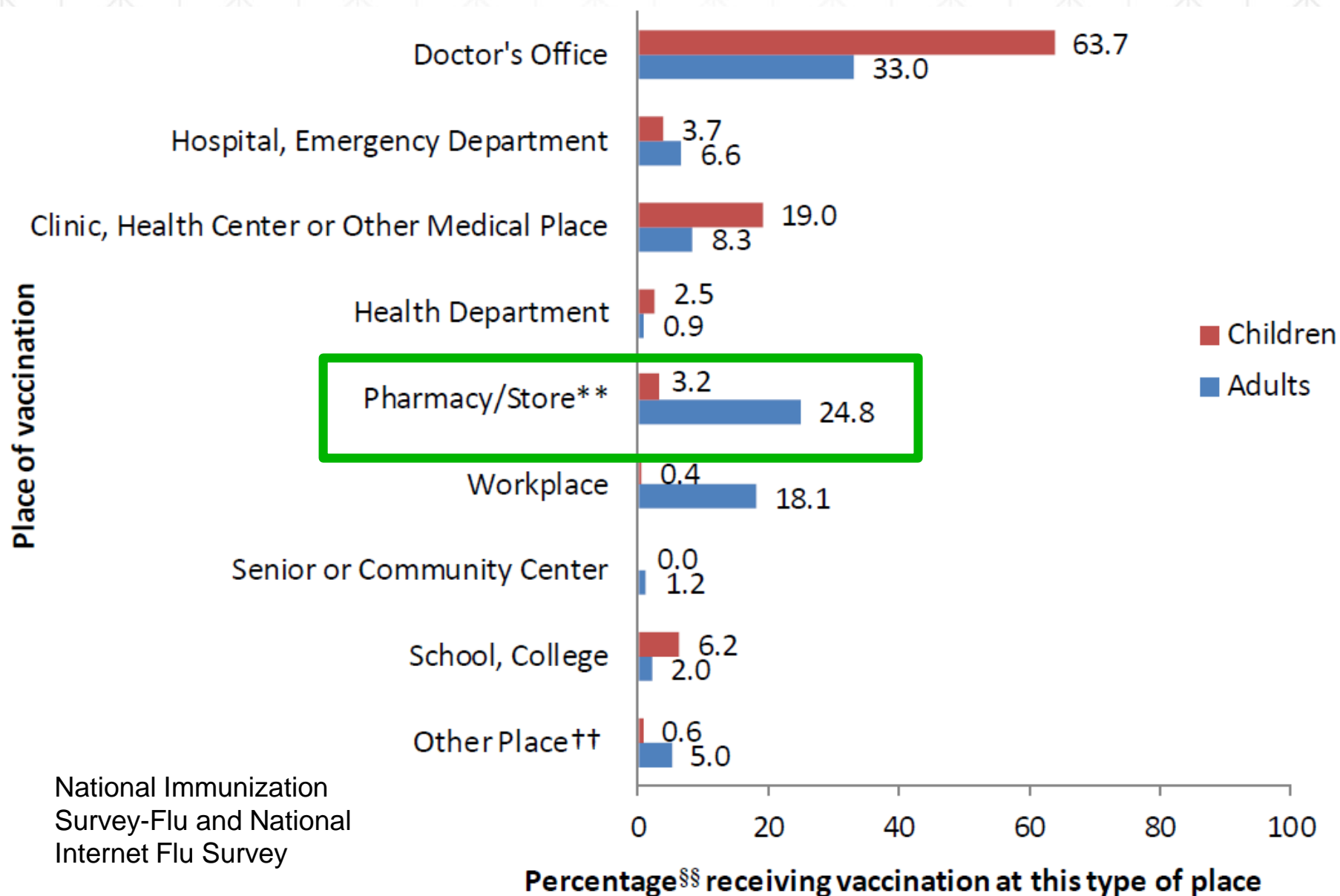
- **Pharmacists and Student Pharmacists**
- **APhA Pharmacy-based Immunization Delivery Program**
 - 20 hours (8 live/12 self-study)
 - 3 assessments
 - 2 exams
 - 1 observational skill (IM/SC)
- **Covers all areas of “Pink Book” training +**
 - Pharmacy clinic operations
 - Reporting, documentation
- **BLS, BBP**



Number of States Authorizing Pharmacists to Administer Influenza Vaccine and Number of Pharmacists Trained to Administer Vaccines



Place of flu vaccination (%) for children and adults, United States, early 2015–16 flu season



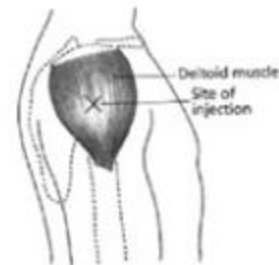
New Pharmacy Immunization Law

- Existing (B&P 4052 a.11)
 - Any IZ and age pursuant to a protocol
- **New: Independent (B&P4052.8)**
- **Initiate and/or administer (IN/IM/SC/ID)**
 - 3 years and older
 - Routine vaccines
 - ACIP recommended, published by CDC



Vaccine ▼	Age ►	7–10 years	11–12 years	13–18 years
Tetanus, Diphtheria, Pertussis ¹			Tdap	Tdap
Human Papillomavirus ²	see footnote 2		HPV (3 doses)	HPV series
Meningococcal ³		MCV	MCV	MCV
Influenza ⁴		Influenza (Yearly)		
Pneumococcal ⁵		PPSV		
Hepatitis A ⁶		HepA Series		
Hepatitis B ⁷		Hep B Series		
Inactivated Poliovirus ⁸		IPV Series		
Measles, Mumps, Rubella ⁹		MMR Series		
Varicella ¹⁰		Varicella Series		

 Range of recommended ages for all children except certain high-risk groups
 Range of recommended ages for catch-up immunization
 Range of recommended ages for certain high-risk groups



Adult Schedule – Can Administer ALL

Vaccine	19–21 years	22–26 years	27–59 years	60–64 years	≥ 65 years
Influenza ¹	1 dose annually				
Td/Tdap ²	Substitute Tdap for Td once, then Td booster every 10 yrs				
MMR ³	1 or 2 doses depending on indication				
VAR ⁴	2 doses				
HZV ⁵				1 dose	
HPV–Female ⁶	3 doses				
HPV–Male ⁶	3 doses				
PCV13 ⁷					1 dose
PPSV23 ⁷	1 or 2 doses depending on indication				1 dose
HepA ⁸	2 or 3 doses depending on vaccine				
HepB ⁹	3 doses				
MenACWY or MPSV4 ¹⁰	1 or more doses depending on indication				
MenB ¹⁰	2 or 3 doses depending on vaccine				
Hib ¹¹	1 or 3 doses depending on indication				



Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection



Recommended for adults with additional medical conditions or other indications



No recommendation

Adult Schedule – Special Conditions

Vaccine	Pregnancy ^{1-6,9}	Immuno-compromised (excluding HIV infection) ^{3-7,11}	HIV infection CD4+ count (cells/ μ L) ^{3-7,9-11}		Asplenia, persistent complement deficiencies ^{7,10,11}	Kidney failure, end-stage renal disease, on hemodialysis ^{7,9}	Heart or lung disease, chronic alcoholism ⁷	Chronic liver disease ⁷⁻⁹	Diabetes ^{7,9}	Healthcare personnel ^{3,4,9}	Men who have sex with men ^{6,8,9}
			< 200	\geq 200							
Influenza ¹	1 dose annually										
Td/Tdap ²	1 dose Tdap each pregnancy	Substitute Tdap for Td once, then Td booster every 10 yrs									
MMR ³	contraindicated		1 or 2 doses depending on indication								
VAR ⁴	contraindicated		2 doses								
HZV ⁵	contraindicated			1 dose							
HPV-Female ⁶		3 doses through age 26 yrs									
HPV-Male ⁶		3 doses through age 26 yrs			3 doses through age 21 yrs						3 doses through age 26 yrs
PCV13 ⁷		1 dose									
PPSV23 ⁷		1, 2, or 3 doses depending on indication									
HepA ⁸	2 or 3 doses depending on vaccine										
HepB ⁹						3 doses					
MenACWY or MPSV4 ¹⁰			1 or more doses depending on indication								
MenB ¹⁰					2 or 3 doses depending on vaccine						
Hib ¹¹		3 doses post-HSCT recipients only		1 dose							



Recommended for adults who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection



Recommended for adults with additional medical conditions or other indications



Contraindicated



No recommendation

What Vaccines are Not Routinely Recommended by ACIP?

- Typhoid
- Yellow Fever
- Japanese Encephalitis
- Rabies
- BCG



Travel Vaccines

**Can still do under
protocol**

Pharmacy Immunization Law (new and old)

- **Initiate and/or administer**
- **Training**
 - **An approved immunization training program**
 - **Endorsed by CDC or ACPE**
 - **Injection technique, indications/CIs, emergency mgmt.**
 - **Maintain IZ training – 1 hr of CE q2 yrs**
 - **BLS - maintain**
- **May initiate/admin Epi or diphenhydramine**

IZ Law Documentation

- **Vaccine administration record**
 - Pharmacy – readily retrievable
 - Patient record (“yellow card”)
- **Notification of vaccination**
 - PCP and/or Pre-natal provider
 - Immunization registry (IIS)
 - All within 14 days of administration

IMMUNIZATION RECORD
Comprobante de Inmunización



Name
nombre _____

Birthdate
fecha de nacimiento _____

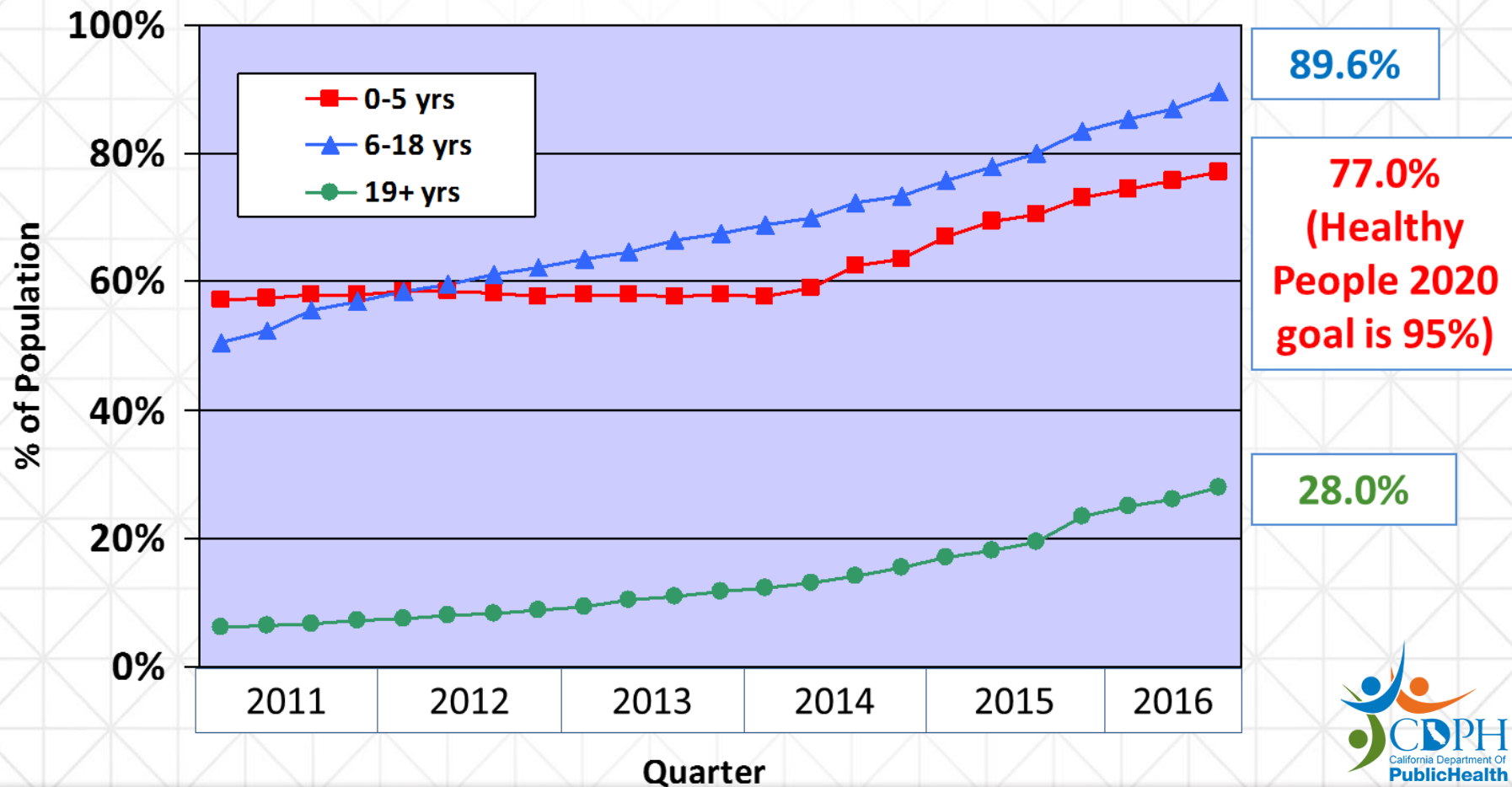
Allergies
alergias _____

Vaccine Reactions
reacciones a cualquier vacuna _____

RETAIN THIS DOCUMENT — CONSERVE ESTE DOCUMENTO



% of Californians with ≥ 2 immunizations in CAIR (7 CDPH regions only)



CAIR - Doses Submitted by Pharmacies*

Pharmacy Type	# of Sites	0-18 Yrs Doses	19+ Yrs Doses
Chain	2,087	2,081	50,479
Mass Merchandiser	520	203	6,521
Supermarket/Grocery Store	391	242	5,776
Independent Pharmacy	4	-	-
All	3,002	2,526	62,776

*CAIR 7 regions only, Q1 2016



CAIR - Adult Doses Submitted by Pharmacies - selected vaccines*

Pharmacy Type	Flu	HAV	HAV-HBV	HBV	HPV	MCV4	Meng B	MMR	PCV13	PPV23	Tdap	Zoster
Chain	27,034	597	228	470	85	255	132	492	5,182	1,146	10,071	6,437
Mass Merchandiser	2,949	86	51	133	18	30	3	87	868	314	1,169	960
Supermarket/ Grocery Store	2,708	116	59	39	16	42	2	54	958	173	991	806
All	32,691	799	338	642	119	327	137	633	7,008	1,633	12,231	8,203

*CAIR 7 regions only, Q1 2016



Documentation

- Screening
- VAR
- Consent

Pharmacy Name: _____

Address: _____

Patient Name: _____

Birth Date: _____

VACCINE ADMINISTRATION RECORD, SCREENING and PATIENT CONSENT

	YES	NO
1. Have you ever had a severe reaction to any vaccine that required medical care? If yes, describe: _____	_____	_____
2. Do you have any allergies to food, medications, or vaccines?	_____	_____
3. Are you sick today?	_____	_____
4. Have you had Guillain-Barre Syndrome, seizure, brain, or nerve problems?	_____	_____
5. Are you pregnant or planning to become pregnant in the next 3 months?	_____	_____
6. Are you or anyone in your household being treated with chemotherapy or radiation for cancer, have HIV/AIDS or any immune deficiency disorder?	_____	_____
7. Do you or anyone in your household take oral prednisone (>20mg/day) or other oral steroids, or anticancer drugs?	_____	_____
8. Do you have a bleeding disorder or take "blood thinners" like coumadin or heparin?	_____	_____

The following questions will help determine any other indications or contraindications

1. What adult vaccinations has this patient received (vaccine and date)?

2. List all Rx and OTC medications this patient is currently taking

3. List all current medical conditions

INFORMATION ABOUT PERSON TO RECEIVE VACCINE (please print)

NAME last	first	middle initial	SOCIAL SECURITY NUMBER
ADDRESS	CITY	STATE/ZIP	PHONE#
BIRTHDATE	SEX	PHYSICIAN	PHYSICIAN PHONE OR FAX

☐ Yes ☐ No I request to have this information sent to the physician's office specified above

VACCINE	LOT #	EXP DATE	MANUFACTURER	DOSE (mL)	ADMINISTRATOR	VIS DATE
_____	_____	_____	_____	_____	_____	_____

Please read the following statements and sign below on the signature line.

I have read or have had explained the information provided about the vaccine I am to receive. I have had a chance to ask questions that were answered to my satisfaction. I believe I understand the benefits and risks of vaccination and ask that the vaccine be given to me or to the person named above for whom I am authorized to make this request.

Medicare, I do hereby authorize the _____ <Pharmacy> to release information and request payment. I certify that the information given by me in applying for payment under Medicare is correct. I authorize release of all records to act on this request. I request that payment of authorized benefits be made on my behalf.

X _____ DATE: _____
Signature of person to receive vaccine or person authorized to make the request (parent or guardian)

SCHOO



Applying the Pharmacists' Patient Care Process to

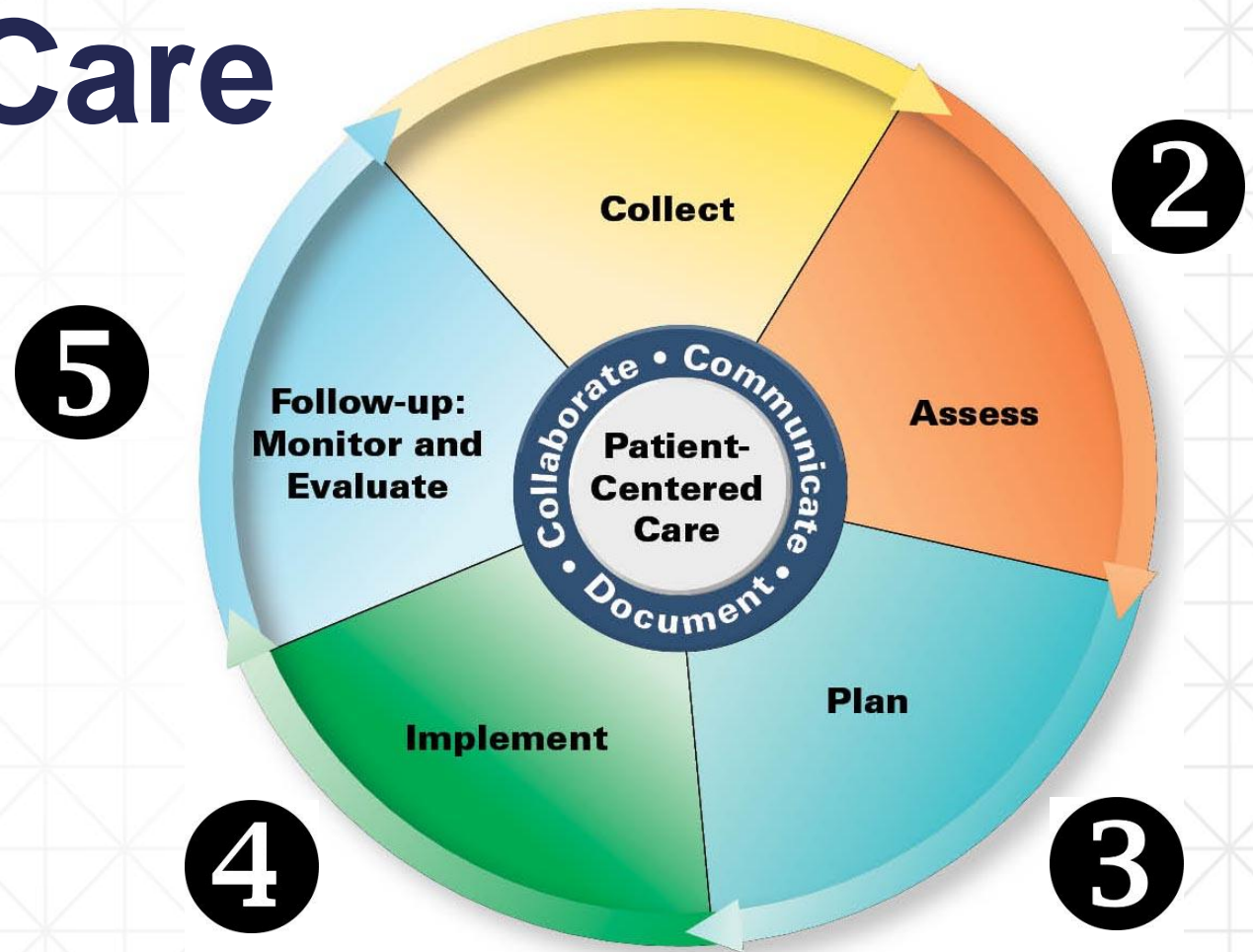
Immunization Services

A Resource Guide for California Pharmacists

- **PPCP created by the Joint Commission of Pharmacy Practitioners in 2014**
- **Developed to promote consistency in how patient care is taught and practiced**
- **Adapted for immunization practice in 2016 at Chapman University**
- **Consistent with NVAC and CDC Standards for Adult Immunization Practice**
 - **Assess**
 - **Recommend**
 - **Administer**
 - **Document**



The Pharmacist Patient Care Process



Joint Commission of Pharmacy Practitioners. Pharmacists' Patient Care Process. May 29, 2014.

Collect

The pharmacist assures the collection of necessary subjective and objective information about the patient in order to understand the relevant **medical history and clinical status** of the patient.

Information may be gathered and verified from **multiple sources**, including existing patient records, the patient, and other healthcare professionals. This process includes collecting:

- Demographics
- Immunization records
- A current medication list
- Relevant health data
- Patient lifestyle habits, preferences, beliefs, health and functional goals, and socioeconomic factors



Sources of Information

- **Immunization Information Systems (IIS)**
- **Personal Immunization Record**
- **Pharmacy Dispensing System**
- **Primary Care Providers (PCP)**
- **Patient-Provided History**

Assess

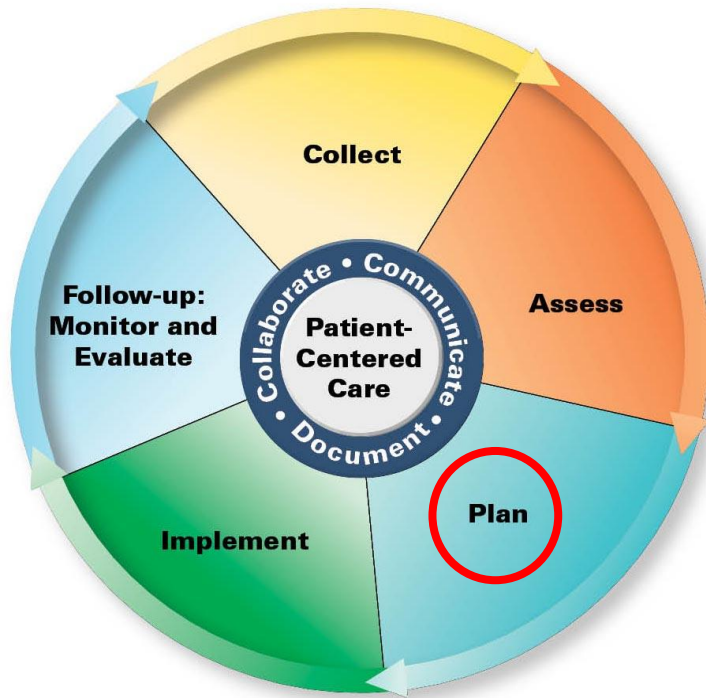
The pharmacist assesses the information collected and analyzes the need for vaccines according to the FDA and ACIP.

This process includes assessing:



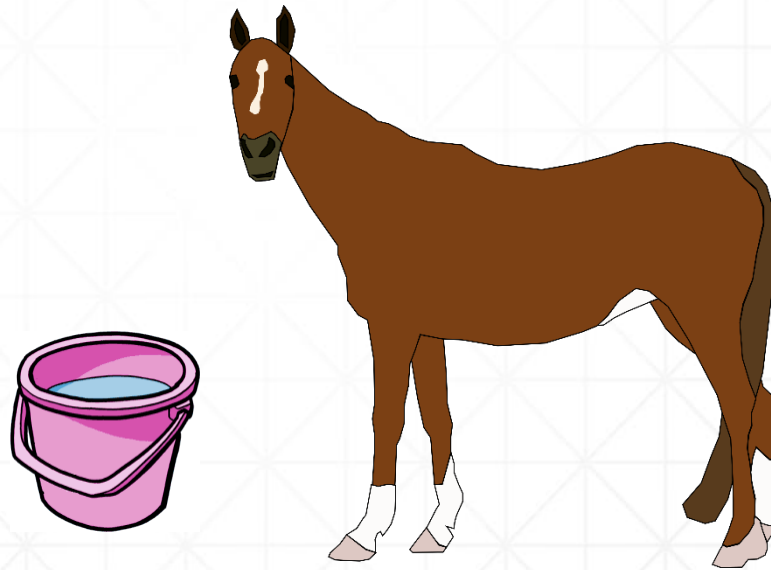
- Age
- Current and past health conditions, medications
 - e.g. level of immunocompetence
- Pregnancy status
- Lifestyle
- Occupation
- Travel
- Current health status
- Allergies
- Vaccination history

Plan



- Patient specific
- PCP collaboration
- Determine education needs
- Dispel myths
- Minimize financial barriers
- State scope of practice
- Make strong vaccine recommendations
- Integrate motivational interviewing

Access is not always enough...



Proactive Vaccination

- **Reactive vaccination: patients ask for a vaccine**
- **Proactive vaccination: pharmacist identifies patients in need of a vaccine**
 - **Use *Collect* and *Assess* steps to identify patients**
 - **Use *Strong Recommendations* and *Motivational Interviewing* to persuade people to get vaccinated**

What vaccine providers say really does matter...

Provider communication and HPV vaccination: The impact of recommendation quality

Shingles vaccine receipt in 60+ pharmacy population

Variable		Unadjusted OR (95% CI)	p- Value	Adjusted OR (95% CI)	p- Value
Recommended to receive vaccine by health care provider					
	No	1.00			
	Yes	6.93 (4.74–10.13)	>0.001	5.15 (3.42–7.75)	>0.001

Teeter BS et al. *Vaccine*. 2014; 32(43):5749–54

	Parents reporting HPV vaccine initiation for child/Total parents in category (%)			Multivariable	Parents reporting HPV vaccine follow through for child/Total parents in category (%)		
				(95% CI) ^a			(95% CI) ^b
Overall quality				OR			OR
No recommendation	163/714	(23)	1		27/163	(17)	1
Low-quality	126/237	(53)	4.13	(2.99–5.70)**	33/126	(26)	1.78 (0.99–3.20)
High-quality	400/544	(74)	9.31	(7.10–12.22)**	174/400	(44)	3.82 (2.39–6.11)**

Gilkey MB et al. *Vaccine*. 2016. 34(9):1187–92

Strong endorsement

+

Prevention message

+

Urgency

=

High-Quality
Rec

Which statement sounds the most persuasive?

- **Pneumococcal vaccine is recommended at age 65; do you want it?**
- **You might want to consider getting the pneumococcal vaccine**
- **I'm giving you the pneumococcal vaccine today because it is recommended at age 65**
- **I strongly recommend that you receive the pneumococcal vaccine today because it can protect you from diseases caused by pneumococcal bacteria, including pneumonia. These diseases could be very serious for you now that you are older**

Implement



The pharmacist implements the care plan in collaboration with other health care professionals, as needed, and the patient or caregiver. During the process of implementing the care plan, the pharmacist:

- Consider state law
- Administer vaccines
- Consider workflow and space
- Supplies and storage
- Documentation
 - VAR, screening form, consent, IZ record, PMS record, provider communication
- Coordination of care
 - Referrals
 - Communication with other providers

Follow-Up: Monitor and Evaluate

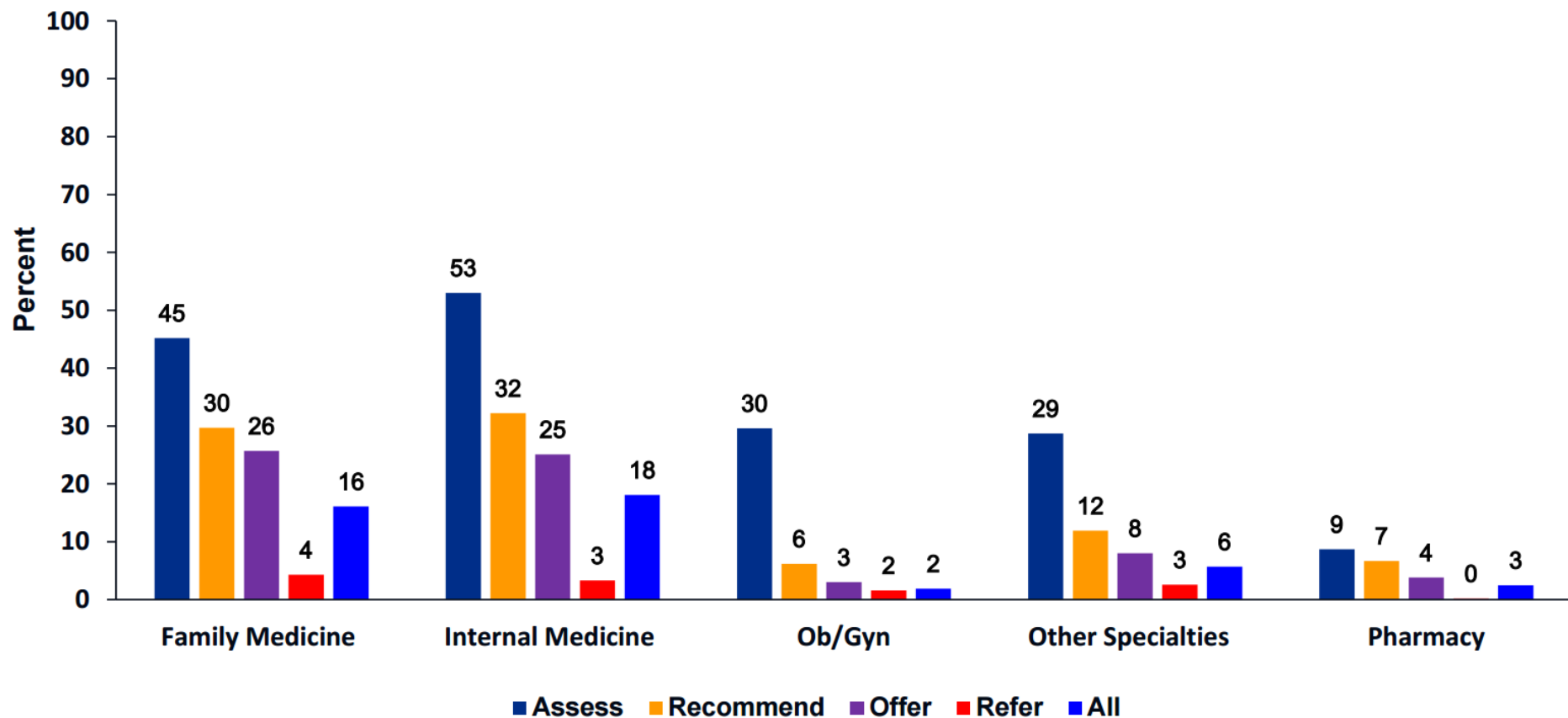


The pharmacist should have systems in place and training for appropriate monitoring and management of possible adverse reactions.

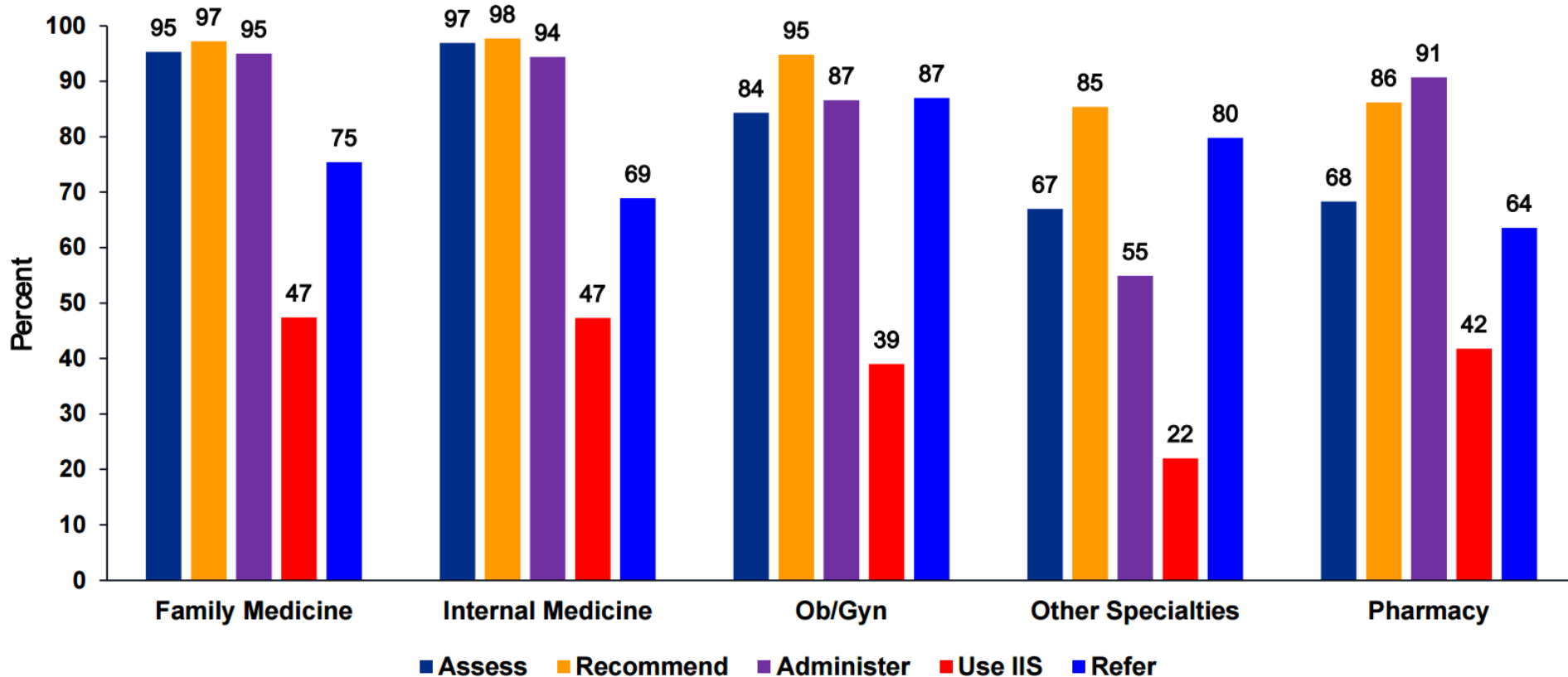
This process includes the continuous monitoring and evaluation of:

- Having a written emergency plan
- Stocking epinephrine and diphenhydramine
- Report to VAERS and VERP
- Establish a system for boosters and completion of series

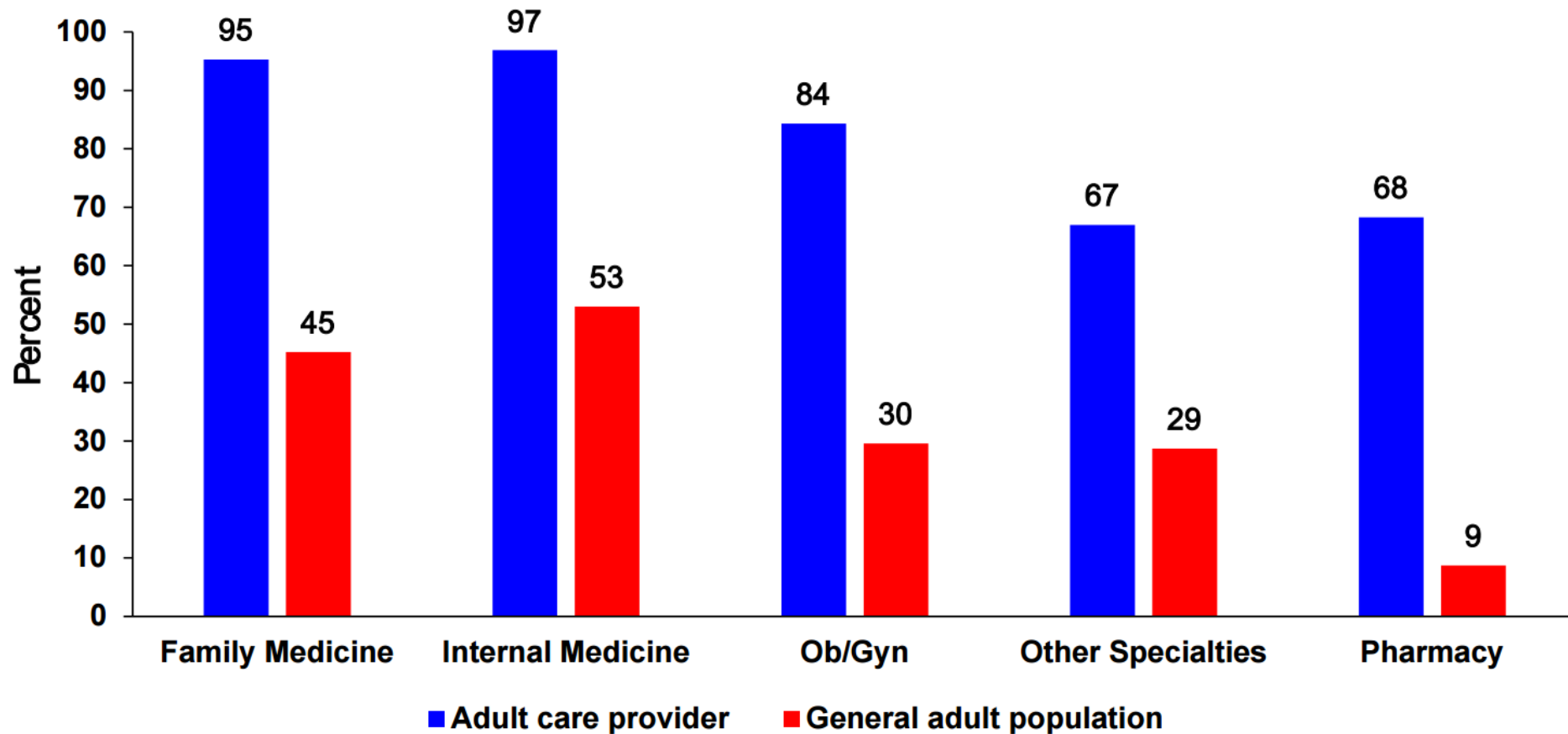
Reported receipt of care reflecting the standards among adults with healthcare or pharmacy visits in the past year, United States, 2016 (N=1,476)



Reported implementation of standards components among HCPs and pharmacists, by provider specialty, United States, 2016 (N=1,918)

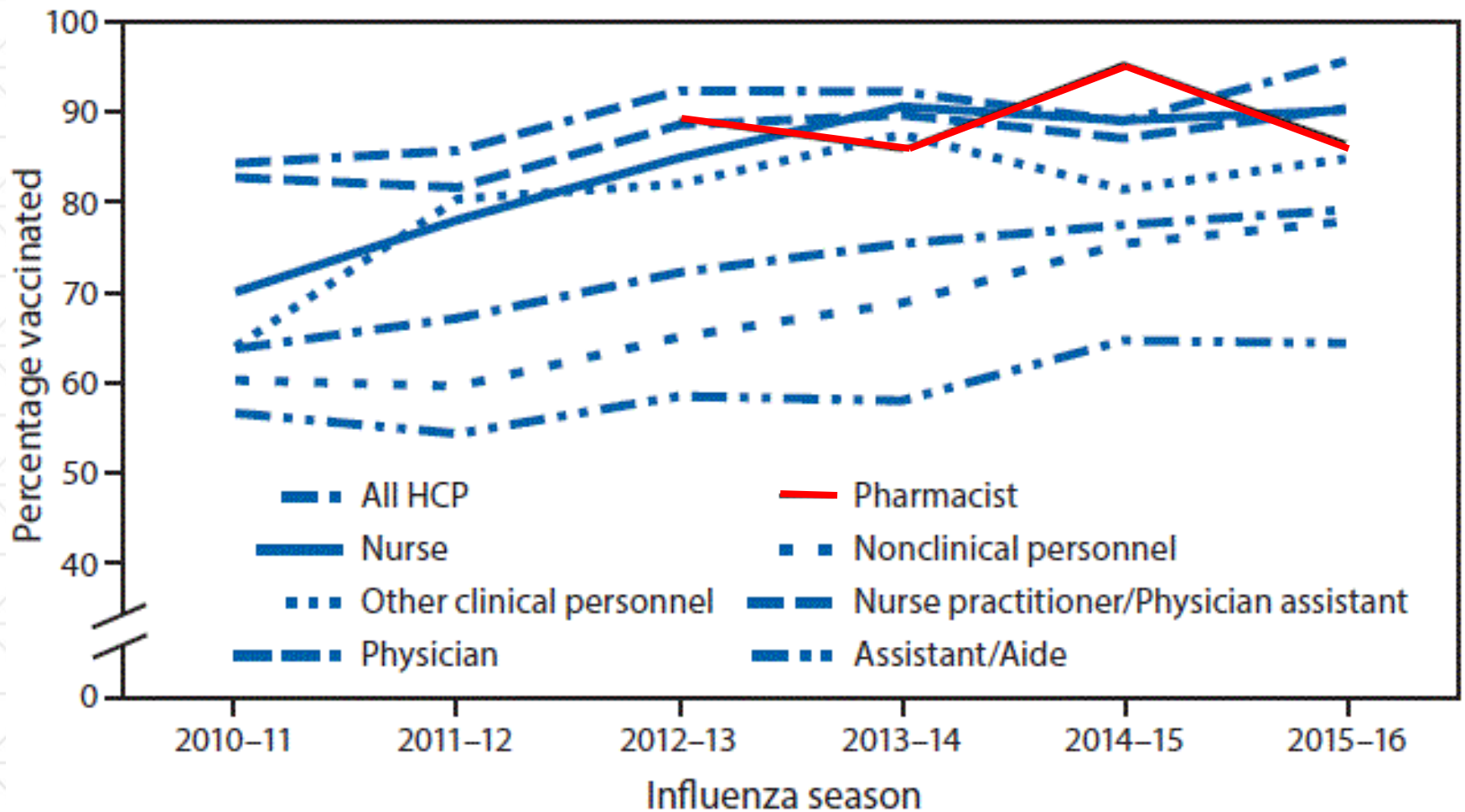


Comparison of adult vaccination assessments reported by HCPs and pharmacists, and general adult population, United States, 2016



■ Adult care provider ■ General adult population

Health Care Provider Vaccination - Influenza





CHAPMAN
UNIVERSITY

SCHOOL OF PHARMACY

Questions?

