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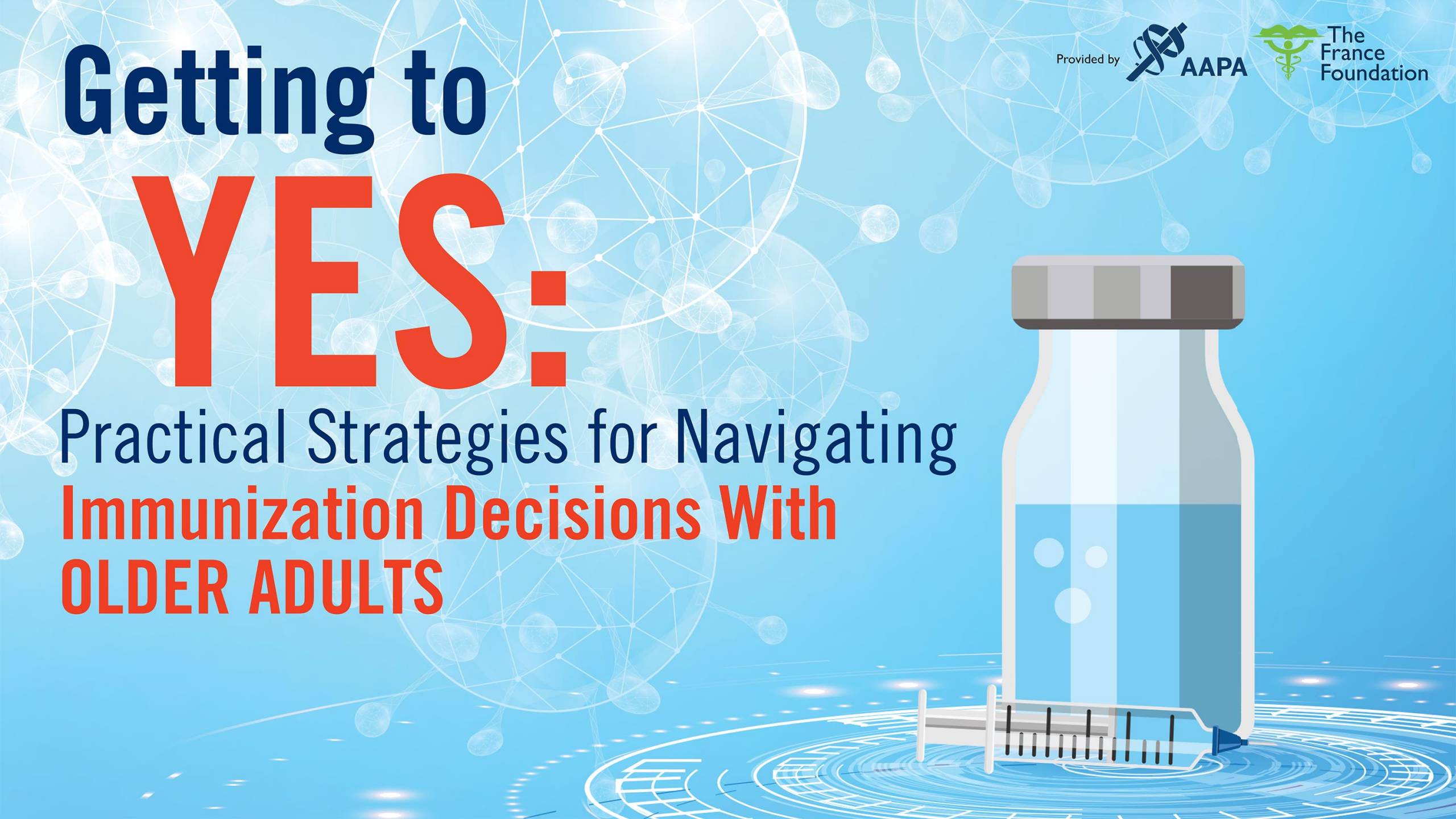
Getting to YES:

Practical Strategies for Navigating Immunization Decisions With OLDER ADULTS



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Disclosures

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- The planners, reviewers, editors, staff, CME committee, or other members at the AAPA and TFF who control content have no relevant financial relationships to disclose

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- Michelle Kerr, MPAS, PA-C, has nothing to disclose
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- Michelle Kerr, MPAS, PA-C, has nothing to disclose
- Sarah McQueen, DMS, PA-C, has nothing to disclose

Pretest Question #1

Recombinant zoster vaccine (RZV) is now the only vaccine currently available for preventing shingles. Which of the following statements about recommendations is FALSE?

A. Adults previously vaccinated with VZL (live vaccine) should receive RZV (≥ 8 weeks after VZL dose)
B. Adults should receive RZV starting at age 60
C. RZV is given in a 2-dose series, 2-6 months apart
D. RZV is given regardless of previous herpes zoster history
E. I'm not sure

Pretest Question #2

Which category properly identifies the CDC recommendations for routine Tdap or Td for older adults (age ≥ 50 years)?

A. Recommended vaccination for those who meet the age requirement, lack documentation of vaccination, or lack evidence of past infection
B. Recommended vaccination for those with an additional risk factor or another indication
C. Recommended vaccination based on shared clinical decision-making
D. No recommendation/not applicable
E. I'm not sure

Pretest Question #3

Which of the concepts below does this reasoning exemplify:

“If a vaccine makes me stay home for a day, that’s worse than if the flu makes me stay home for a day, because I could have avoided the vaccine.”

A. Availability bias
B. Social norm bias
C. Peak-and-end rule
D. Omission bias
E. I’m not sure

Pretest Question #4

The peak-and-end rule suggests that people might have better memories of being vaccinated if:

A. They know that others are also being vaccinated at the same time
B. Vaccination takes place early in a routine visit
C. They explicitly choose to be vaccinated
D. Vaccination visits are made shorter
E. I'm not sure

Pretest Question #5

Stan is a 60-year-old male who is in your clinic today for his annual physical. He is healthy, has no known allergies, and is up to date on his vaccines except for the influenza vaccine. Of the following options, which vaccine is indicated for him?

A. Any standard-dose IIV4
B. HD-IIV4
C. LAIV
D. I'm not sure

Pretest Question #6

According to research, which of the following is the most important clinician communication to influence decisions to take a vaccine?

A. Asking the patient for permission to give the vaccine
B. Giving the patient flexibility on where and when to get the vaccine
C. Making a strong recommendation that the patient get the vaccine
D. I'm not sure

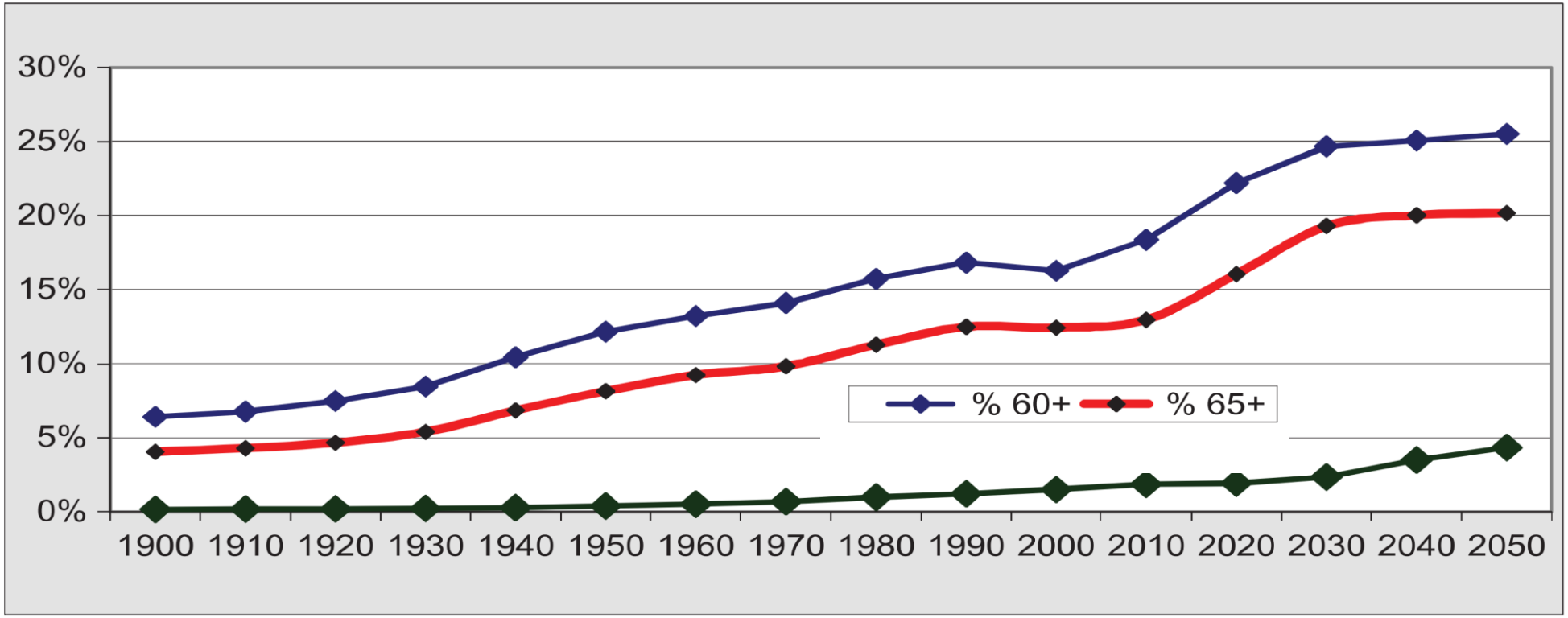
Learning Objectives

- Outline current ACIP recommendations for adults ages 50 years and older
- Describe key concepts in behavioral economics that may affect immunization rates in older adults
- Devise strategies for addressing common barriers to patient adherence to recommended adult vaccinations

Immunizations for Older Adults– How Are We Doing?

Scope of the Problem: Life Expectancy and Numbers of Older People Are Increasing

Older Population by Age: 1900–2050, United States



Age 60+

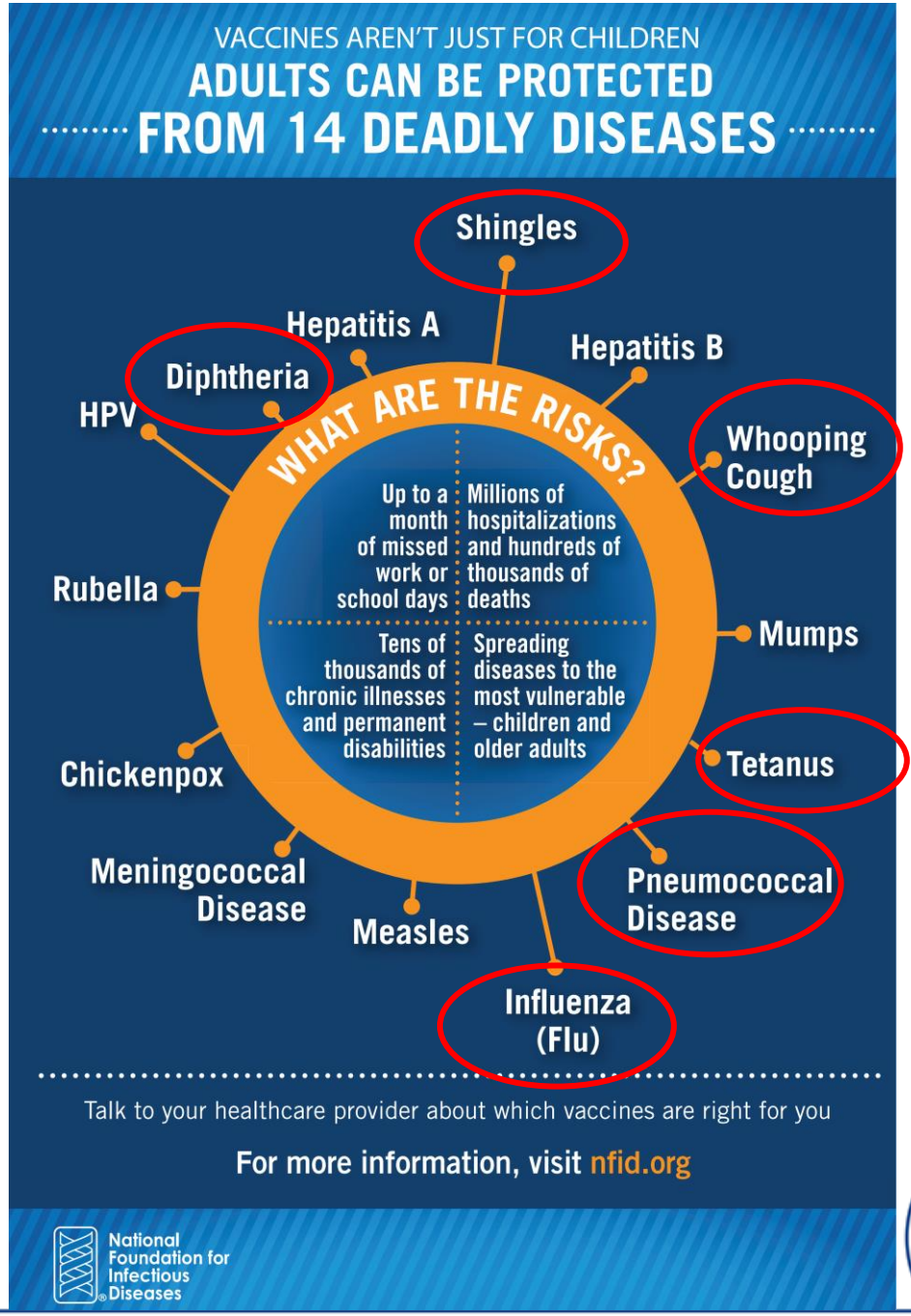
Age 65+

Age 80+

Spitzer WJ, Davidson KW. *Social Work Health Care*. 2013;52:959-986.

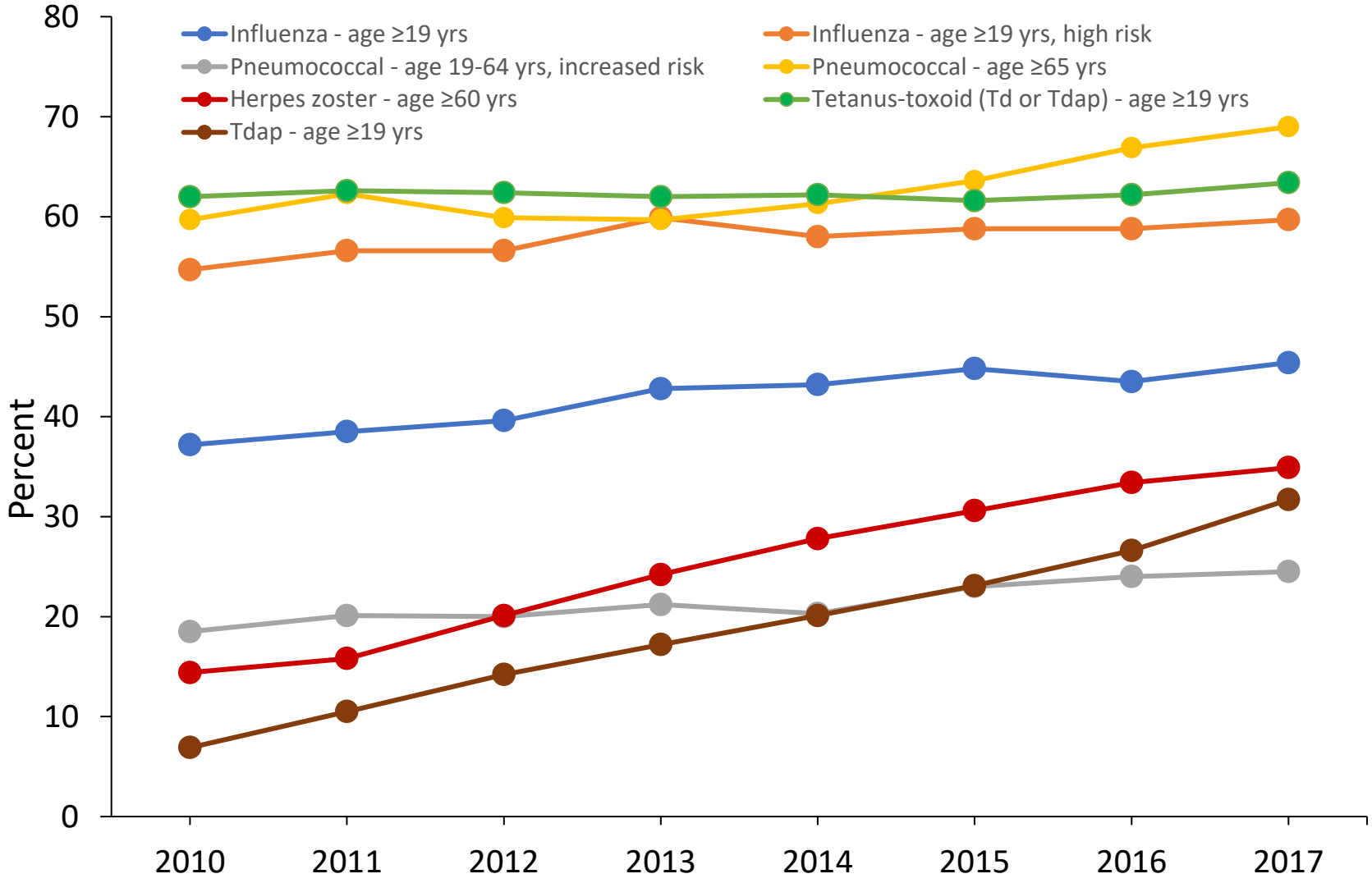
Scope of the Problem (cont)

- Due to age-related changes in the immune system (immunosenescence), older people
  - …are more prone to infectious disease
  - …are more prone to complications of infections
  - …have altered immune responses to infection
- To prevent infectious disease, older adults should be immunized against influenza, pneumococcal disease, tetanus/diphtheria/pertussis, and zoster



Coll PP, et al. *J Am Geriatr Soc.* 2020;68:207-214.

Vaccination Rates Among Adults in the US, 2010-2017[1]



Healthy People 2020 Targets[2]

- Influenza: **70%** of adults ages ≥ 18 years
- Zoster: **30%** of adults ages ≥ 60 years
- Pneumococcal: **90%** of adults ages ≥ 65 years

1. CDC. Vaccination Coverage among Adults in the United States, National Health Interview Survey, 2017. www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/pubs-resources/NHIS-2017.html.
2. ODPHP. Healthy People 2020. Immunization and Infectious Diseases. www.healthypeople.gov/2020/topics-objectives/topic/immunization-and-infectious-diseases/objectives.

Vaccination Rates Among Older Adults, 2017

Vaccine (year or season)	Age Group (years)	Vaccine Rate (%)
Influenza (2016-2017 season)	50-64	47.4
	≥ 65 years	71.3
Tetanus* (2017)	50-64	69.0
	≥ 65	51.8
Zoster (2017)	≥ 60	34.9
	60-64	22.4
	≥ 65	40.2
Pneumococcal (2017)	≥ 65	69.0

In general, vaccination rates were higher among whites compared to other racial/ethnic groups, except for influenza (highest rate was among Asians in the 50-64 year age group) and tetanus (highest rate was among "Other"[†]).

*Those receiving any tetanus vaccine, including and not including pertussis vaccine, in the last 10 years.

[†]Includes American Indian/Alaska Native and persons who identified multiple races.

CDC. Vaccination Coverage among Adults in the United States, National Health Interview Survey, 2017. https://www.cdc.gov/vaccines/imz-managers/coverage/adultvaxview/pubs-resources/NHIS-2017.html.

Recommended Adult Immunization Schedule
For Older Adults

United States
2020*

Disease	Vaccine	Brand name
Influenza	IIV	Many brands
	RIV	Flublok®
Pneumococcal disease	PCV13	Prevnar 13®
	PPSV23	Pneumovax® 23
Tetanus/Diphtheria/ Pertussis	Td	Tenivac®, Tdvax™
	Tdap	Adacel®; Boostrix®
Zoster	RZV	Shingrix†

IIV = inactivated influenza vaccine; RIV = recombinant influenza; PCV13 = pneumococcal 13-valent conjugate vaccine; PPSV23 = pneumococcal 23-valent polysaccharide vaccine; Td = tetanus and diphtheria toxoids; Tdap = tetanus and diphtheria toxoids and acellular pertussis vaccine; RZV = recombinant Zoster vaccine.
CDC. https://www.cdc.gov/vaccines/schedules/downloads/adult/adult-combined-schedule.pdf. Accessed October 9, 2020.

*An updated immunization schedule will be released in February 2021. Health care providers should check the CDC for the most current schedule.
†Note, as of July 1, 2020, live zoster vaccine (ZVL, Zostavax) is no longer sold in the US. See https://www.cdc.gov/shingles/vaccination.html for more information.

2020 Recommended Adult Immunization Schedule by Age Group

Vaccine	19–26 years	27–49 years	50–64 years	≥65 years
Influenza inactivated (IIV) or **Influenza recombinant** (RIV)	1 dose annually	1 dose annually	1 dose annually	1 dose annually
Influenza live, attenuated (LAIV)	1 dose annually	1 dose annually		
Tetanus, diphtheria, pertussis (Tdap or Td)	1 dose Tdap, then Td or Tdap booster every 10 years			
Measles, mumps, rubella (MMR)	1 or 2 doses depending on indication (if born in 1957 or later)			
Varicella (VAR)	2 doses (if born in 1980 or later)		2 doses	
Zoster recombinant (RZV) *(preferred)*			2 doses	2 doses
Zoster live* (ZVL)				1 dose
Human papillomavirus (HPV)	2 or 3 doses depending on age at initial vaccination or condition	27 through 45 years		
Pneumococcal conjugate (PCV13)	1 dose			65 years and older
Pneumococcal polysaccharide (PPSV23)	1 or 2 doses depending on indication			1 dose
Hepatitis A (HepA)	2 or 3 doses depending on vaccine			
Hepatitis B (HepB)	2 or 3 doses depending on vaccine			
Meningococcal A, C, W, Y (MenACWY)	1 or 2 doses depending on indication, see notes for booster recommendations			
Meningococcal B (MenB)	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations			
	19 through 23 years			
***Haemophilus influenzae* type b** (Hib)	1 or 3 doses depending on indication			

- Recommended for those who meet age requirement, lack documentation of vaccination, or lack evidence of past infection
- Recommended for those with an additional risk factor or another indication
- Recommended based on shared clinical decision-making
- No recommendation/not applicable

*No longer sold as of July 2020.

CDC. https://www.cdc.gov/vaccines/schedules/downloads/adult/adult-combined-schedule.pdf. Accessed October 9, 2020.

2020 Recommended Adult Immunization Schedule by Medical Condition and Other Indications

Vaccine	Pregnancy	Immuno-compromised (excluding HIV infection)	HIV infection CD4 count <200	HIV infection CD4 count ≥200	Asplenia, complement deficiencies	End-stage renal disease; or on hemodialysis	Heart or lung disease, alcoholism[1]	Chronic liver disease	Diabetes	Health care personnel[2]	Men who have sex with men
IIV or RIV	1 dose annually										
or										or	
LAIV	NOT RECOMMENDED						PRECAUTION			1 dose annually	
Tdap or Td	1 dose Tdap each pregnancy	1 dose Tdap, then Td or Tdap booster every 10 years									
MMR	NOT RECOMMENDED	1 or 2 doses depending on indication									
VAR	NOT RECOMMENDED	2 doses									
RZV *(preferred)*	DELAY				2 doses at age ≥50 years						
or					or						
ZVL*	NOT RECOMMENDED				1 dose at age ≥60 years						
HPV	DELAY	3 doses through age 26 years			2 or 3 doses through age 26 years						
PCV13		1 dose									
PPSV23		1, 2, or 3 doses depending on age and indication									
HepA					2 or 3 doses depending on vaccine						
HepB							2 or 3 doses depending on vaccine				
MenACWY	1 or 2 doses depending on indication, see notes for booster recommendations										
MenB	PRECAUTION	2 or 3 doses depending on vaccine and indication, see notes for booster recommendations									
Hib		3 doses HSCT[3] recipients only			1 dose						

- Recommended for adults who meet age requirement, lack documentation of vaccination, or lack evidence of past infection
- Recommended for adults with an additional risk factor or another indication
- Precaution—might be indicated if benefit of protection outweighs risk of adverse reaction
- Delay vaccination until after pregnancy if vaccine is indicated
- Not recommended/ contraindicated—should not be administered
- No recommendation/not applicable

*No longer sold as of July 1, 2020.

CDC. https://www.cdc.gov/vaccines/schedules/downloads/adult/adult-combined-schedule.pdf. Accessed October 9, 2020.

Influenza Vaccine Recommendations 2020-21

- LAIV4 is indicated only for people ages 2-49 years
- IIVs and RIV4 are appropriate for people ages ≥ 50 years
  - People ages ≥ 50 years may receive ANY age-appropriate IIV or RIV4
- 3 IIVs are indicated specifically for people ages ≥ 65 years: aIIV3*, aIIV4†, and HD-IIV4
- HD-IIV3 has been replaced by HD-IIV4 for 2020-21
- Data comparing HD-IIVs, aIIVs, and RIV4 are limited
- Data comparing HD-IIV4 with standard dosing are limited
- Administer by October 31 (but continue through duration of season)

aIIV3 = adjuvanted (MF59) inactivated influenza vaccine; HD = high dose; SD = standard dose.
*Trivalent IIV; †Quadrivalent IIV.
Grohskopf LA, et al. *MMWR Recomm Rep.* 2020;69(No. RR-8):1–24.

Cell-based vs Egg-based Influenza Vaccines

- Most inactivated flu vaccines are manufactured using eggs
- Cell-based inactivated influenza vaccines (ccIIVs) are manufactured using cell culture technology
- Individuals with egg allergy can receive egg-based vaccines with basic office-based precautions
- An allergic reaction to any vaccine is a contraindication to future vaccination with that vaccine

Contraindications and Precautions for Flu Vaccines Recommended for Older Adults*

Vaccine Type	Contraindications	Precautions
IIV3 and IIV4	History of severe allergic reaction to any component of the vaccine,† or to a previous dose of any influenza vaccine (no precautions if ccIIV or RIV4 used)	• Moderate or severe acute illness with or without fever • History of GBS within 6 weeks of receiving influenza vaccine
RIV4	History of severe allergic reaction to any component of the vaccine	• Moderate or severe acute illness with or without fever • History of GBS within 6 weeks of receiving influenza vaccine

*Vaccination providers should check FDA-approved prescribing information for 2020-21 influenza vaccines for the most complete and updated information, including indications, contraindications, warnings, and precautions.

†History of *severe* allergic reaction (eg, anaphylaxis) to egg is a labeled contraindication to the use of most IIVs. However, individuals with a history of egg allergy may receive any licensed, recommended influenza vaccine that is otherwise age- and health status-appropriate. Those reporting past egg reactions involving symptoms besides urticaria (eg, angioedema or swelling, respiratory distress, lightheadedness, recurrent emesis) or requiring epinephrine or other emergency medical intervention should be vaccinated in a medical setting, supervised by a clinician capable of recognizing and managing severe allergic reactions, if a vaccine other than a ccIIV or RIV4 is used.

GBS = Guillain-Barré syndrome.

CDC/ACIP. Prevention and Control of Seasonal Influenza with Vaccines, 2020-21. https://www.cdc.gov/mmwr/volumes/69/rr/rr6908a1.htm.

Influenza Vaccination of Persons With SARS-CoV-2 Infection (COVID-19)

- Because SARS-CoV-2 is a novel coronavirus, clinical experience with influenza vaccination in persons with COVID-19 is limited
- For those who have acute illness with suspected or laboratory-confirmed COVID-19, clinicians can consider delaying influenza vaccination until patients are no longer acutely ill
- If influenza vaccination is delayed, patients should be reminded to return for influenza vaccination once they have recovered from their acute illness

Grohskopf LA, et al. *MMWR Recomm Rep.* 2020;69(No. RR-8):11-4. http://dx.doi.org/10.15585/mmwr.rr6908a1external icon.

Tetanus (Td or Tdap): Recommendations for Adults ≥ 19 years

- Regardless of the interval since their last tetanus or diphtheria-containing vaccine, those who have never received Tdap should receive 1 dose of this vaccine
- To ensure continued protection against tetanus and diphtheria, booster doses of either Td or Tdap should be administered every 10 years
- Tdap or Td can be given interchangeably as a booster every 10 years or every 5 years for wound management
  - Tdap is preferred for those who have not previously received it or for those whose Tdap history is unknown
- Pregnant patients should receive Tdap with each pregnancy, optimally timed between weeks 27-36 of gestation
- Catch-up (no history of vaccination) in adults: 1 dose Tdap*, followed in 4 weeks by Tdap or Td, then Tdap or Td 6 to 12 months later

*Preferred first dose.

Havers FP, et al. *MMWR Morb Mortal Wkly Rep.* 2020;69:77-83.

According to ACIP, should a person with COVID-19 receive an influenza vaccine?

Influenza Vaccination of Persons With SARS-CoV-2 Infection (COVID-19)

- Because SARS-CoV-2 is a novel coronavirus, clinical experience with influenza vaccination in persons with COVID-19 is limited
- For those who have acute illness with suspected or laboratory-confirmed COVID-19, clinicians can consider delaying influenza vaccination until patients are no longer acutely ill
- If influenza vaccination is delayed, patients should be reminded to return for influenza vaccination once they have recovered from their acute illness

Grohskopf LA, et al. *MMWR Recomm Rep.* 2020;69(No. RR-8):11-4. http://dx.doi.org/10.15585/mmwr.rr6908a1external icon.

Tetanus Vaccines: Warnings and Precautions

Vaccine Type	Contraindications	Precautions
Td	• Severe allergic reaction (eg, anaphylaxis) after a previous dose or to a vaccine component	• GBS < 6 weeks after previous dose of tetanus toxoid–containing vaccine • History of Arthus-type hypersensitivity reactions after a previous dose of diphtheria-toxoid-containing or tetanus-toxoid-containing vaccine* • Moderate or severe acute illness with or without fever
Tdap	• Severe allergic reaction (eg, anaphylaxis) after a previous dose or to a vaccine component • Encephalopathy (eg, coma, decreased level of consciousness, prolonged seizures) not attributable to another identifiable cause, within 7 days of administration of previous dose of DTP, DTaP, or Tdap	*As above, plus:* • Moderate or severe acute illness with or without fever • Progressive or unstable neurological disorder, uncontrolled seizures, or progressive encephalopathy until a treatment regimen has been established and the condition has stabilized

*Defer vaccination until at least 10 years have elapsed since the last tetanus toxoid–containing vaccine.

CDC/ACIP. Comprehensive Recommendations and Guidelines. https://www.cdc.gov/vaccines/hcp/acip-recs/recs-comprehensive.html.

Zoster (Shingles) Vaccine Recommendations

- RZV recommended for all adults ages ≥ 50 years, ≥ 65 previously given LZV †
- Recommended for persons taking low-dose immunosuppressive therapy* and those anticipating immunosuppression or who have recovered from an immunocompromising illness
- Administer RZV even if live vaccine (ZVL†) was previously given (≥ 8 weeks from live vaccine dose)
- Dosing: RZV → 2-dose series, 2-6 months apart; LZV → single dose
- Screening for a history of varicella (either verbally or via laboratory serology) before vaccination for is unnecessary and not recommended
- **Contraindications:** severe allergic reactions to any vaccine component or after previous injection in persons known to be varicella seronegative
- **Precautions**: pregnancy, current herpes zoster infection
- As of yet, there is no recommendation on immunocompromised patients

*eg, < 20 mg/day of prednisone or equivalent, or inhaled or topical steroids.
†Note, as of July 1, 2020, live zoster vaccine (ZVL) is no longer sold in the US. See https://www.cdc.gov/shingles/vaccination.html for more information.

Dooling KL, et al. *MMWR Morb Mortal Wkly Rep.* 2018;67:103–108.

Pneumococcal Vaccines

PCV13 protects against 13 serotypes of pneumococcal disease

- "Routine" vaccination of healthy adults ages ≥ 65 years with PCV13 has been changed to "shared clinical decision making" (SCDM)–partly due to successful childhood PCV13 vaccination campaigns that reduced disease burden in the adult population
- SCDM takes into account individuals' risk, eg, those who:
  - Reside in nursing homes/long-term care facilities
  - Reside in areas with low pediatric PCV13 vaccination rates
  - Plan travel to areas with no pediatric PCV13 program

PPSV23 protects against the same serotypes as PCV13 plus 11 additional serotypes*

- Different pathways for
  - Age ≥ 19 years with immunocompromising condition(s)†
    - **Maximum recommended number of doses at < 65 years = 2**
  - Age 19-64 years, smokers, long-term facility resident, or chronic medical condition(s)‡
  - Age ≥ 65 years, immunocompetent individuals

*These serotyopes account for 32%-37% of invasive pneumococcal disease among patients ages ≥ 65 years.
†Sickle cell disease, hemoglobinopathies, congenital or acquired asplenia, congenital or acquired immunodeficiency, HIV infection, chronic renal failure, nephrotic syndrome, leukemia, or lymphoma, Hodgkin's Disease, generalized malignancy, solid organ transplantation, multiple myeloma. (Slightly different pathway for CSF leak or cochlear implant).
‡Heart disease (excluding HTN), lung disease (including asthma), liver disease (including cirrhosis), diabetes, alcoholism.

Factors to Consider in Pneumococcal SCDM

- Has the patient already received PCV13 as an adult?
  - If so, no further doses recommended
  - If not, consider giving PCV13
- Does the patient have risk factors or conditions for invasive pneumococcal disease (in addition to being ≥ 65 years?)
  - Risk is at least additive if more than one risk condition
- Is the patient's local childhood pneumococcal vaccination rate high, average, or low?
- Does the patient live in a long-term care facility, assisted living, or similar communal setting, or attend "senior daycare"?

Pneumococcal Vaccine Recommendations–Adults ≥ 65 Years

- A maximum of 2 doses of PPSV23 is recommended before age 65
- All adults ages ≥ 65 years should receive PPSV23; SCDM regarding PCV13
- When PCV13 is given, ideally give before PPSV23
- Rate of invasive pneumococcal infections in adults ≥ 65 years has fallen with childhood pneumococcal vaccination (PCV)
- Combined PCV/PPSV strategy in adults age ≥ 65 years did not result in further, statistically significant decreases in rates of invasive pneumococcal disease*
- HOWEVER, some individuals may benefit more than others from a combined strategy
  - SCDM facilitates provider-patient discussion and informed decision to give (or not give) PCV13

*Active Bacterial Core surveillance data presented to ACIP, 2019.

CDC. Pneumococcal Vaccine Recommendations.2019. www.cdc.gov/vaccines/vpd/pneumo/hcp/recommendations.html.
CDC. Grading of Recommendations Assessment, Development and Evaluation (GRADE) for use of PCV13 among adults ≥ 65 years old. 2019. www.cdc.gov/vaccines/acip/recs/grade/PCV13.html#ref3.

Pneumococcal Vaccine Recommendations – Adults ≥ 65 years

Medical Indication Group	Specific Underlying Medical Condition	PCV13 for Persons Ages ≥65 Years	PPSV23 for Persons Ages ≥65 Years
None	None of the below	Based on SCDM	**1 dose**; if PCV13 has been given, then give PPSV23 ≥ 1 year after PCV13
Immunocompetent persons	Alcoholism; chronic heart disease; chronic liver disease; cigarette smoking; diabetes	Based on shared clinical decision-making†	**1 dose**; if PCV13 has been given, then give PPSV23 ≥ 1 year after PCV13 and ≥ 5 years after any PPSV23 at age < 65 years
	Cochlear implant; CSF leak	**1 dose** if no previous PCV13 vaccination	**1 dose** ≥ 8 weeks after PCV13 and ≥ 5 years after any PPSV23 at < 65 years
Immunocompromised persons	Congenital or acquired asplenia; sickle cell disease/other hemoglobinopathies; Chronic renal failure; congenital or acquired immunodeficiencies; generalized malignancy; HIV infection; Hodgkin disease; iatrogenic immunosuppression; leukemia; lymphoma; multiple myeloma; nephrotic syndrome; solid organ transplant	**1 dose** if no previous PCV13 vaccination	**1 dose** ≥ 8 weeks after PCV13 and ≥ 5 years after any PPSV23 at < 65 years

Matanock A, et al. *MMWR Morb Mortal Wkly Rep* 2019;68:1069–1075.

Clinician Toolbox – Strategies for Improving Vacination Rates

- CDC Vaccine Schedule app
- CDC's Vaccine Information for Adults https://www.cdc.gov/vaccines/adults/
- Standing orders
- Vaccine-specific clinics
- Bundle vaccines to decrease visits
- Emphasize COVID safety (eg, parking lot distribution)
- Use normalizing language — don't ask permission

People Aren’t Always “Rational”

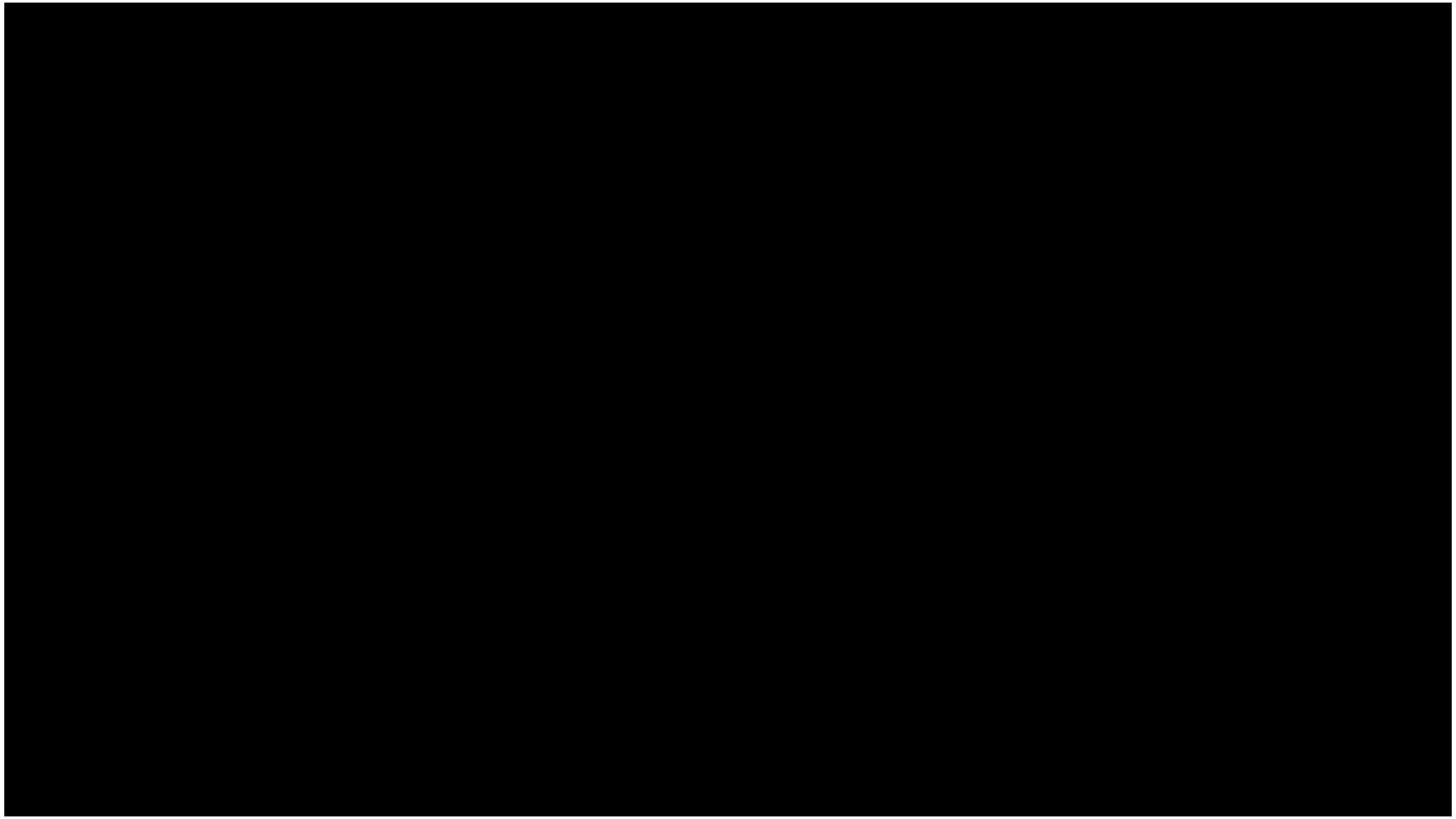
They don’t just weigh out the pros and cons and choose what’s best for them.

What We Can Learn From the Fields of Decision Psychology and Behavioral Economics

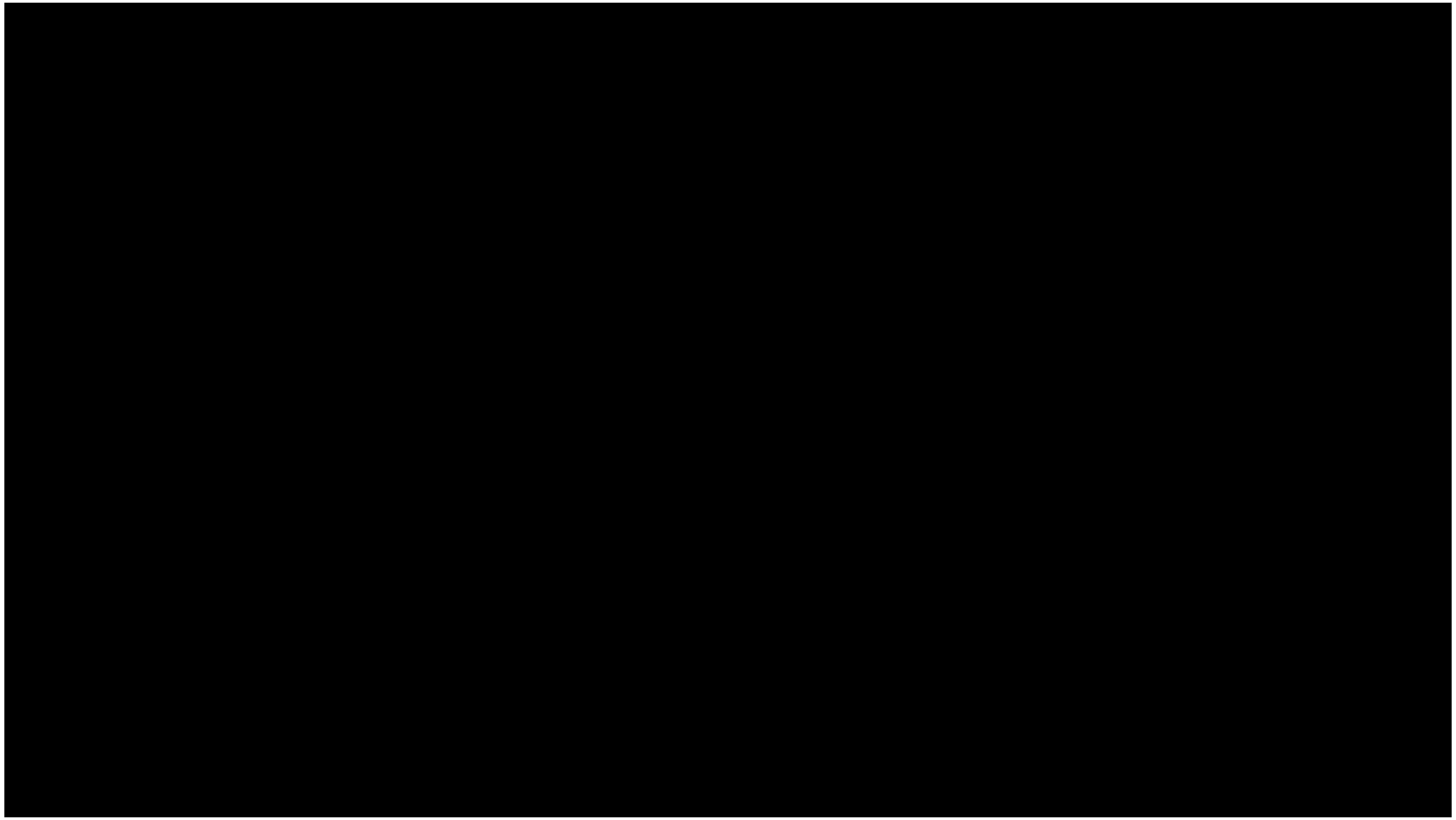
- How people make decisions
- How to help them make better decisions

Let’s explore 3 important concepts for understanding and improving vaccination decisions in a series of animated videos.

Video 1: Defaults and Norms



Video 2: The Availability Heuristic



Video 3: Repeat Decisions Are Based on Our Memories of Past Experiences

Getting to Yes!

Common Barriers to Immunization

- Clinician-level barriers[1-3]
  - Lack of time and resources
  - Nuanced, frequently changing recommendations
  - More likely to see patients at "sick visits" versus "well visits" (less likely to vaccinate at sick visits)
  - Lack of familiarity with behaviors that keep people from getting their vaccine, and strategies for overcoming them
    - Defaults and norms
    - Availability heuristic
    - Peak-and-end rule
- Patient-level barriers[2]
  - "My doctor didn't tell me I needed the vaccination"
  - "I didn't think I needed the vaccination because I'm healthy"
  - Lack of education about vaccine benefits
  - Myths and misconceptions about vaccines
  - Fear of vaccine side effects
  - Needle phobia
  - Difficulty accessing/paying for vaccines

1. Hughes IV R, et al. *Health Affairs*. Published May 7, 2019. Accessed January 31, 2020. https://www.healthaffairs.org/do/10.1377/hblog20190506.172246/full/.
2. Johnson DR, et al. *Am J Med*. 2008;121(7 Suppl2):S28-S35.
3. Schwarz A, Bergus G. *Medical Decision Making.* Cambridge University Press, 2008.

Strategies for Overcoming Patient Barriers to Immunization

- Structure the environment[1,2]
  - Make vaccination the default and social norm
  - Make the consequences of non-vaccination more available/memorable
  - Make memories of vaccinations better
- Make a strong recommendation[3,4]
  - Research consistently shows that a strong recommendation from a health care provider is an important factor in persuading patients/parents to agree to a vaccine
- Consider the SHARE model[3]

1. Thaler RH, Sustein CR. Nudge: Improving Decisions About Health, Wealth, and Happiness. New York: Penguin Books, 2009.
2. Kahneman D. Thinking Fast and Slow. New York: Farrar, Straus and Giroux, 2011.
3. CDC. Adult Vaccination Resource. Standards for Practice: Vaccine Recommendations. https://www.cdc.gov/vaccines/hcp/adults/for-practice/standards/recommend.html.
4. Dorell C, et al. *Clin Pediatr*. 2013;52(2):162-70.

SHARE Model

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- **SHARE tailored reasons** why the vaccine is right for the patient given his or her age, health status, lifestyle, occupation, or other risk factors
- **HIGHLIGHT positive experiences** with vaccines (personal or in your practice), as appropriate, to reinforce the benefits and strengthen confidence in influenza vaccination
- **ADDRESS patient questions** and any concerns about the vaccine, including side effects, safety, and vaccine effectiveness in plain and understandable language
- **REMIND patients that vaccines protect them and their loved ones** from serious illnesses and complications
- **EXPLAIN the potential costs of getting infectious diseases**, including serious health effects, time lost (such as missing work or family obligations), and financial costs

CDC. Adult Vaccination Resource. Standards for Practice: Vaccine Recommendations. https://www.cdc.gov/vaccines/hcp/adults/for-practice/standards/recommend.html.

Let’s explore some patient-level barriers, and ways to overcome them, by walking through some specific cases.

Case Study: Ron

- Ron, a 62-year-old male, presents to the primary care office for his annual physical
- He is found to be healthy and has no known allergies; he is up to date on his vaccines except for the influenza vaccine
- He is active, frequently gets together with friends, and works as a greeter at Walmart
- You tell him it's time for his annual flu shot

Ron: Curveball

- Ron is hesitant about the flu vaccine. He says that when he last had it, about 5 years ago, he “got sick with the flu” within a couple of days of the shot and had to miss work. He says he doesn’t want to deal with that again.

What now?

Which of the following might be the best response?

A. “Yes, sometimes the flu vaccine can give you the flu, so we can skip it.”

B. “Well, that’s no reason to avoid this vaccine. You most certainly didn’t have the flu.”

C. “If you aren’t sure about it today, no worries. You can come back here for it, or you can go to the pharmacy.”

D. “Because the vaccine is made from a ‘dead virus,’ it will not cause the flu—but you may feel a bit ‘under the weather’ as your body learns from the vaccine how to fight the actual flu. I’d like you to do this today.”

E. “Many people who get the flu may have complications, like pneumonia—and we’re more likely to have complications as we get older. Getting vaccinated will help protect you and the customers you greet every day.”

Discuss optimal approaches and interventions

After a bit more discussion, Ron has agreed to get his flu vaccine. Of the following options, which one is indicated for him?

A. Any standard-dose IIV4
B. HD-IIV4
C. LAIV
D. I’m not sure

Discuss answer to previous questions, reinforce flu vaccine indications for older adults

REMINDER
Influenza Vaccine Recommendations 2020-21

- LAIV4 is indicated only for people ages 2-49 years
- IIVs and RIV4 are appropriate for people ages ≥ 50 years
- People ages ≥ 50 years may receive ANY age-appropriate IIV or RIV4
- 3 IIVs are indicated specifically for people ages ≥ 65 years: HD-IIV4, aIIV3, and aIIV4
- HD-IIV3 has been replaced by HD-IIV4[†] for 2020-21
- Data comparing HD-IIVs, aIIVs, and RIV4 are limited
- Data comparing HD-IIV4 with standard dosing are limited
- Administer by October 31 (but continue through duration of season)

aIIV3 = adjuvanted (MF59) inactivated influenza vaccine; HD = high dose; SD = standard dose.
*Trivalent IIV. [†]Quadrivalent IIV.
Grohskopf LA, et al. *MMWR Recomm Rep* 2020;69(No. RR-8):1–24.

Case Study: Rosa

- Rosa is 58-year-old female who presents to urgent care after sustaining a laceration to her hand while gardening
- She appears healthy other than having mild hypertension
- While you are placing her sutures, she delights in telling you about her infant grandchild, whom she cares for on a regular basis
- She reports that she has not had any vaccines in the past 20 years, and asks if she will need any today

In addition to an influenza vaccine, which of the following should you tell Rosa she needs?

A. Td only
B. Tdap only
C. Td and PCV13
D. Tdap and PCV13
E. Td, PCV13, and RZV
F. Tdap, PCV13, and RZV

Discussion of Question

- Choice of Tdap vs Td
- Combining vaccines–any limitations?

REMINDER

Tetanus (Td or Tdap): Recommendations for Adults ≥ 19 years

- Overall recommendation for those who meet the vaccine's age requirement, lack documentation of vaccination, or lack evidence of past infection
- Recommended regardless of the interval since their last tetanus or diphtheria-containing vaccine
- To ensure continued protection against tetanus and diphtheria, booster doses of either Td or Tdap should be administered every 10 years
- Tdap is preferred for those who have not previously received it or for those whose Tdap history is unknown
- Tdap or Td can be given interchangeably as a booster every 10 years or every 5 years for wound management
- Pregnant patients should receive Tdap with each pregnancy, optimally timed between weeks 27-36 of gestation
- Catch-up (no history of vaccination) in adults: 1 dose Tdap*, followed in 4 weeks by Tdap or Td, then Tdap or Td 6-12 months later

*Preferred first dose

Havers FP, et al. *MMWR Morb Mortal Wkly Rep.* 2020;69:77–83.

REMINDER

Zoster (Shingles) Vaccine Recommendations

- RZV recommended for all adults ages ≥ 50 years, ≥ 65 previously given LZV [†]
- Recommended for persons taking low-dose immunosuppressive therapy* and those anticipating immunosuppression or who have recovered from an immunocompromising illness
- Administer RZV even if live vaccine (ZVL[†]) was previously given (≥ 8 weeks from live vaccine dose)
- Dosing: RZV → 2-dose series, 2-6 months apart; LZV → single dose
- Screening for a history of varicella (either verbally or via laboratory serology) before vaccination for is unnecessary and not recommended
- **Contraindications:** severe allergic reactions to any vaccine component or after previous injection in persons known to be varicella seronegative
- **Precautions**: pregnancy, current herpes zoster infection
- As of yet, there is no recommendation on immunocompromised patients

*eg, < 20 mg/day of prednisone or equivalent, or inhaled or topical steroids.

[†]Note, as of July 1, 2020, live zoster vaccine (ZVL) is no longer sold in the US. See https://www.cdc.gov/shingles/vaccination.html for more information.

Dooling KL, et al. *MMWR Morb Mortal Wkly Rep.* 2018;67:103–108.

Curveball

- In the electronic record, you note that Rosa has a history of asthma

What now?

How does her asthma affect which vaccines to offer?

Discussion–addition of PPSV23 (vs PCV13)

REMINDER
Pneumococcal Vaccines

PCV13 protects against 13 serotypes of pneumococcal disease

- "Routine" vaccination of healthy adults ages ≥ 65 years with PCV13 has been changed to "shared clinical decision making" (SCDM)–partly due to successful childhood PCV13 vaccination campaigns that reduced disease burden in the adult population
- Shared clinical decision-making takes into account individuals' risk, eg, those who:
  - Reside in nursing homes/long-term care facilities
  - Reside in areas with low pediatric PCV13 vaccination rates
  - Plan travel to areas with no pediatric PCV13 program

PPSV23 protects against the same serotypes as PCV13 plus 11 additional serotypes*

- Different pathways for
  - Age ≥ 19 years with immunocompromising condition(s)†
    - **Maximum recommended number of doses at < 65 years = 2**
  - Age 19-64 years, smokers, long-term facility resident, or chronic medical condition(s)‡
  - Age ≥ 65 years, immunocompetent individuals

PCV13 and PPSV23 are NOT interchangeable!

*These serotyopes account for 32%-37% of invasive pneumococcal disease among patients ages ≥ 65 years

†Sickle cell disease, hemoglobinopathies, congenital or acquired asplenia, congenital or acquired immunodeficiency, HIV infection, chronic renal failure, nephrotic syndrome, leukemia, or lymphoma, Hodgkin's Disease, generalized malignancy, solid organ transplantation, multiple myeloma. (Slightly different pathway for CSF leak or cochlear implant)

‡Heart disease (excluding HTN), lung disease (including asthma), liver disease (including cirrhosis), diabetes, alcoholism

Rosa: Curveball #2

- Rosa (now a little bit overwhelmed) insists she hasn't had an asthma attack in at least 5 years. She questions whether she needs *any* pneumococcal vaccine, stating, "I'm very careful with medicines. I don't want to put something into my body that it doesn't really need."

What now?

Discussion

- Overcoming curveball #2

  Response:

  "I agree that you should not get, or put anything in your body, that you do not need. Just like you should only get medications when they are needed for a specific infection, likewise you should only get vaccines that will protect against specific infections that you are likely to be exposed to. This vaccine is so protective that everyone like you should get it, and luckily, nearly everyone does. I don't want you to skip something that is good for you. I also don't want you to risk your health by not getting the vaccine."

  - After further discussion Rosa agreed to get **Tdap, PCV13, and RZV**

Case Study: Bruce

- Bruce, a 61-year-old male, is at the primary care office for a routine physical
- He has not seen a primary care provider in several years, but now, since he's over 60, says he wants to get "checked out to make sure I'm healthy"
- He takes no medications
- He has a 40-year history of smoking "a couple cigarettes a day." You note cuts and scratches on his hands, and he tells you he likes to work on old cars in his free time

What vaccines should Bruce receive today?

A. Tdap or Td only
B. PPSV23; get varicella titers to determine need for RZV
C. Tdap, PPSV23, and start RZV series
D. Tdap, PPSV23, influenza vaccine, and start RZV series

Bruce: Curveball #1

- When he learns about which vaccines you're recommending today, Bruce says, "Whoa! Do I really need all of these? I hate shots! I've hated them ever since I was a little kid!"

What now?

Discussion: How to Persuade Bruce to Get His Vaccines *and* Return for His Second RZV Dose

- Best practices for injection
- Get the vaccines over quickly early in the visit
- Praise patient
- Offer reward/incentive for return

Bruce: Curveball #2

- After you explain that RZV is to prevent shingles a kind of recurrence of chickenpox, Bruce says, “Well, then—I don’t need that one. I never had the chickenpox.”

What now?

Closing Comments

- Be sure to take advantage of EVERY encounter to update your adult patients on their vaccines
- Consider patient perspectives and barriers in facilitating decisions about vaccines
- Use multiple strategies to help patients accept their vaccines
- Have a strategy/back-up plan based on rewards to encourage patients to return for needed vaccines

Questions?