

Protecting the Circle: Vaccinations to Safeguard Our Elders

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2026 IHS Clinical and Community Workforce Summit

- CAPT Holly Van Lew, PharmD, BCPS, AAHIVP, IHS HIV/HCV/STI and Communicable Disease Pharmacy Consultant



All individuals should consult with their health care providers to understand their options regarding vaccinations.

Objectives



- Describe age-related changes in the immune system and explain how these changes influence vaccine effectiveness and risk–benefit considerations in older adults.
- Apply current immunization recommendations to identify appropriate vaccines, schedules, and precautions for older adult patients with common chronic conditions.
- Evaluate patient-specific factors—including comorbidities, immunocompromise, and prior vaccination history—to formulate evidence-based immunization plans for older adults.

IHS National E3 Vaccine Strategy



- Every patient, Every encounter, Every recommended vaccine, when appropriate
- Vaccination remains a clinical & public health prevention priority in IHS
- Webpage: <https://www.ihs.gov/NPTC/e3-vaccine-strategy/>
 - Resource bank, E3 Champions Pilot, Best Practices

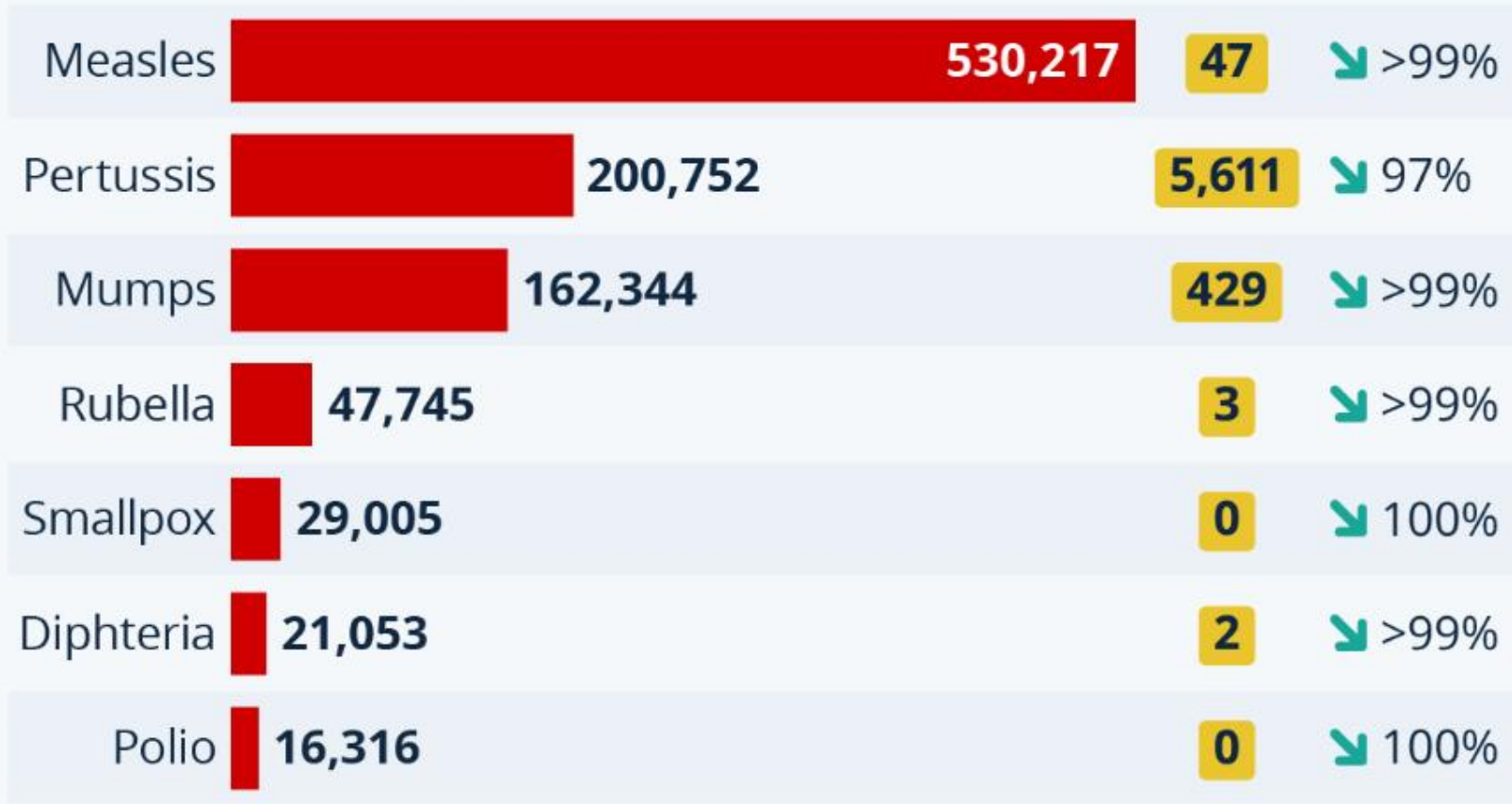


How Vaccines Helped All But Eradicate Diseases



Annual 20th century morbidity and reported cases in 2023 for vaccine-preventable diseases in the U.S.

■ Annual 20th century morbidity ■ Reported cases in 2023 ↘ Decrease



Vaccines – Benefits in Elders

- Primary prevention – reduce infection
- Secondary prevention
 - Reduced spread of illness
 - Reduced health care usage and costs
 - Fewer medical visits and hospitalizations
 - Prevent long-term complications from the disease
 - Preserved independence and activities of daily living
 - Increased life expectancy – the concept of health span vs life span

Vaccines – Secondary Benefits in Elders



- Fewer complications and long-term health problems
 - Cardiovascular Events - Infections (flu, COVID-19, RSV, shingles) can increase inflammation and place stress on the heart and blood vessels
 - This stress can cause heart attacks, strokes, and heart-related events.
 - Vaccinations help reduce the risk of these serious conditions, like heart disease, stroke, heart failure, myocarditis, and blood clots.
 - Chronic Disease Complications
 - Preventing infections can reduce flare-ups of chronic conditions.
 - This may lead to fewer hospitalizations, less disability, and a lower risk of early death related to chronic disease worsening.

Vaccines – Secondary Benefits in Elders



- Reduced antibiotic use and resistance
 - Many vaccine-preventable infections (pneumonia, meningitis, respiratory, and bloodstream infections) are commonly associated with antibiotic use.
 - By vaccinating older adults against these diseases, these infections can be reduced, potentially decreasing the need for antibiotics and reducing antibiotic resistance
- Dementia
 - Recent findings show reduced risk of dementia and slower progression of dementia with certain vaccines.

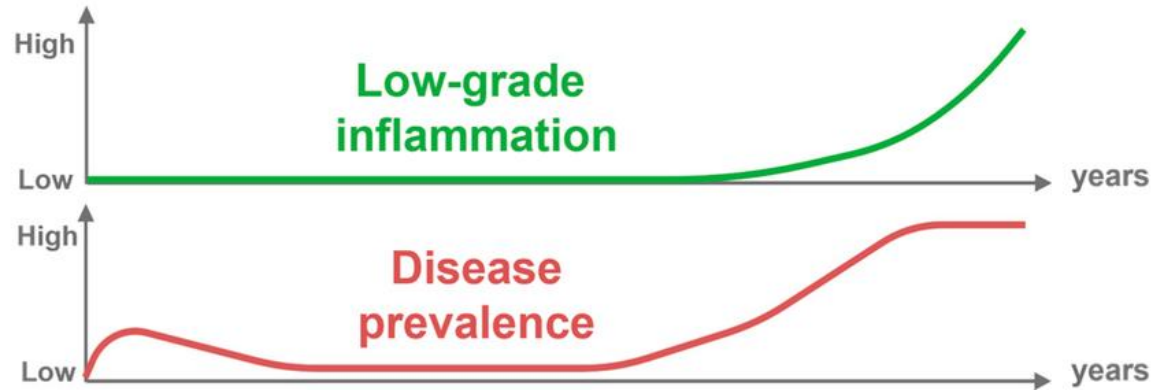
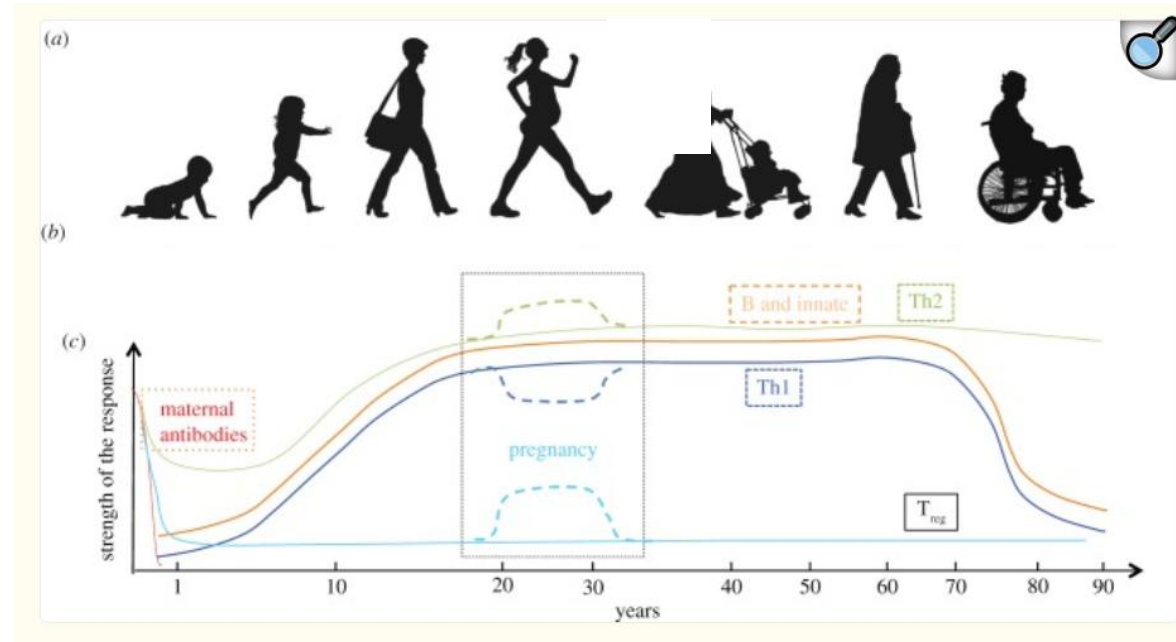
Aging and the Immune System



What is
immunosenescence?

- **Immunosenescence** is the age-related, gradual decline in immune system function that occurs as part of the natural aging process.
- As a result, older adults are more likely to get infections, experience more serious illness, and take longer to recover.
- As we age, we make weaker responses to vaccination and the protection wears off more quickly.

Immune System Decline & Considerations



Reference: Simon, A Katharina et al. "Evolution of the immune system in humans from infancy to old age." *Proceedings. Biological sciences* vol. 282,1821 (2015): 20143085. doi:10.1098/rspb.2014.3085

From Genesis to Old Age: Exploring the Immune System One Cell at a Time with Flow Cytometry – Figure.. Available from: https://www.researchgate.net/figure/Lifelong-antigen-exposure-Throughout-life-our-exposure-to-new-pathogens-gradually_fig1_381990042 [accessed 11 Feb 2026]

Considerations for AI/AN Elders

- Increased exposure
 - Multigenerational households
 - **23% of AI/AN kids live with grandparents, 2x as high as all US children**
 - Increased risk of exposure to children and common childhood illnesses and seasonal patterns (start of school, respiratory disease season, etc.)
 - Assisted living or skilled nursing facilities
 - Higher rates of childhood vaccine-preventable diseases, exposure through the community
- Increased severity
 - Remote and Rural locations – more likely to present for health care with more severe disease
 - Higher rates of underlying medical conditions than other races/ethnicities



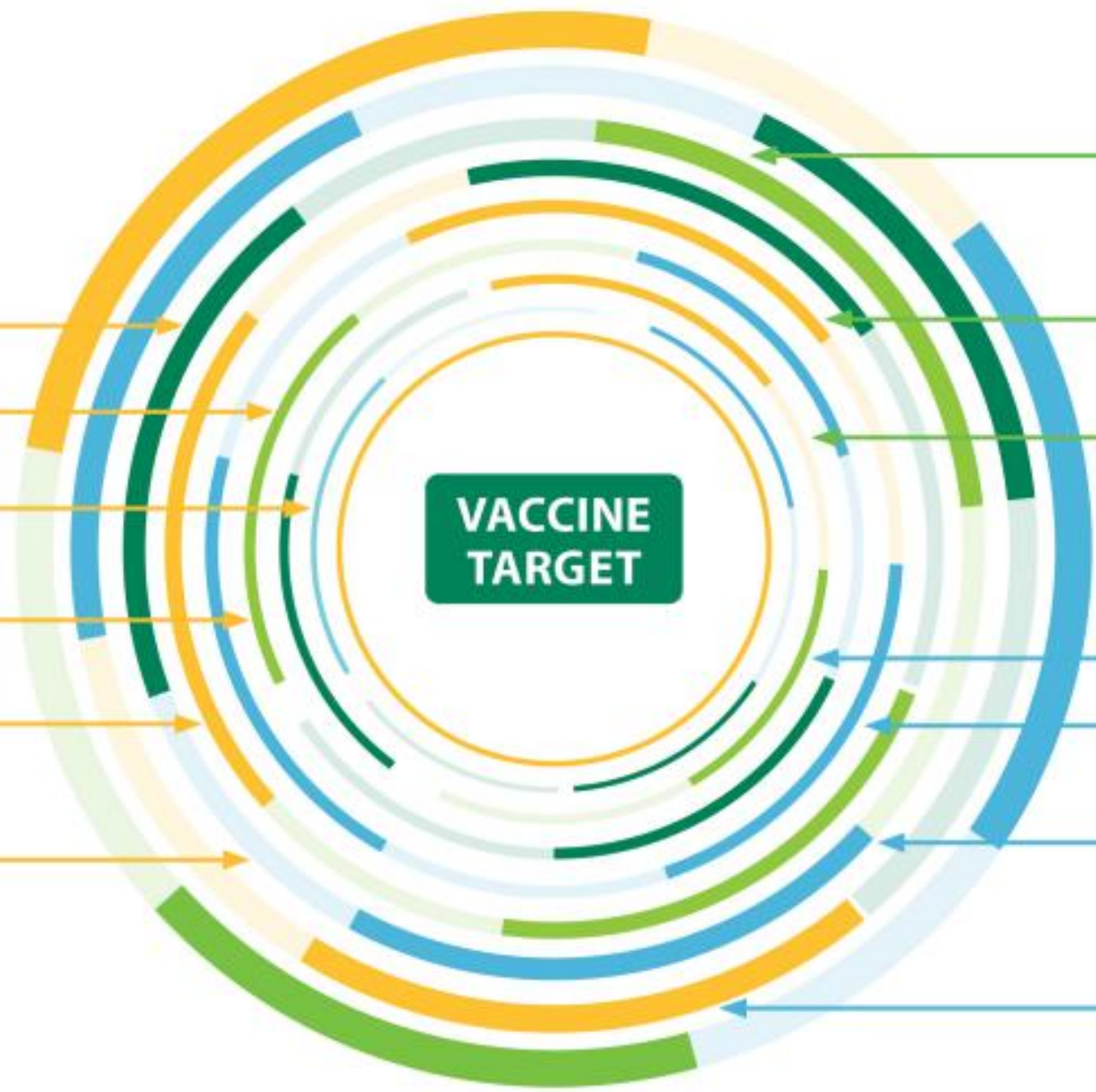
*Aging is a
Privilege*

Vaccination Supports Strength—Inside and Out

Elder Vaccines

HEALTH BENEFITS

- Primary prevention of infectious disease
- Increased life expectancy
- Avoidance of long-term complications
- Decreased risk of hospitalization
- Prevention of antimicrobial resistance
- Preservation of functional independence



ECONOMIC BENEFITS

- Health care costs savings for individuals, families, and societies
- Preserve workplace productivity
- Fulfill caregiving responsibilities

SOCIETAL BENEFITS

- Health equity
- Herd immunity and eradication of infectious disease
- Protection of 'vaccinated yet vulnerable' and for those who cannot receive vaccines
- Prevention of antimicrobial resistance

ELDER IMMUNIZATION CHART

BY VACCINE AND AGE




		50-59 YEARS	60-64 YEARS	65-74 YEARS	75+ YEARS
RESPIRATORY VACCINES	INFLUENZA	STANDARD DOSE YEARLY		HIGH DOSE/ADJUVANTED YEARLY	
	COVID-19	SINGLE DOSE YEARLY		SINGLE DOSE YEARLY + ADDITIONAL DOSE* IN 6 MONTHS	
	RSV	SINGLE DOSE EVER (ALL AI/AN ELDERS AT HIGH RISK)			
	PNEUMO	SINGLE PCV20 OR PCV21 DOSE			
	Tdap	1 DOSE Td/Tdap EVERY 10 YEARS			
	HEP B	2-3 DOSE SERIES ONCE	2-3 DOSE SERIES ONLY IN RISK-BASED SCENARIOS		
	SHINGLES	2 DOSE SERIES, 2-6 MONTHS APART			

* ADDITIONAL COVID DOSE CAN BE GIVEN AS EARLY AS 2 MONTHS

Strategies to Improve Vaccine Protection



Basic Vaccination Concepts

- Use higher-dose or enhanced vaccines to create a stronger immune response  **GIVE MORE**
 - Provide booster shots more often to maintain protection over time  **REPEAT OFTEN**
 - Administer vaccinations at the right time to help the immune system respond most effectively  **TIMING MATTERS**
-
- Continue emphasizing prevention strategies, handwashing, masking when appropriate, and staying home when sick
 - Support ongoing research to develop vaccines designed specifically for older adults.

Side Effects in Elders

- One terrific trend – side effects tend to lessen with age!

Shingrix Vaccine

Side Effect	50-59 yrs	60-69 yrs	≥ 70 yrs
Pain	88%	83%	69%
Swelling	31%	27%	23%
Myalgia	57%	49%	35%
Fatigue	57%	46%	37%
Headache	51%	40%	29%

Downward trend with increased age



RSV (Pfizer) Vaccine

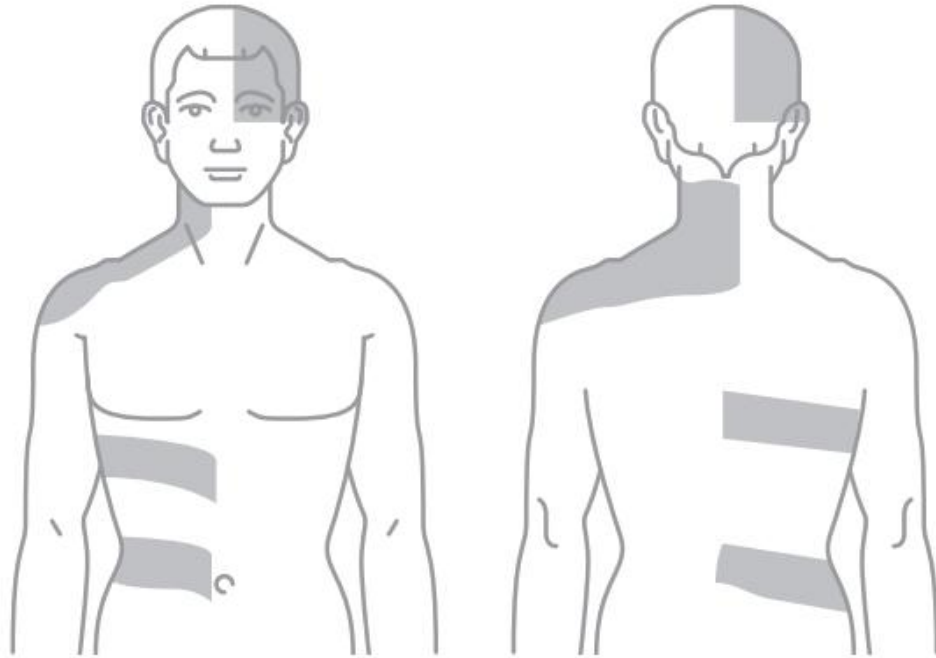
Side Effect	18-59 yrs	≥ 60 yrs
Pain	35%	11%
Fatigue	37%	16%
Headache	29%	13%
Myalgia	24%	10%
Joint pain	12%	8%

Downward trend with increased age



Shingles Vaccine

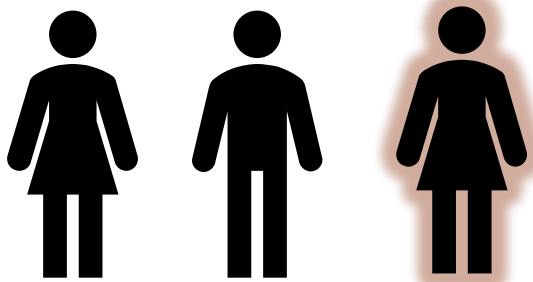
Shingles (Herpes Zoster)



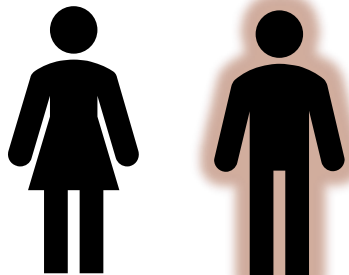
Shingles happen only on ONE SIDE of the body and in a very specific pattern where it causes nerve inflammation and a rash where nerves meet the skin (dermatome).

- Shingles is a reactivation of the virus that causes chickenpox (called varicella zoster) that lies dormant in the body for decades.
- It can become active again, or reactivate, and cause “shingles”
- Most individuals born before 1980 were likely exposed to the varicella (chickenpox) virus.
- Risk Factors:
 - Weakening of immune response due to age
 - HIV/AIDS, certain cancers, and organ transplant
 - Medications that weaken the immune system (e.g., steroids, many rheumatology medications, chemotherapy)
 - Significant physical or psychological stressors (e.g., severe illness, surgery, traumatic event)

Shingles (Herpes Zoster)



1 in 3
Will have
shingles in their
lifetime



1 in 2
By age 85, 1 in 2 will
have had shingles

- Lifetime risk of shingles is \approx 30% (1 in 3)
- The risk rises sharply after age 50, rising to 50% in individuals over age 80.
- Shingles is more severe and causes more complications in people:
 - Over 65 years
 - With multiple medical conditions (3 or more)
 - Who are immunocompromised (even at younger ages)

Shingles (Herpes Zoster) Incidence

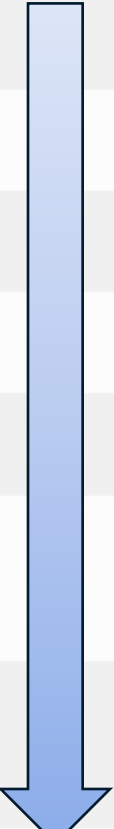


Incidence by Age	Cases per 1,000 people in 2025
Age 20-29	1.2
Age 30-39	2.2
Age 40-49	4.8
Age 50-59	10.2
Age 60-69	16.4
Age 70-79	24.5
Age 80+	32.6

- Approximately **1 million Americans** have shingles each year.
- About half of all cases occur in people over 60 years of age.

Postherpetic Neuralgia Risk by Age 2025

Age Group	PHN Risk Percentage	Pain Duration	Impact Severity
Under 40 years	Rarely occurs	Usually short-term	Minimal long-term pain
40-49 years	5-10%	Weeks to months	Moderate concern
50-59 years	10-15%	Months	Increasing burden
60-69 years	15-20%	Months to years	Substantial impact
70-79 years	20-25%	Often prolonged	High disability risk
80-84 years	25-30%	Frequently chronic	Severe quality impact
85+ years	33%	Often permanent	Maximum complication risk



Reference: The World Data. Shingles by Age in US 2025 | Vaccine Statistics & Facts. Accessed online at https://theworlddata.com/shingles-by-age-in-us/#google_vignette

Adult Shingles Vaccine Recommendations



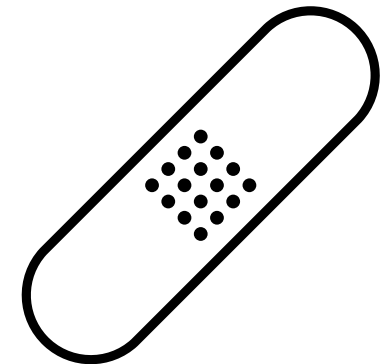
- Shingrix vaccination is recommended as a 2-dose series

What:	ROUTINE VACCINATION
Who:	EVERYONE 50 yrs and older
Dosing:	2 doses 2-6 months apart

What:	RISK-BASED VACCINATION
Who:	Adults 19-49 years with current or planned immunocompromise
Dosing:	2 doses, 1 month apart

Recombinant Zoster Vaccine (Shingrix)

- Shingrix makes a STRONG immune response – **It is over 90% effective!**
- The adjuvant in Shingrix (AS01B) works on two pathways of the immune system (first- and second-line defenses), making a very robust and long-lasting immune response.
 - **This overcomes the age-related decline we see in vaccines in elders!**
- However, it can have some unpleasant side effects
 - Injection site pain, redness, swelling: 70-80%
 - Body aches, chills, fever, stomach upset: 40-70%
 - Moderate reactions that prevent normal daily activity: 10-20%
 - Side effects go away by 48-72 hours



Early Signals:

New data indicate that shingles vaccines may be protective for and slow dementia!

Vaccinations – Dementia Effects



- Preventing Diagnoses
 - April 2025 – Studies found that receiving the LIVE shingles vaccine **(Zostavax) vaccination avoided 1 in 5 new dementia diagnoses over a 7-year follow-up period.**
 - People born before 9/2/1933 were not eligible for Zostavax, but everyone born on that day or after was.
 - Two large groups of people who were nearly the same age, differing by few weeks, except for Zostavax vaccine status.
 - This design reduced concerns that people who choose vaccination may differ in health behaviors from those who do not.
 - Additional studies like this in Australia & Canada had similar findings.

Vaccinations – Dementia Effects



- Slowing Disease progression
 - December 2025 - The same data was evaluated for people who already had dementia and received the shingles vaccine.
 - **The study showed slower disease progression and fewer deaths.**
 - **This suggests that vaccination may be effective in treating dementia.**

Shingrix



BUT Zostavax is no longer available in the U.S. Does Shingrix have protective properties?

- **YES** – additional studies demonstrate it is NOT just the live zoster vaccine that offers protection, the new shingles vaccine (Shingrix) does too!
- Shingrix was associated with lower risks of dementia than were two commonly used vaccines in older people: influenza & Tdap

Reference: Pomirchy M, et al. Herpes Zoster Vaccination and Dementia Occurrence. *JAMA*. 2025;333(23):2083–2092. doi:10.1001/jama.2025.5013 Taquet, M., Dercon, Q., Todd, J.A. *et al.* The recombinant shingles vaccine is associated with lower risk of dementia. *Nat Med* **30**, 2777–2781 (2024). <https://doi.org/10.1038/s41591-024-03201-5>

Dementia Effects – How and Why?

- How do the shingles vaccines provide protection? It is unclear.
- Possibilities:
 - Vaccination protects against shingles infection, which could possibly be linked to dementia
 - A link between herpes infections and dementia has been hypothesized for decades.
 - The protective effect against dementia seems to wear off towards later years of follow-up (as does the protective effect against shingles infections).
 - Shingrix also stimulates the two immune system pathways, which could contribute to the protective effect against dementia.

Shingles Vaccination and Biological Ageing



- A recent study examined whether shingles vaccination across seven biological aging indicators.
- Shingles vaccination was associated with slower overall biological aging, lower inflammation, and less cell damage.
- However, the biomarkers specifically linked to dementia did not actually decrease.

More to Come...

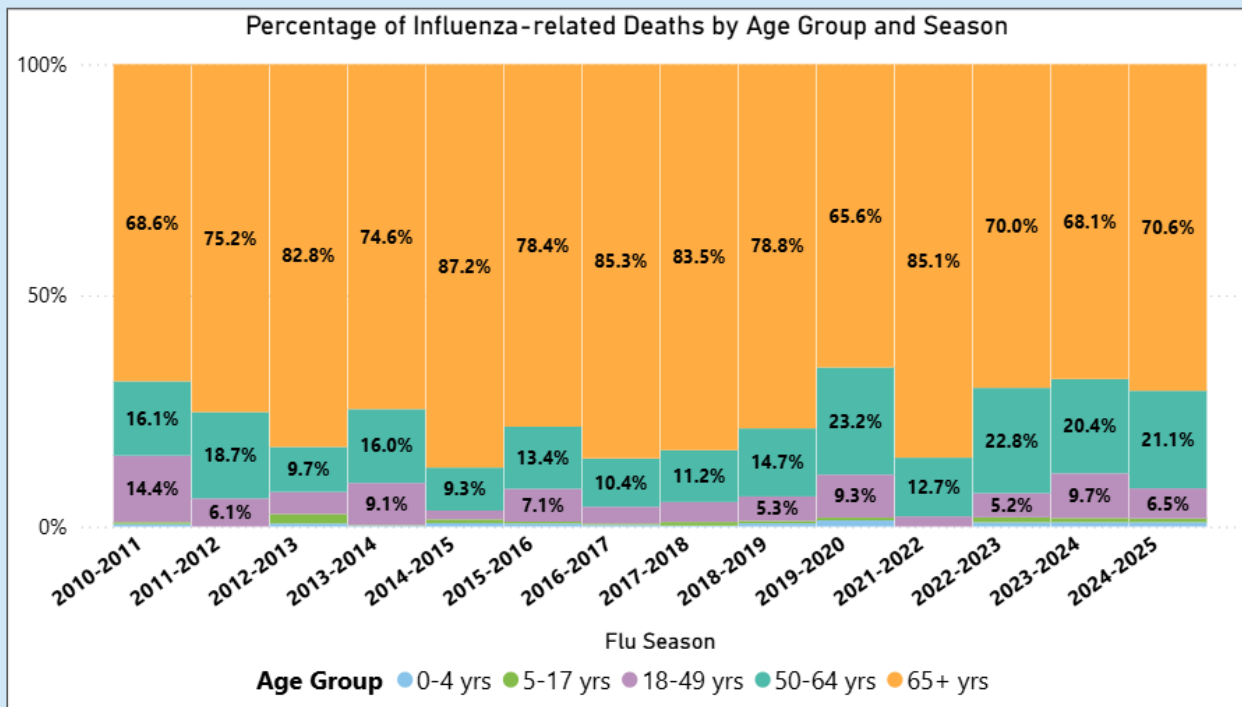
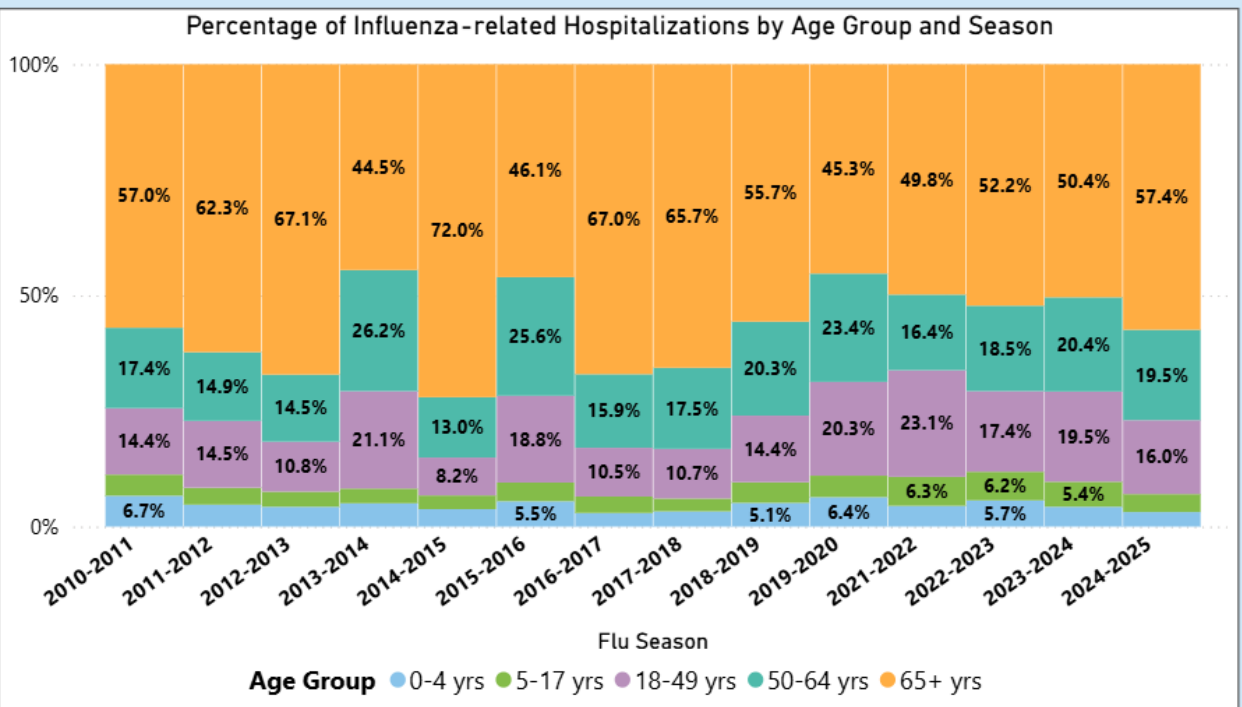


- “By helping to reduce this background inflammation — possibly by preventing reactivation of the virus that causes shingles, the vaccine may play a role in supporting healthier ageing.”
- “While the exact biological mechanisms remain to be understood, the potential for vaccination to reduce inflammation makes it a promising addition to broader strategies aimed at promoting resilience and slowing age-related decline.”

Jung Ki Kim, Eileen M Crimmins, Association between shingles vaccination and slower biological aging: Evidence from a U.S. population-based cohort study, *The Journals of Gerontology: Series A*, 2026;, glag008, <https://doi.org/10.1093/gerona/glag008>

Influenza Vaccines

Influenza Hospitalization & Death by Age



65yrs+ elders predominate EVERY year
50-64 yr age cohort is the second highest nearly EVERY year

Reference: CDC Flu Disease Burden: Past Seasons: Percentages by Age Group Seasonal Comparison. Accessed at <https://www.cdc.gov/flu-burden/php/data-vis/past-seasons.html>

Influenza Recommendations 2025-2026



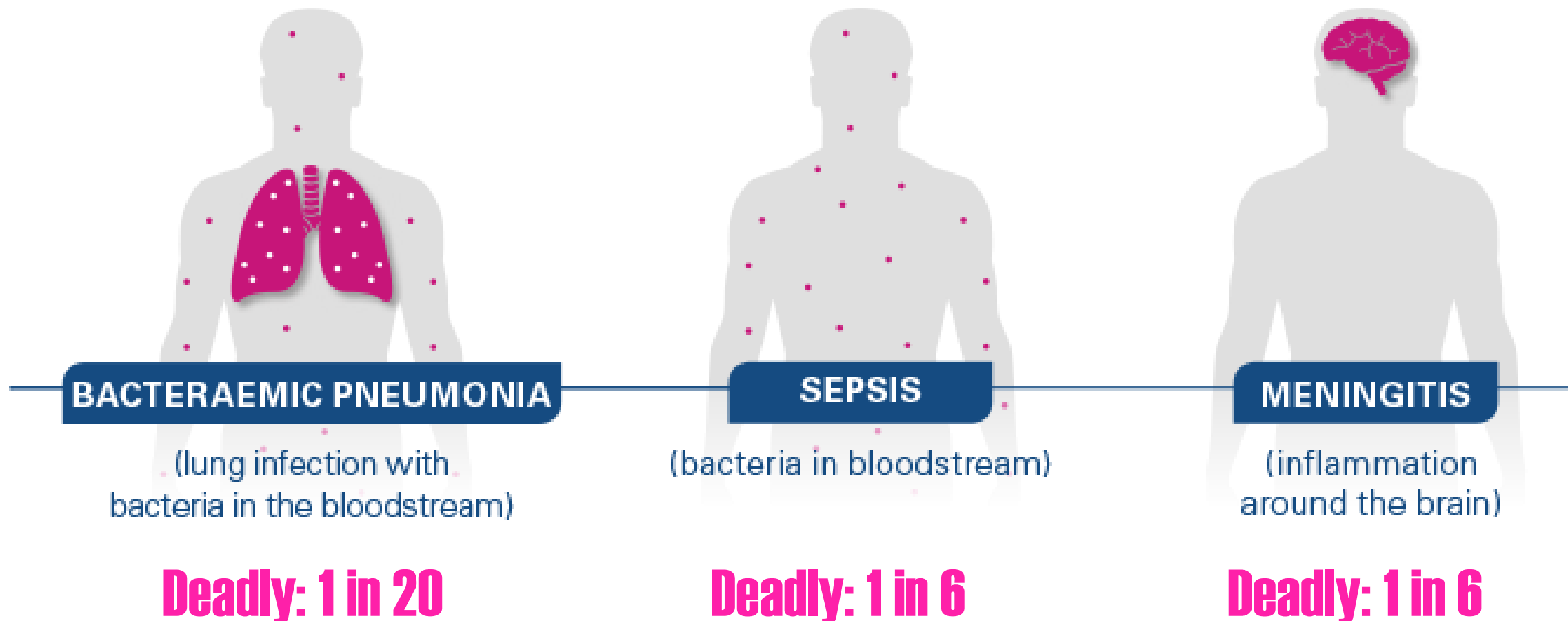
Everyone 6 months & older should receive influenza vaccine every year

Adults \geq 65 years ****Preferential Recommendation****

- High-dose flu vaccine
 - Adjuvanted flu vaccine
 - Recombinant (egg-free) flu vaccine
 - If these are not available, any age-appropriate influenza vaccine should be used
- GIVE MORE, REPEAT OFTEN**
- Timing is important – protection lasts about 6 months
 - It is BEST to be vaccinated in September or later - **TIMING MATTERS**
 - Vaccination Rate Successes
 - Adults aged **65 and older have vaccination rates twice as high** as young adults (71% vs 36%), showing that messaging is reaching elders!

Pneumococcal Vaccines

Pneumococcal Serious Infections



Reference: CDC. Pneumococcal Disease in Adults and Vaccines to Prevent It. Accessed online at <https://www.cdc.gov/pneumococcal/prevent-pneumococcal-factsheet/index.html>

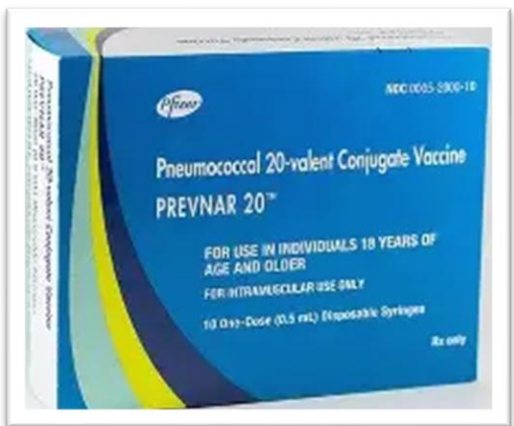
Illustration by: M Sanicas. Pneumococcal Disease And Vaccines: The Numbers' Game. Huff Post. May 14, 2017. Accessed online at https://www.huffpost.com/entry/pneumococcal-disease-and-vaccines-the-numbers-game_b_5918e85fe4b02d6199b2f0f4

Pneumococcal Vaccines for Adults

PCV20

FDA Approved & ACIP endorsed:
2018 (adults), 2023 (peds)

- Protein based conjugate vaccine
- Pre-filled Syringes/Refrigerator Storage



PCV21

FDA Approved & ACIP endorsed:
2024 (adults ONLY - tailored to adults)

- Protein based conjugate vaccine
- Pre-filled Syringes/Refrigerator Storage



Adult Pneumococcal Vaccine Recommendations



Recommended to receive a dose of pneumococcal conjugate vaccine (PCV):

ALL Adults aged ≥ 50 yrs
who have not received
a PCV dose

Adults aged 19–49 yrs
with underlying
conditions or risk factors

Certain adults who received PCV13 but
have not received PCV20 or PCV21

Pneumococcal Vaccine Timing for Adults

Make sure your patients are up to date with pneumococcal vaccination.

Adults ≥ 50 years old Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	PCV20 or PCV21	PCV15 $\xrightarrow{\geq 1 \text{ year}^\dagger}$ PPSV23 [¶]
PCV15 only at any age	$\xrightarrow{\geq 1 \text{ year}^\dagger}$ PPSV23 [¶]	NO OPTION B
PCV15 & PPSV23 OR PCV20 OR PCV21 at any age	No vaccines recommended; schedule is complete.	
PPSV23 only at any age	$\xrightarrow{\geq 1 \text{ year}}$ PCV20 or PCV21	$\xrightarrow{\geq 1 \text{ year}}$ PCV15
PCV13 only at any age	$\xrightarrow{\geq 1 \text{ year}}$ PCV20 or PCV21	NO OPTION B
PCV13 at any age & PPSV23 at <65 yrs	$\xrightarrow{\geq 5 \text{ years}}$ PCV20 or PCV21	

Adults 19–49 years old with chronic health conditions

Complete pneumococcal vaccine schedules

Prior vaccines	Option A	Option B
None*	PCV20 or PCV21	PCV15 → ≥ 1 year → PPSV23 [¶]
PCV15 only at any age	→ ≥ 1 year → PPSV23 [¶]	NO OPTION B
PCV15 & PPSV23 OR PCV20 OR PCV21 at any age	No vaccines recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.	
PPSV23 only at any age	→ ≥ 1 year → PCV20 or PCV21	→ ≥ 1 year → PCV15
PCV13 [†] only at any age	→ ≥ 1 year → PCV20 or PCV21	NO OPTION B
PCV13 [†] and PPSV23 at any age	No vaccines are recommended at this time. Review pneumococcal vaccine recommendations again when your patient turns 50 years old.	

Chronic health conditions	<ul style="list-style-type: none"> Alcoholism Chronic heart disease, including congestive heart failure and cardiomyopathies Chronic liver disease 	<ul style="list-style-type: none"> Chronic lung disease, including chronic obstructive pulmonary disease, emphysema, and asthma Cigarette smoking Diabetes mellitus
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IHS Pneumococcal Guidance – Aug 2025



19-64 years		Vaccine
Reside in Alaska, Colorado, the Navajo Nation, New Mexico, or Oregon	→	PCV20
DO NOT reside in these areas	→	PCV21

≥ 65 years		Vaccine
Local epi >30% serotype 4 IPD	→	PCV20
Local epi unknown or < 30% serotype 4 IPD	→	PCV21

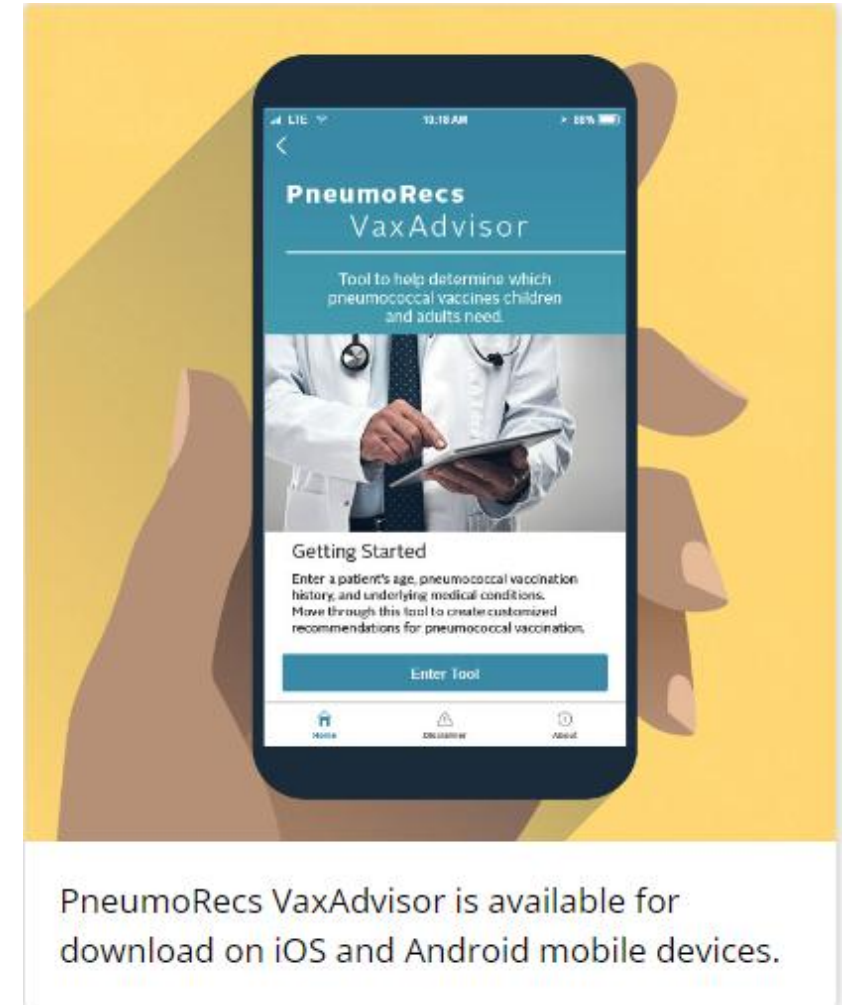
Reference: IHS NPTC Formulary Brief: Adult Pneumococcal Vaccine. Aug 2025.

https://www.ihs.gov/sites/nptc/themes/responsive2017/display_objects/documents/guidance/NPTC%2DFormulary%2DBrief%2DAdult%2DPneumococcal%2DVaccines.pdf

PneumoRecs VaxAdvisor



- Keeping it all straight is tough!
- Use the handy tools at your fingertips
 - PneumoRecs VaxAdvisor
 - Downloadable FREE Mobile App (iOS and Android)
 - [Web Version](#) on a desktop computer
- Pneumo Visual Aid
 - [Pneumococcal Vaccine Timing for Adults](#)



Respiratory Syncytial Virus (RSV) Vaccines

RSV Symptoms & Infectiousness

- Contagious via respiratory droplets, contact (handshake, kiss), or contaminated surfaces
 - The virus may transmit 1-2 days prior to symptom onset
 - Symptoms start 3-8 days after exposure
- Common symptoms
 - Sneezing
 - Runny Nose
 - Cough
 - Wheezing
 - Decrease Appetite
 - Fever
 - Infants may just have irritability or decreased activity or appetite

RSV Burden of Disease

Elders (65yrs+)	Children
<i>Rates of Disease</i>	
<ul style="list-style-type: none">• Estimates of 5-7% of respiratory diseases are RSV	<ul style="list-style-type: none">• >66% exposed at least once before age 1• > 90% exposed by age 2
<i>Hospitalization</i>	
<ul style="list-style-type: none">• 60,000-160,000 hospitalizations yearly	<ul style="list-style-type: none">• Leading cause of hospitalization < 1 year• 58,000-80,000 yearly
<i>Deaths</i>	
<ul style="list-style-type: none">• Case fatality rate 8-10%• <u>6,000-10,000 yearly</u>	<ul style="list-style-type: none">• 100-300 yearly

Adult RSV Vaccine Recommendations



- Currently, RSV vaccination is recommended as a **SINGLE DOSE** ever
- Routine RSV Vaccination
 - ALL elders 75 years and older
- Risk-Based RSV Vaccination
 - Adults 50-74 years with risk factors
 - ALL AI/AN elders are considered at high risk for severe disease
 - Pregnancy
 - Vaccinate at 32-36 weeks gestation during RSV season **ONLY** to provide passive immunity to the infant

Adult RSV Vaccine Recommendations



- Currently, RSV vaccination is recommended as a **SINGLE DOSE** ever

What:	ROUTINE VACCINATION
Who:	EVERYONE 75 yrs and older
Dosing:	Single dose

What:	RISK-BASED VACCINATION
Who:	Adults 50-74 years with risk factors** or Pregnancy (32-36 weeks)
Dosing:	Single Dose

**Most, if not all, AI/AN individuals are considered at risk for severe RSV disease due to multigenerational households, remote and rural locations, and underlying medical conditions.

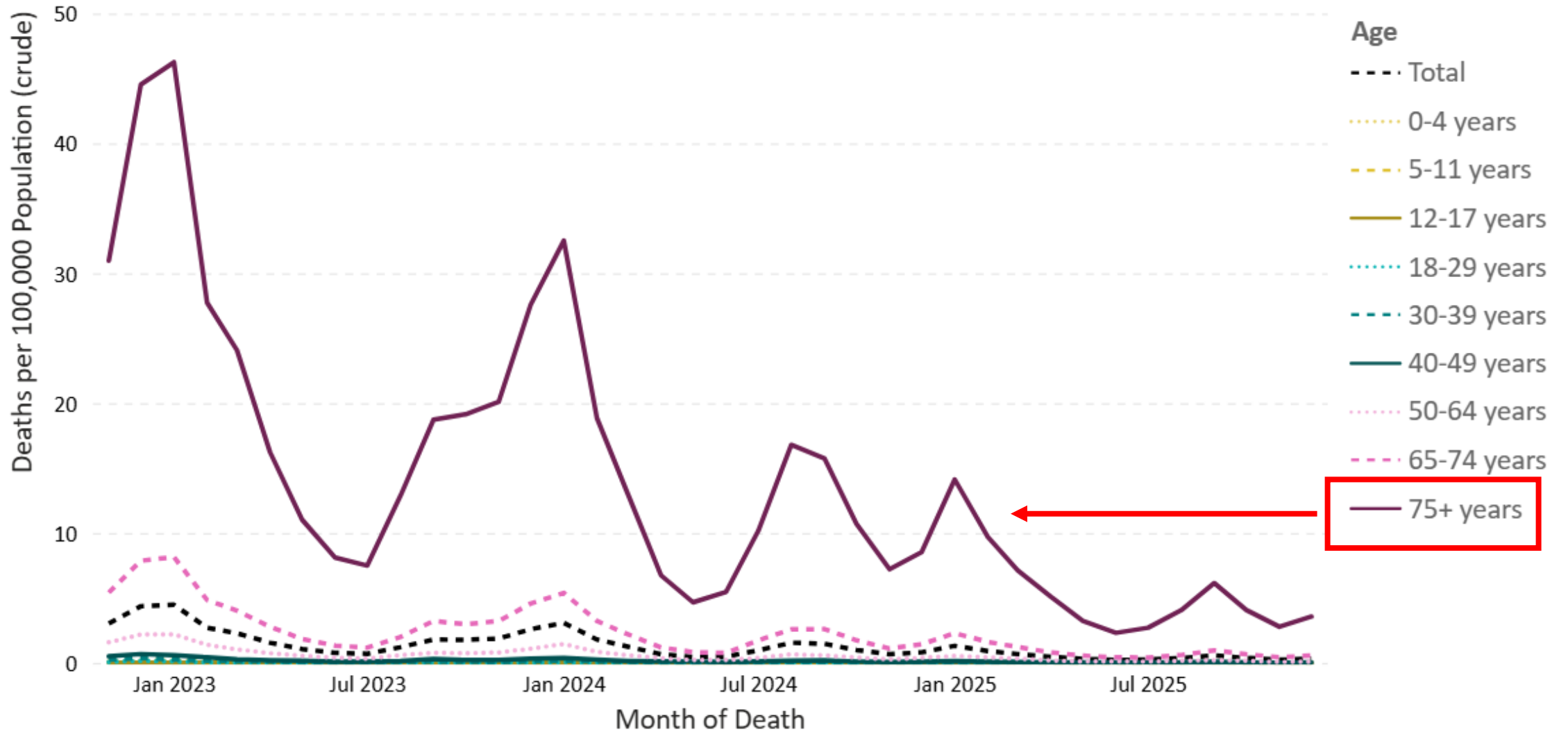
RSV Vaccines for Adults

	mResvia (Moderna)	Arexvy (GSK)	Abrysvo (Pfizer)
Type of Vaccine	<ul style="list-style-type: none"> mRNA technology 	<ul style="list-style-type: none"> Traditional protein based with adjuvant 	<ul style="list-style-type: none"> Traditional protein based
Recommended Populations	<ul style="list-style-type: none"> Routine: Adults 75yrs+ Risk-based: Adults 50-74yrs 	<ul style="list-style-type: none"> Routine: Adults 75yrs+ Risk-based: Adults 50-74yrs 	<ul style="list-style-type: none"> Routine: Adults 75yrs+ Risk-based: Adults 50-74yrs Pregnant people 32-36 weeks
Product Preparation	<ul style="list-style-type: none"> Pre-filled syringes 	<ul style="list-style-type: none"> Requires reconstitution <ul style="list-style-type: none"> 2 vials (antigen + adjuvant) 	<ul style="list-style-type: none"> Requires reconstitution <ul style="list-style-type: none"> Act-O-Vial Vial/vial adapter/syringe
Effectiveness	<ul style="list-style-type: none"> 61%-81% vaccine effectiveness 	<ul style="list-style-type: none"> 56%-83% vaccine effectiveness (multiple seasons) 	<ul style="list-style-type: none"> 79%-89% vaccine effectiveness (multiple seasons)



COVID-19 Vaccines

COVID-19 Deaths by Age



Reference: CDC COVID Data and Surveillance. www.cdc.gov/covid/php/surveillance/index.html

COVID-19 Vaccine 2025-2026 Season



- Greater familiarity with Moderna (Spikevax) and Pfizer (Comirnaty) vaccines
- NEW - Moderna mNexspike – mRNA vaccine
 - Next-generation product
 - Targeted to specific spike proteins that do not change – more stable, fewer variants
 - Less volume/lower mRNA dose (1/5 dose of Spikevax)
 - Increased tolerability – fewer side effects
 - High antibody responses, nearly 2x higher protective antibodies in 65+ than Spikevax
- Novavax (Nuvaxoid) - Protein-based vaccine (like some flu & Hep B vaccines)
 - Last to be fully FDA approved, so less awareness of the product, lower overall usage
 - Immune response is equivalent to mRNA vaccines
 - Very well tolerated – lower side effects than mRNA vaccines
 - Made from the bark of Chilean soapbark trees and grown in moth cells

COVID-19 Vaccine 2025-2026 Season



- Everyone 6 months and older is recommended to get a COVID-19 vaccine based on shared clinical decision making
 - Elders 65+ are recommended to get an additional dose in 6 months (minimum interval 3 months for most patients)

Reference: <https://www.cdc.gov/covid/hcp/vaccine-considerations/routine-guidance.html>

Summary

ELDER IMMUNIZATION CHART

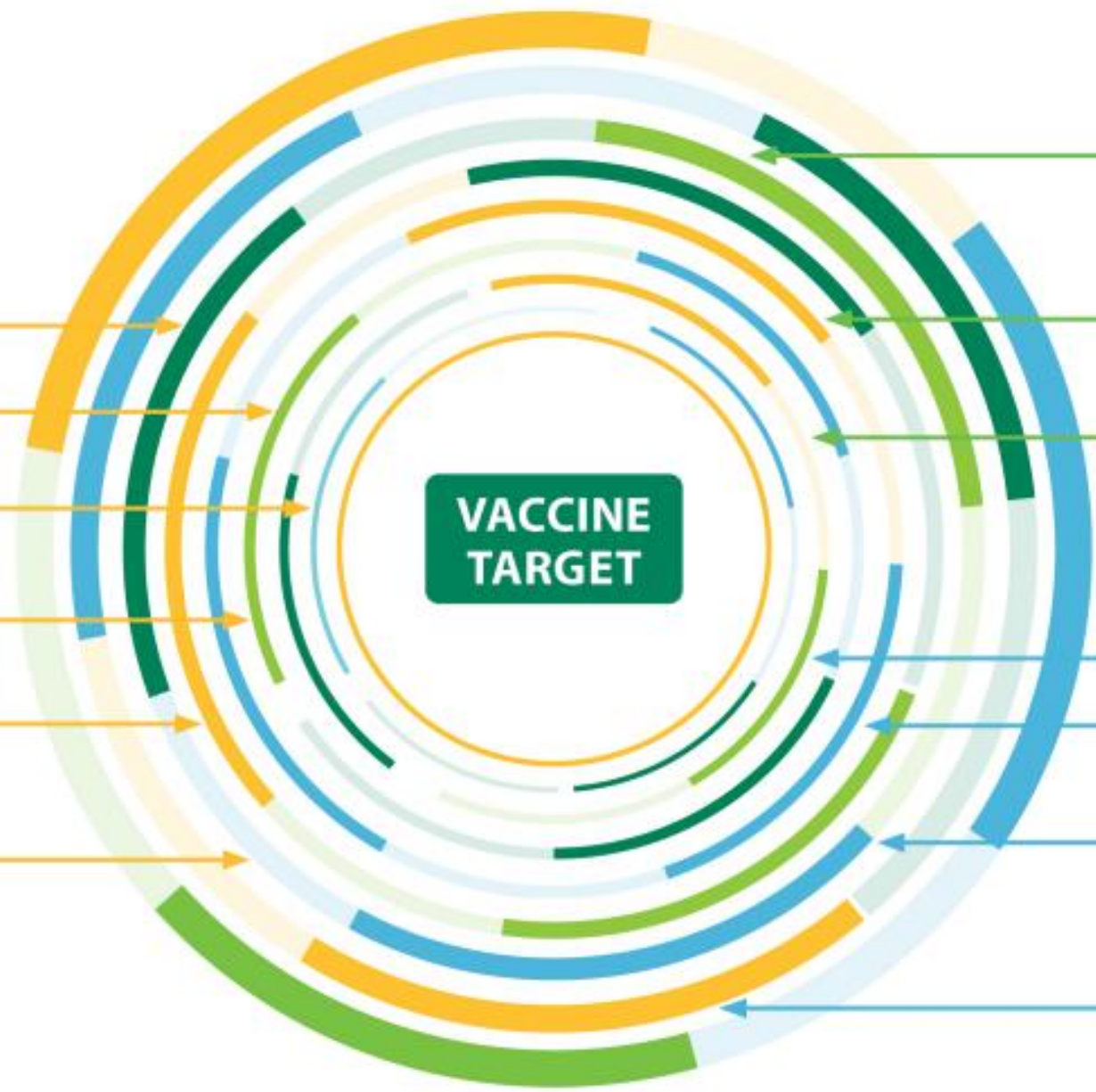
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	COVID-19	SINGLE DOSE YEARLY		SINGLE DOSE YEARLY + ADDITIONAL DOSE* IN 6 MONTHS	
	RSV	SINGLE DOSE EVER (ALL AI/AN ELDERS AT HIGH RISK)			
	PNEUMO	SINGLE PCV20 OR PCV21 DOSE			
	Tdap	1 DOSE Td/Tdap EVERY 10 YEARS			
	HEP B	2-3 DOSE SERIES ONCE	2-3 DOSE SERIES ONLY IN RISK-BASED SCENARIOS		
	SHINGLES	2 DOSE SERIES, 2-6 MONTHS APART			

* ADDITIONAL COVID DOSE CAN BE GIVEN AS EARLY AS 2 MONTHS

HEALTH BENEFITS

- Primary prevention of infectious disease
- Increased life expectancy
- Avoidance of long-term complications
- Decreased risk of hospitalization
- Prevention of antimicrobial resistance
- Preservation of functional independence



ECONOMIC BENEFITS

- Health care costs savings for individuals, families, and societies
- Preserve workplace productivity
- Fulfill caregiving responsibilities

SOCIETAL BENEFITS

- Health equity
- Herd immunity and eradication of infectious disease
- Protection of 'vaccinated yet vulnerable' and for those who cannot receive vaccines
- Prevention of antimicrobial resistance

