Protecting the Circle: Vaccinations to Safeguard Our Elders

March 11, 2026

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 healthcare providers to understand their options regarding vaccinations.

Objectives

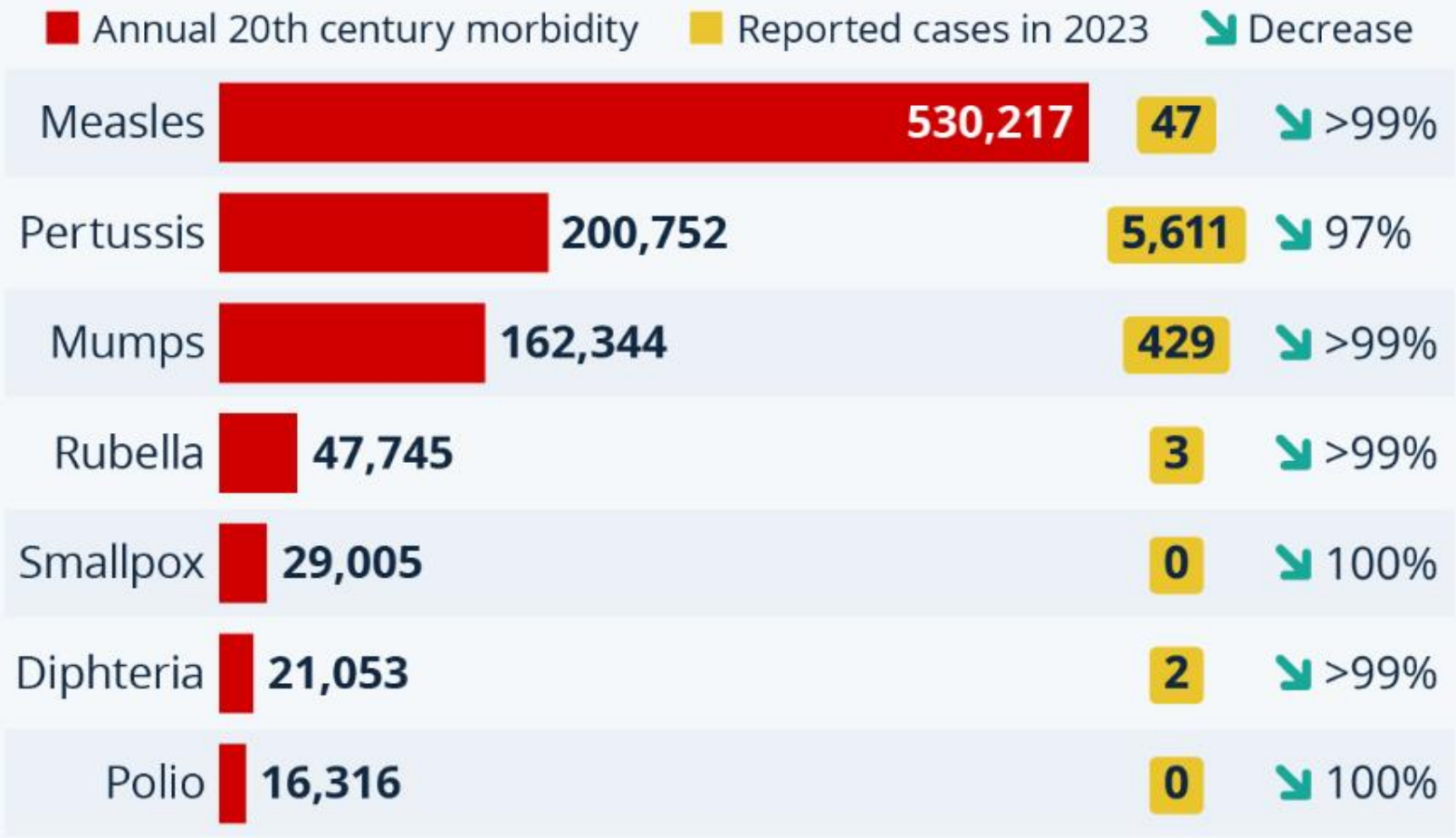
- Describe age-related changes in the immune system and explain how these changes influence vaccine effectiveness and risk–benefit considerations in older adults.
- Apply current immunization recommendations to identify appropriate vaccines, schedules, and precautions for older adult patients with common 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.



Statista how vaccines helped all but eradicate disease 2021

Vaccines – Benefits in Elders

- Primary Infectious disease prevention
- Secondary prevention
  - Reduced spread of illness
  - Reduced healthcare utilization & associated cost of care
    - Reduced hospitalizations
    - Fewer medical visits
  - Avoidance of long-term complications
  - 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 sequelae
  - Cardiovascular Events - Infections (flu, COVID-19, RSV, shingles) can trigger cardiovascular events due to inflammation and stress on the heart and blood vessels.
    - Vaccinations reduce the risk of serious chronic conditions like heart disease, stroke, cardiomyopathy, myocarditis/pericarditis, and thromboembolism.
  - Chronic Disease Exacerbation - Preventing infections may reduce hospitalizations, disability, and premature death related to chronic disease exacerbation.

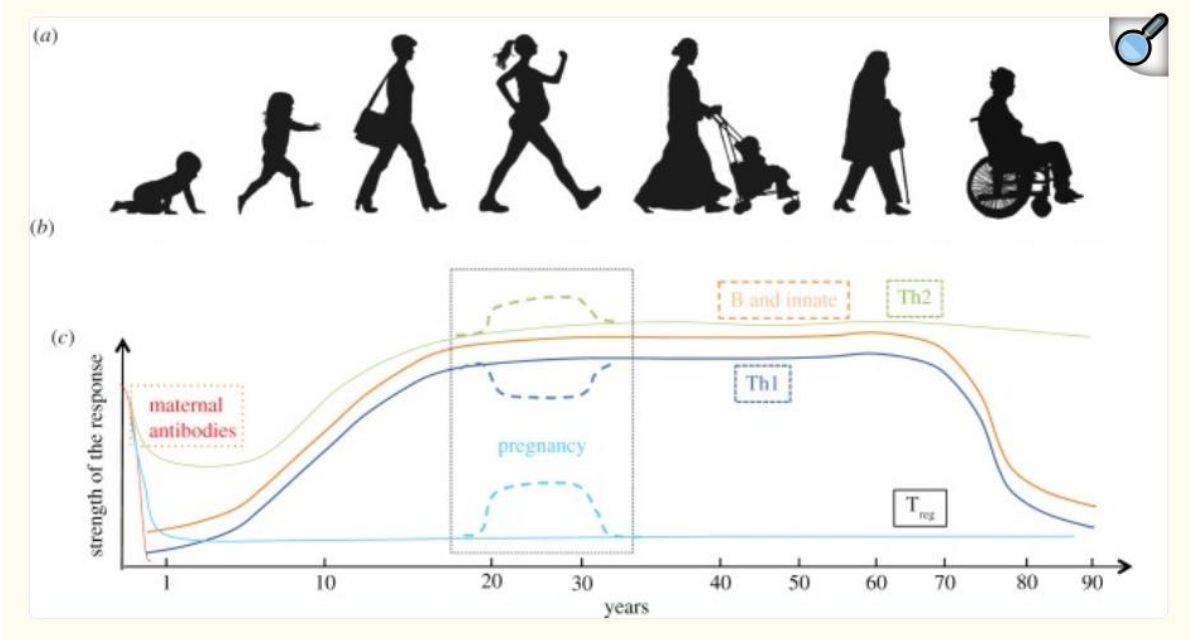
Vaccines – Secondary Benefits in Elders

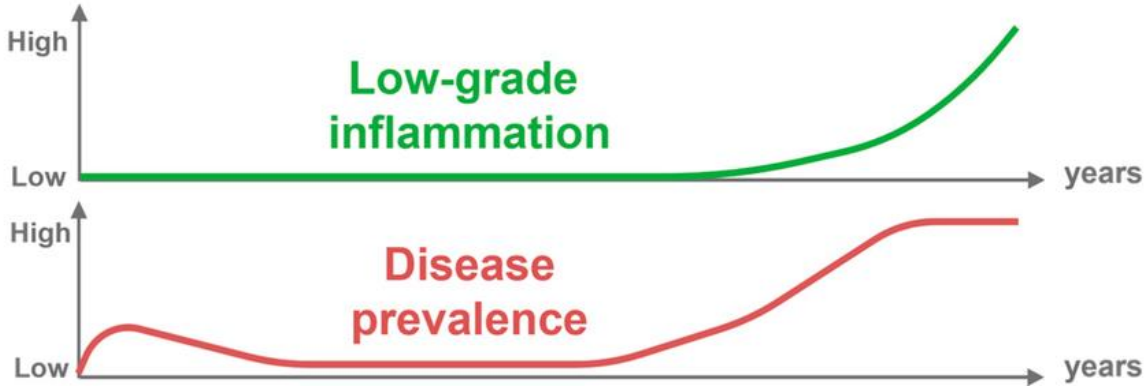
- Reduced antibiotic use and resistance
  - Many vaccine-preventable infections (pneumonia, meningitis, respiratory and bloodstream infections) are commonly associated with antibiotic use.
  - By vaccinating older adults against these diseases, the incidence of infections can be reduced, thereby potentially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

Aging and the Immune System

- **Immunosenescence** is the age-related, gradual decline in immune system function that occurs as part of the natural aging process.
- It leads to increased susceptibility to infections, severe disease, and poor recovery.
- Weaker and less durable responses to vaccination as we age.

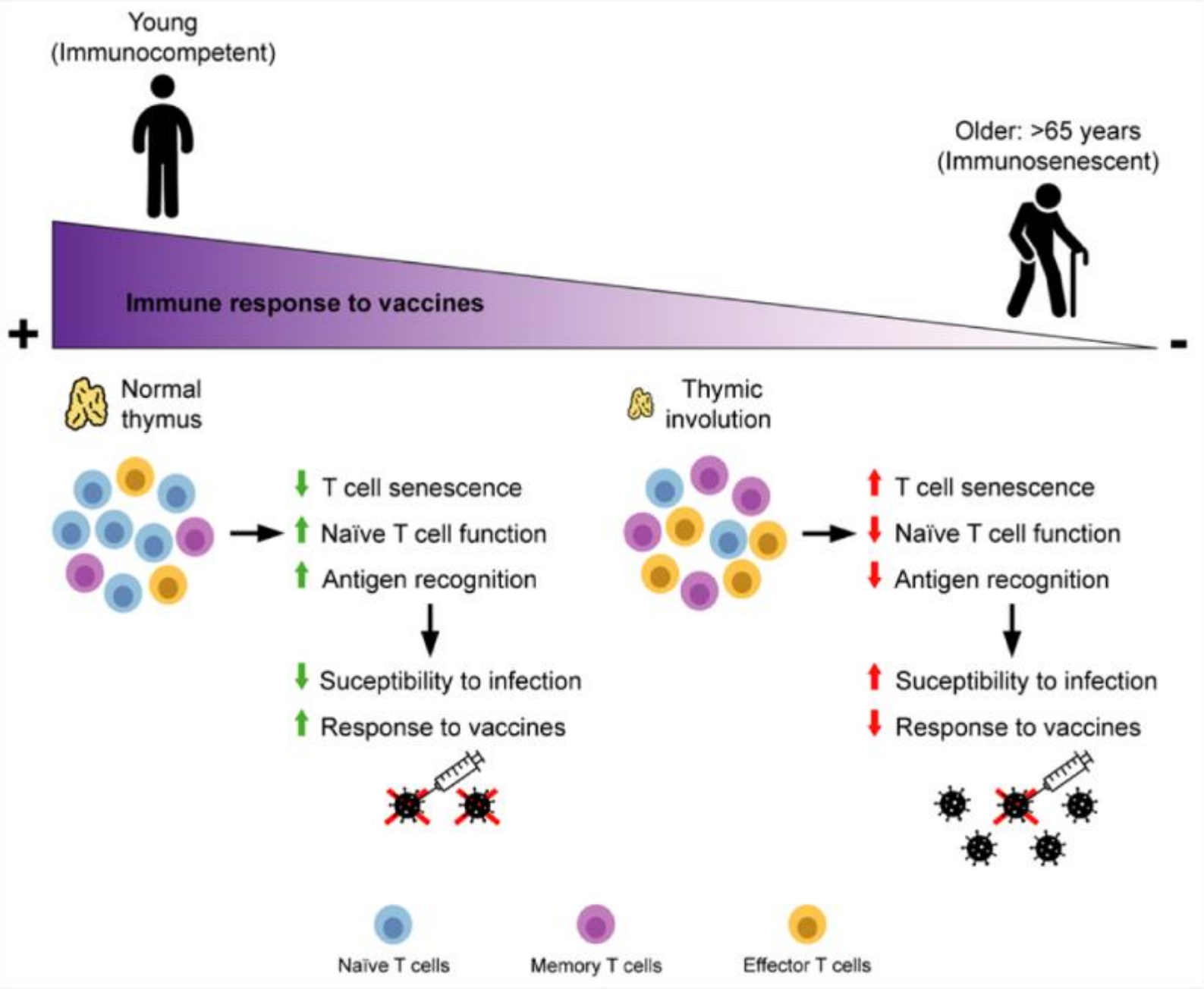
Immune System Decline & Considerations





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]



Immune Response to Vaccines Over the Lifespan

Reference: del Riccio, M and McCormick, B. Flunomics Report Highlights US Influenza Burden, Vaccine Gaps During 2024-2025 Season. Accessed online: https://www.ajmc.com/view/flunomics-report-highlights-us-influenza-burden-vaccine-gaps-during-2024-2025-season-marco-del-riccio-md

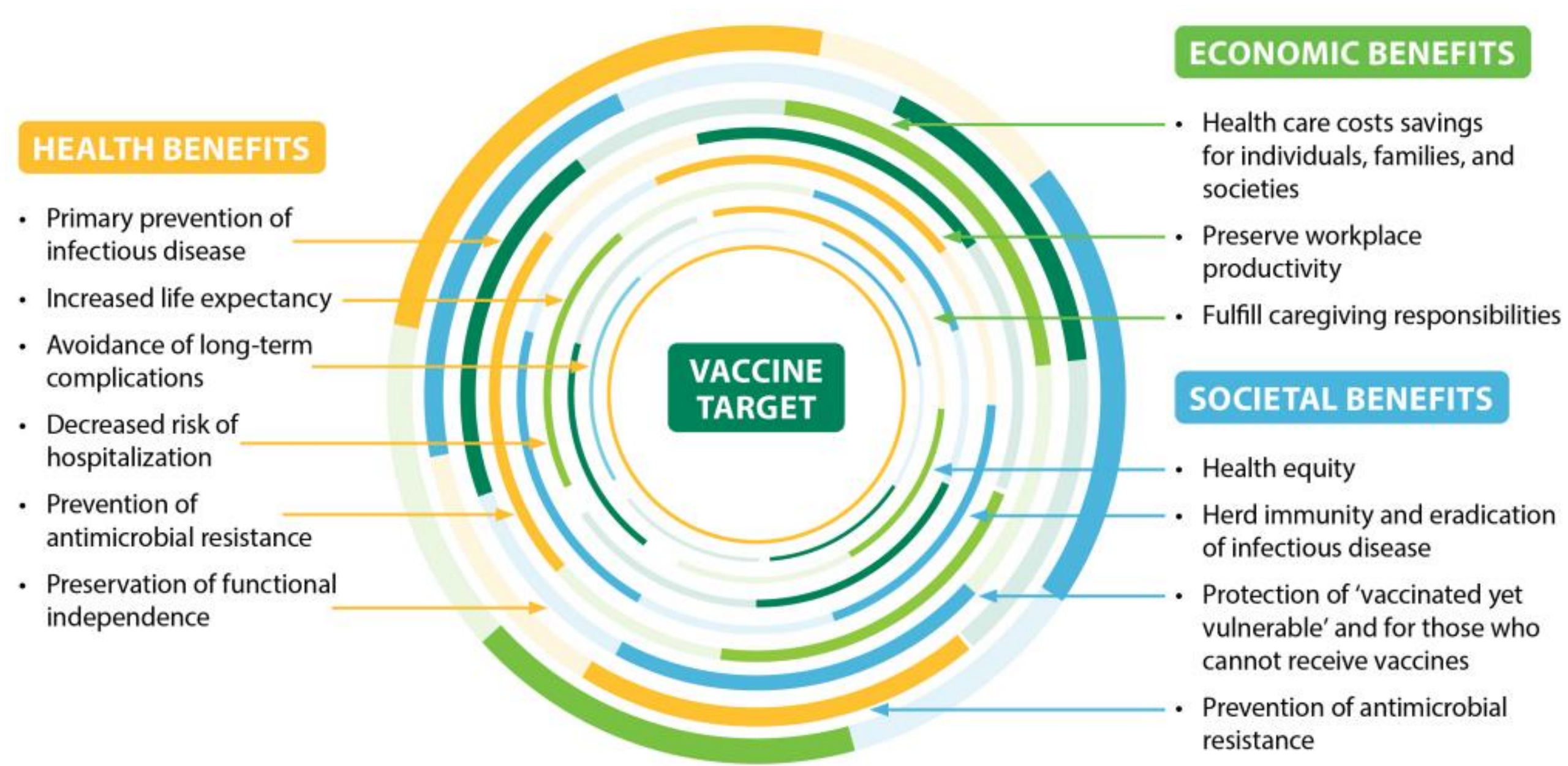
Considerations for AI/AN Elders

- Increased exposure
  - Congregate settings - 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.)
  - Congregate settings - Assisted living or skilled nursing facilities
  - Higher rates of childhood vaccine-preventable diseases, exposure through community
- Increased severity
  - Remote and Rural locations – more likely to present for healthcare with more severe disease
  - Higher rates of underlying medical conditions than other races/ethnicities

Aging is a Privilege

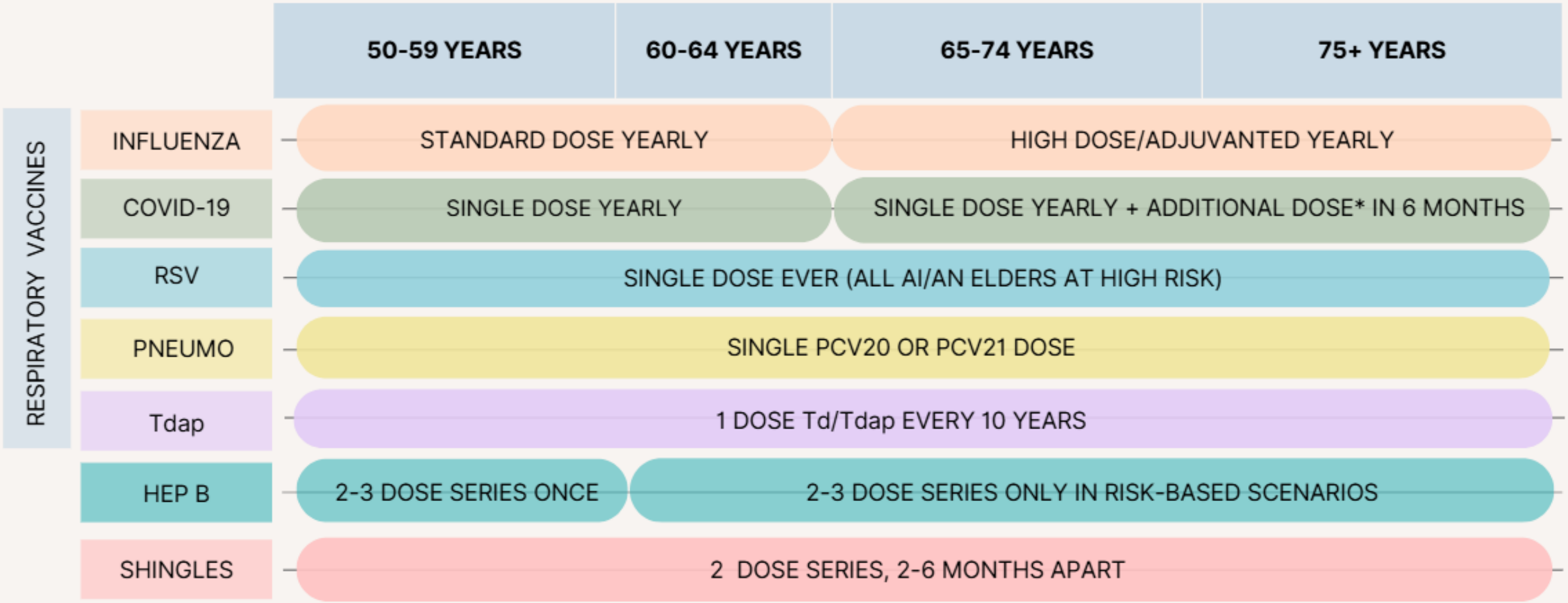
Vaccination Supports Strength—Inside and Out

Elder Vaccines



Reference: The Gerontological Society of America. Webinar 2.10.2026.The Concentric Value of Vaccination: How Vaccines are Important for Older Adults – and All of Us. https://gsaenrich.geron.org/webinars-3

ELDER IMMUNIZATION CHART
BY VACCINE AND AGE



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

Strategies to Improve Vaccine Protection

- Use of high-dose or adjuvanted vaccines → GIVE MORE
- More frequent booster doses → REPEAT OFTEN
- Timing vaccination to maximize immune response → TIMING MATTERS
- Continued emphasis on non-pharmaceutical prevention measures
- Ongoing research into vaccines specifically designed for aging immune systems

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

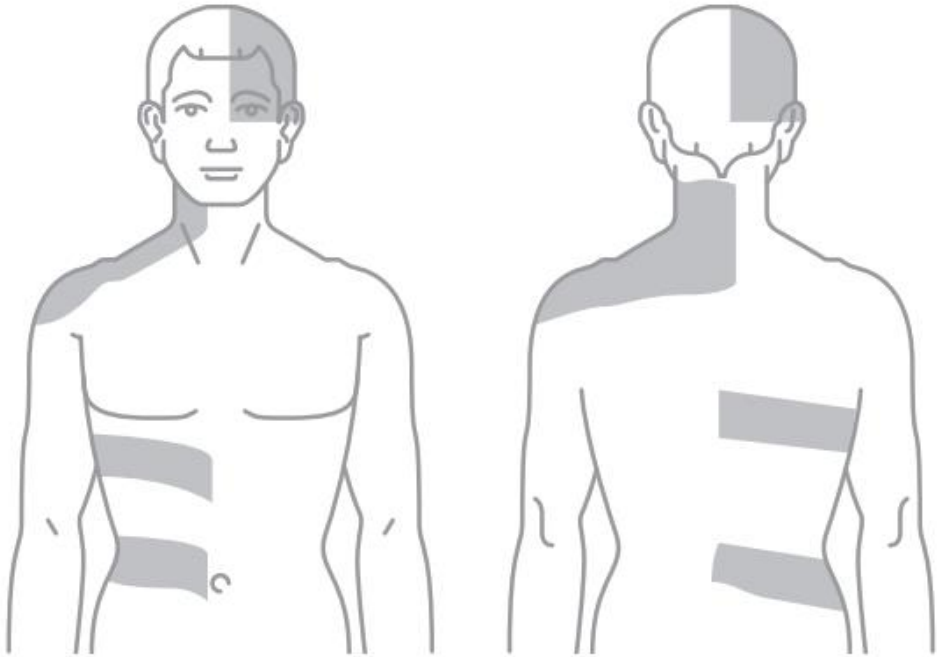
RSV (Pfizer) Vaccine

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

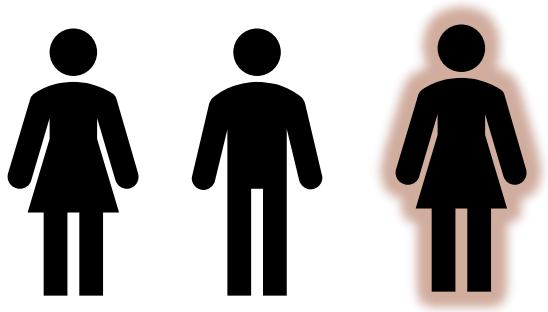
Shingles (Herpes Zoster)



Unilateral vesicular eruption in a single dermatome

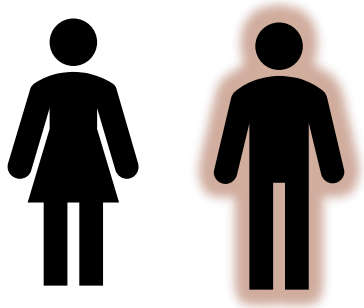
- Shingles is a reactivation of latent varicella-zoster virus following a prior primary infection (varicella “chickenpox”).
- Individuals born before 1980 are assumed to have had exposure to varicella.
- Viral replication → neuronal inflammation → dermatomal rash
- Risk Factors:
  - Age-related immunosenescence
  - HIV/AIDS, hematologic malignancy, solid organ transplant
  - Immunosuppressive therapy (e.g., corticosteroids, biologics, chemotherapy)
  - Psychological or physical stress

Shingles (Herpes Zoster)



1 in 3

Will have singles in their lifetime



1 in 2

By age 85, 1 in 2 will have had shingles

- Lifetime risk of shingles is ≈ 30%
- Incidence rises sharply after age 50, rising to 50% in individuals over age 80.
- Increased severity and complication rates in ≥65 years.
- Higher incidence in immunocompromised patients.

Shingles (Herpes Zoster) Incidence

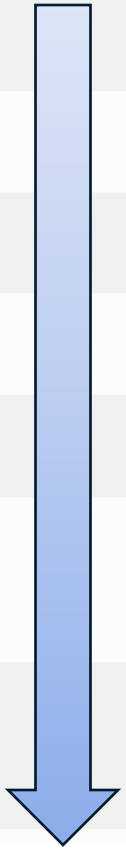
Incidence by Age	Cases per 1,000 people in 2025
Age 20-29	1.2
Age 30-39	2.2
Age 40-49	4.8
Age 50-59	10.2
Age 60-69	16.4
Age 70-79	24.5
Age 80+	32.6

- These numbers translate to ~**1 million** Americans developing shingles annually.
- Roughly half of all cases occur in individuals over 60 years of age.

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

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

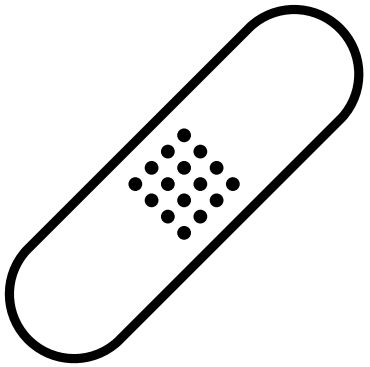
Adult Shingles Vaccine Recommendations

- Shingrix vaccination is recommended as a 2-dose series

ROUTINE VACCINATION	RISK-BASED VACCINATION
EVERYONE 50 yrs and older	Adults 19-49 years with current or imminent immunocompromise
2 doses 2-6 months apart	2 doses, 1 month apart

Recombinant Zoster (Shingrix)

- Shingrix is highly immunogenic and reactogenic
  - Injection site reactions: 70-80%
  - Systemic reactions: 40-70%
  - Grade 3 reactions (prevents normal daily activity): 10-20%
  - Symptoms offset at 48-72 hours



- The AS01B adjuvant in Shingrix enhances both innate and adaptive immunity.
  - It activates cytokine signaling pathways and immune cell maturation, plus a strong T-cell response.
  - **This overcomes the age-related decline in T-cell response!**

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

Emerging data – Shingles Vaccines may be Protective for and Slow Dementia: Early Signals

Vaccinations – Dementia Effects

- Averting Diagnoses
  - April 2025 – Eyting et al found that receiving the LIVE shingles vaccine **(Zostavax) vaccination averted 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, similar groups, differing in age by only weeks, except for Zostavax vaccine status.
    - The study was not subject to the fundamental concern that those who opt to be vaccinated differ from those who do not (health-seeking behavior)
- Additional natural studies in Australia & Canada supported the findings.

References: Eyting, M., Xie, M., Michalik, F. *et al.* A natural experiment on the effect of herpes zoster vaccination on dementia. *Nature* **641**, 438–446 (2025). https://doi.org/10.1038/s41586-025-08800-x,

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.**

References:Xie M, Eyting M, Bommer C, Ahmed H, Geldsetzer P. The effect of shingles vaccination at different stages of the dementia disease course. *Cell*. 2025;188(25):7049-7064.e20. doi:10.1016/j.cell.2025.11.007

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 recombinant shingles vaccine 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.2025.5013Taquet, 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 – Mechanism?

- Mechanisms of protection remain unclear. Possibilities:
  - It protects against shingles infection, which itself causes dementia
    - A link between herpes infections and dementia has been hypothesized for decades.
      - It COULD explain why both shingles vaccines are associated with lower risks of dementia
    - The recombinant vaccine offers greater protection (it better protects against shingles, as replicated in this study)
    - The protective effect against dementia seems to wane towards later years of follow-up (as does the protective effect against herpes zoster infections).
  - The recombinant vaccine contains immunostimulants that could contribute to the protective effect against dementia.

Reference: Pomirchy M, et al. Herpes Zoster Vaccination and Dementia Occurrence. JAMA. 2025;333(23):2083–2092. doi:10.1001/jama.2025.5013Taquet, 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

Shingles Vaccination and Biological Ageing

- A recent study examined whether shingles vaccination across seven biological aging domains:
  - Inflammation
  - Innate and adaptive immunity
  - Cardiovascular hemodynamics
  - Neurodegeneration
  - Epigenetic and transcriptomic aging
  - Composite biological aging score
- Findings: lower inflammation scores, slower epigenetic and transcriptomic ageing, and a lower composite biological aging score.
- Shingles vaccination was associated with slower overall biological aging, lower inflammation, and less cell damage.
- The biomarkers specifically linked to dementia did not actually decrease.

References: 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

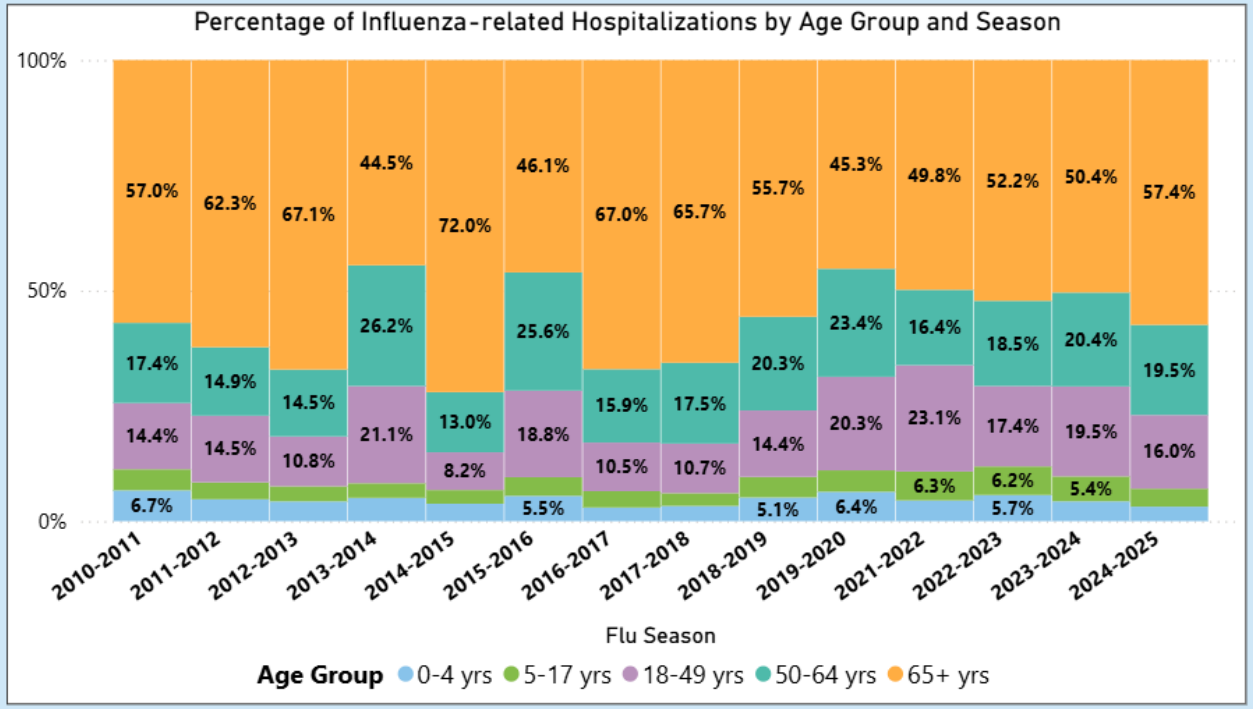
More to Come…

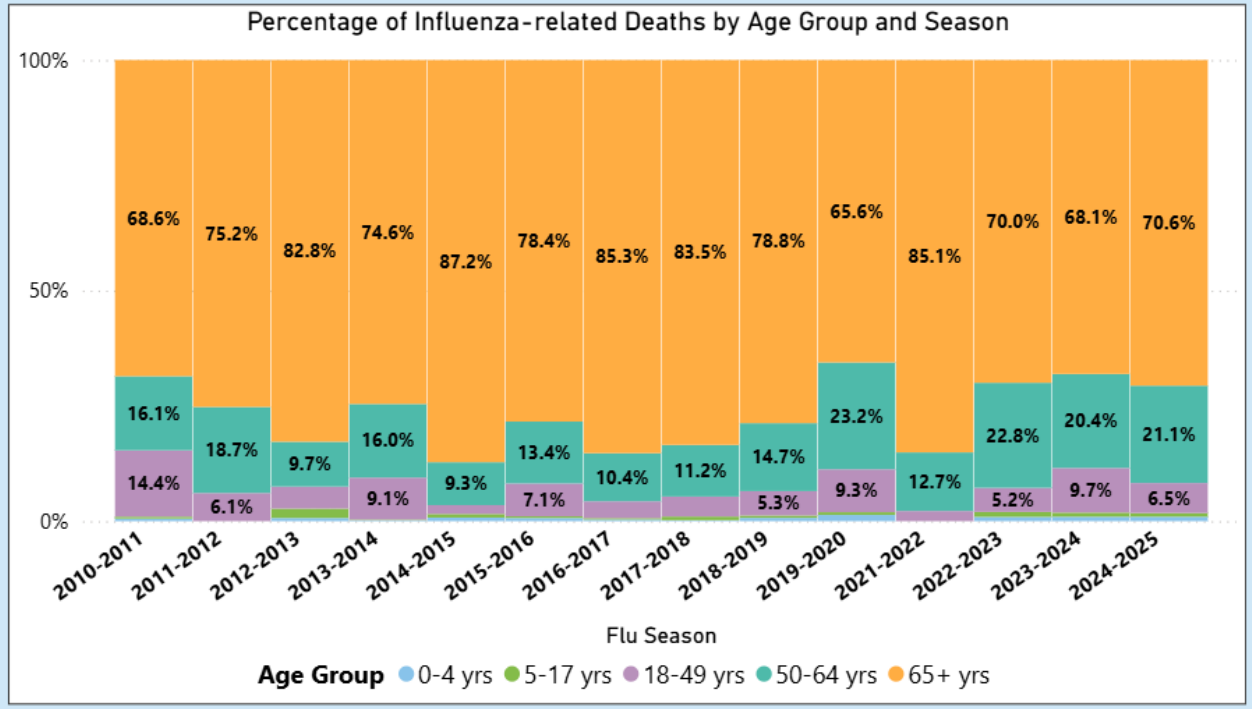
- “By helping to reduce this background inflammation — possibly by preventing reactivation of the virus that causes shingles, the vaccine may play a role in supporting healthier ageing.”
- “While the exact biological mechanisms remain to be understood, the potential for vaccination to reduce inflammation 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 ≥ 65 years ****Preferential Recommendation****

- **High-dose inactivated influenza vaccine**
- **Adjuvanted inactivated influenza vaccine**
- **Recombinant influenza vaccine**

GIVE MORE, REPEAT OFTEN

- If these are not available at an opportunity for vaccine administration, then any age-appropriate influenza vaccine should be used

- Timing is important – duration of protection is about 6 months
  - Ideal to vaccinate in September or later - TIMING MATTERS
- Vaccination Rate Successes
  - Adults aged **65 and older have vaccination rates twice as high** as young adults (71.3% vs 35.6%), showing that messaging is reaching elders!

Pneumococcal Vaccines

Pathogenic *S. pneumoniae* infection routes by exposure

Blue = Airborne route

Red = Hematologic route

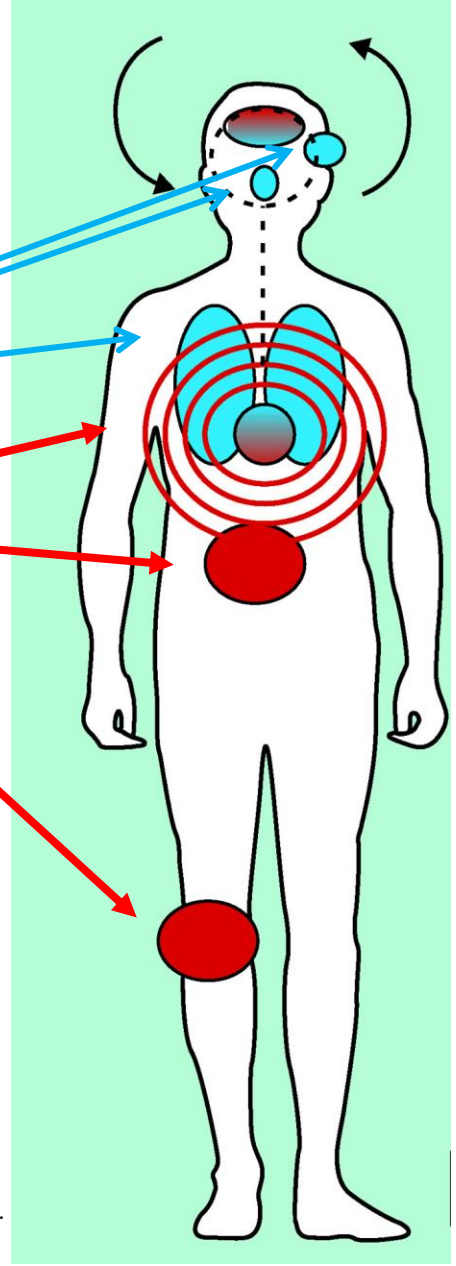


Figure: Bogaert et al. S. Pneumoniae colonisation: the key to pneumococcal disease. Lancet Infect Dis. 2004 Mar;4(3):144-54. https://doi.org/10.1016/S1473-3099(04)00938-7.

- Airborne routes of infection are associated with less severe, less life-threatening infections.
- When infection crosses into the blood, infections are considered “invasive”.
- These infections are more serious, with higher rates of hospitalization, complications and death.

Invasive Pneumococcal Disease

Pathogenic route for *S. pneumoniae* infection defining noninvasive and invasive disease

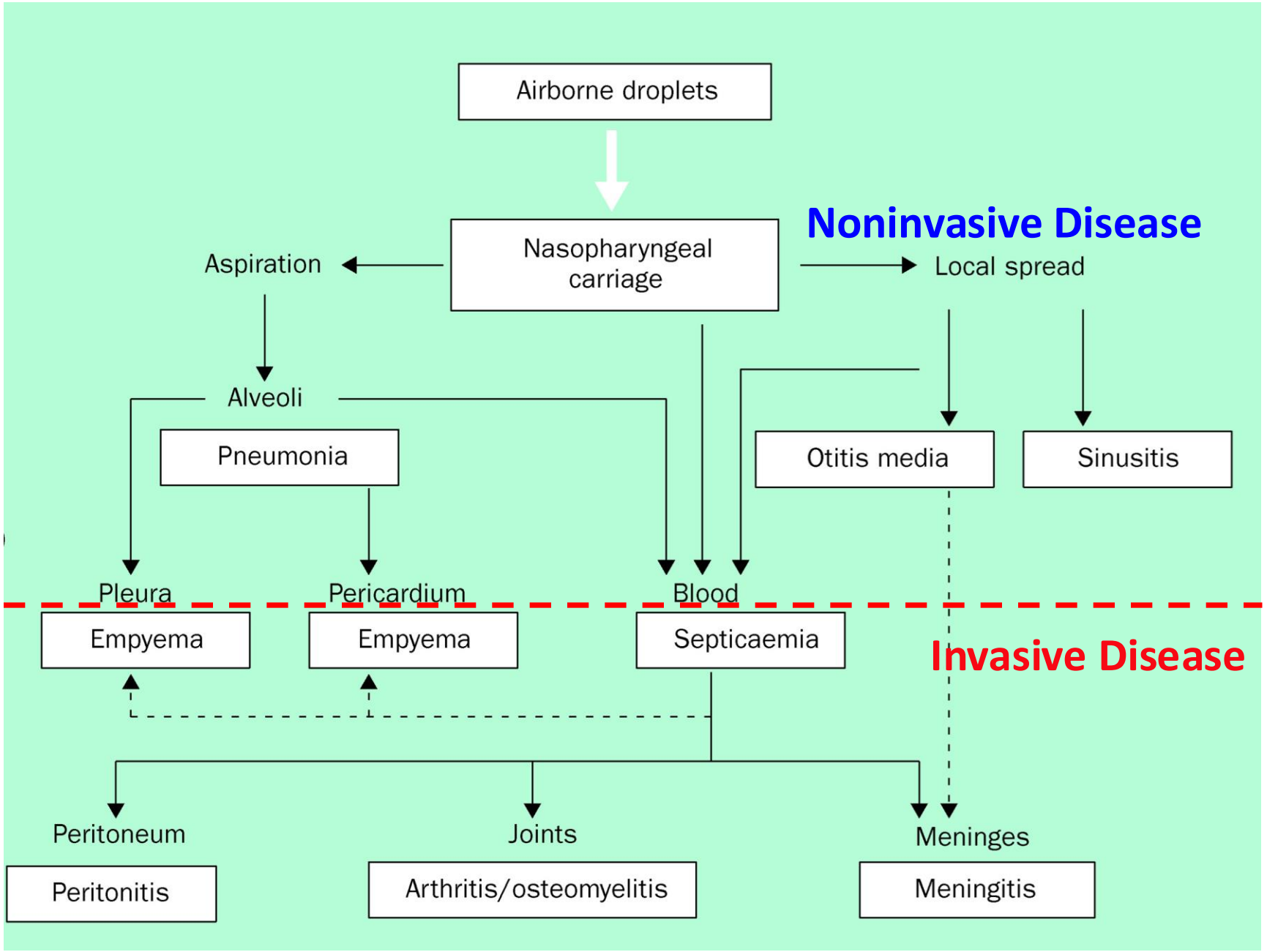
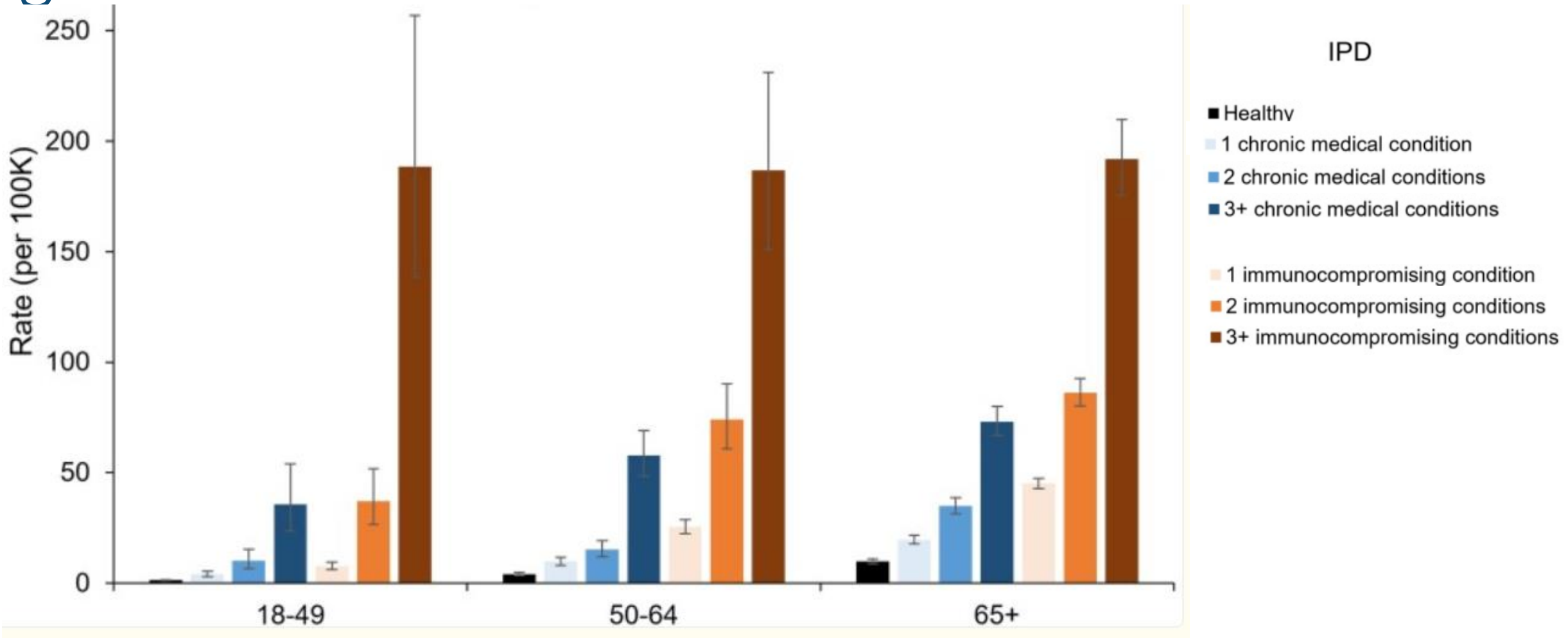


Figure: Bogaert et al. S. Pneumoniae colonisation: the key to pneumococcal disease. Lancet Infect Dis. 2004 Mar;4(3):144-54. https://doi.org/10.1016/S1473-3099(04)00938-7.

Invasive Pneumococcal Disease (IPD) by Age & Conditions

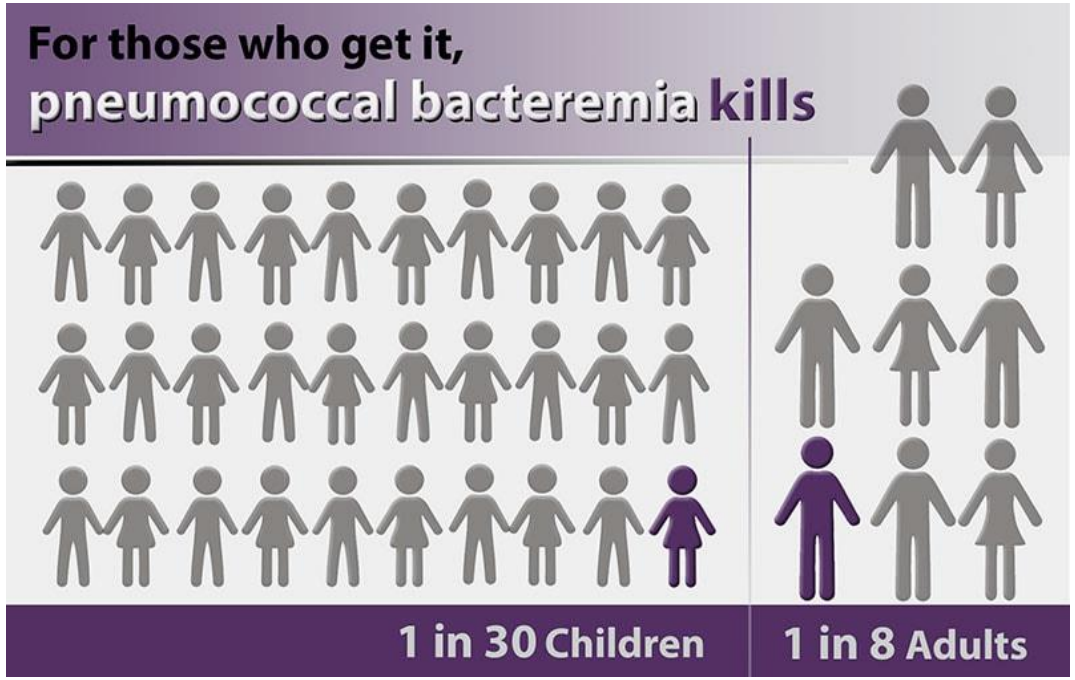


Grant, Lindsay R et al. "Risk of Pneumococcal Disease in US Adults by Age and Risk Profile." *Open forum infectious diseases* vol. 10,5 ofad192. 12 Apr. 2023, doi:10.1093/ofid/ofad192

Invasive Pneumococcal Disease

Complicated pneumonia, bacteremia, meningitis

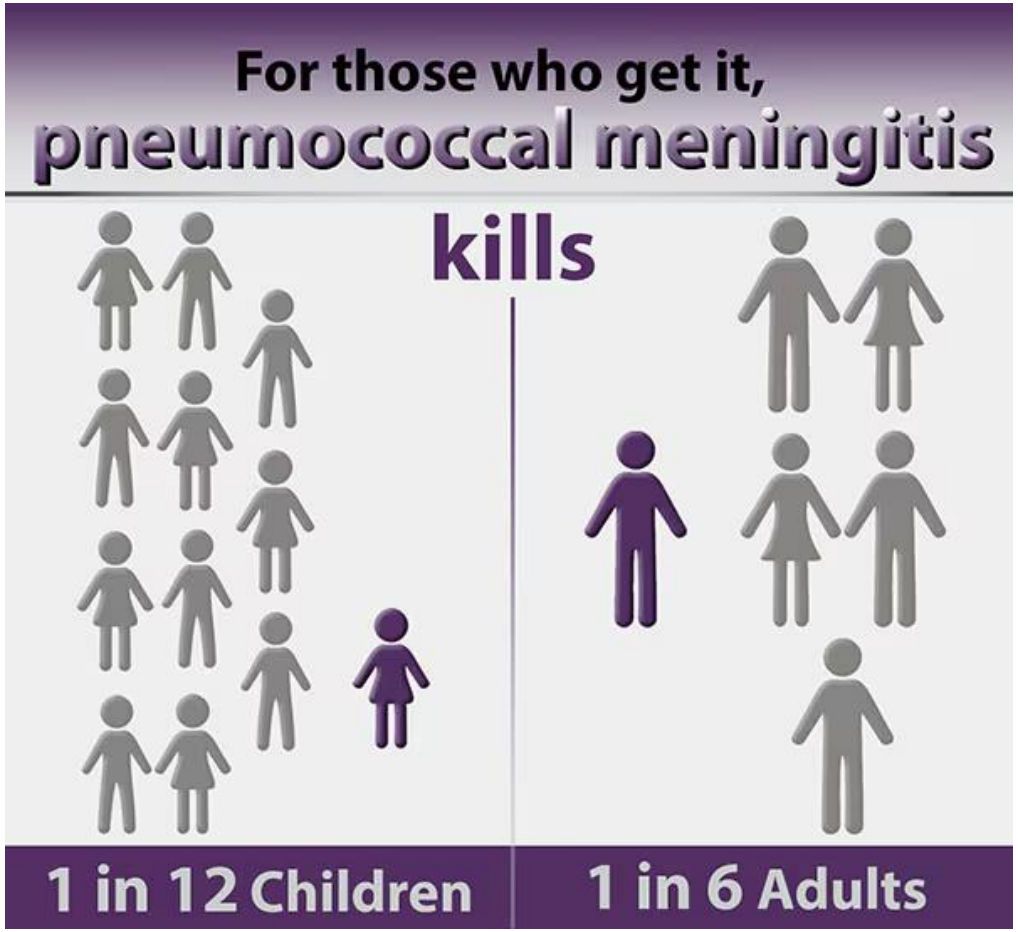
- Bacteremia
  - Occurs in about 25%–30% of patients with pneumococcal pneumonia.
    - About 4,000 cases of pneumococcal bacteremia without pneumonia occurs yearly.



Reference: Immunize.org. Pneumococcus: Questions and Answers.3.6.2024. https://www.immunize.org/wp-content/uploads/catg.d/p4213.pdf

Invasive Pneumococcal Disease

- Meningitis
  - Pneumococci cause 50% of all cases of bacterial meningitis in the U.S.
  - There are an estimated 2,000 cases of pneumococcal meningitis each year.
  - Symptoms and signs may include headache, tiredness, vomiting, irritability, fever, seizures, and coma. Permanent neurological damage is common among survivors.
  - The case-fatality rate of pneumococcal meningitis is about 22% among adults.

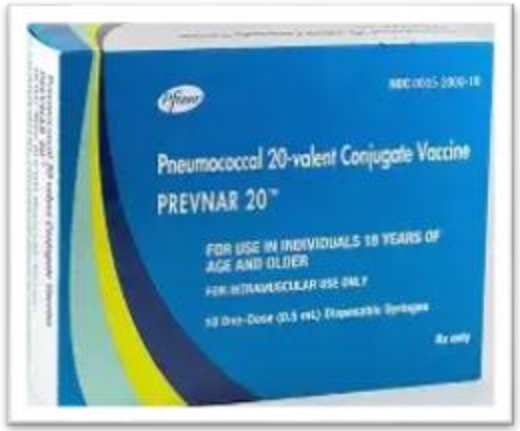


Reference: Immunize.org. Pneumococcus: Questions and Answers.3.6.2024. https://www.immunize.org/wp-content/uploads/catg.d/p4213.pdf

Pneumococcal Vaccines for Adults

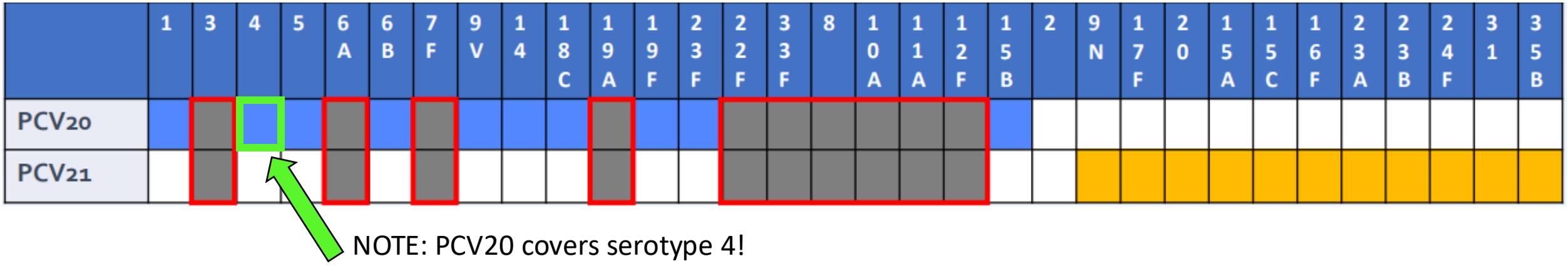
PCV20	PCV21
FDA Approved & ACIP endorsed: 2018 (adults), 2023 (peds)	FDA Approved & ACIP endorsed: **2024 (adults ONLY - tailored to adults)**
• Protein based conjugate vaccine	• Protein based conjugate vaccine
• Pre-filled Syringes/Refrigerator Storage	• Pre-filled Syringes/Refrigerator Storage

• Adverse Reactions – commonly reported (≥10%)
  • Injection site pain (76%)
  • Fatigue (40%)
  • Myalgia (36%)
  • Headache (32%)
  • Arthralgia (23%)
  • Erythema (13%)
  • Swelling (10%)
	• Adverse Reactions – commonly reported (≥10%)
	  • 18 through 49 years of age
	  • Inj-site pain (73%)
	  • Fatigue (36%)
	  • Headache (28%)
	  • Myalgia (16%)
	  • Swelling/erythema(13%)
	  • **50 years of age and older**
	  • **Inj-site pain (41%)**
	  • **Fatigue (20%)**
	  • **Headache (11%)**



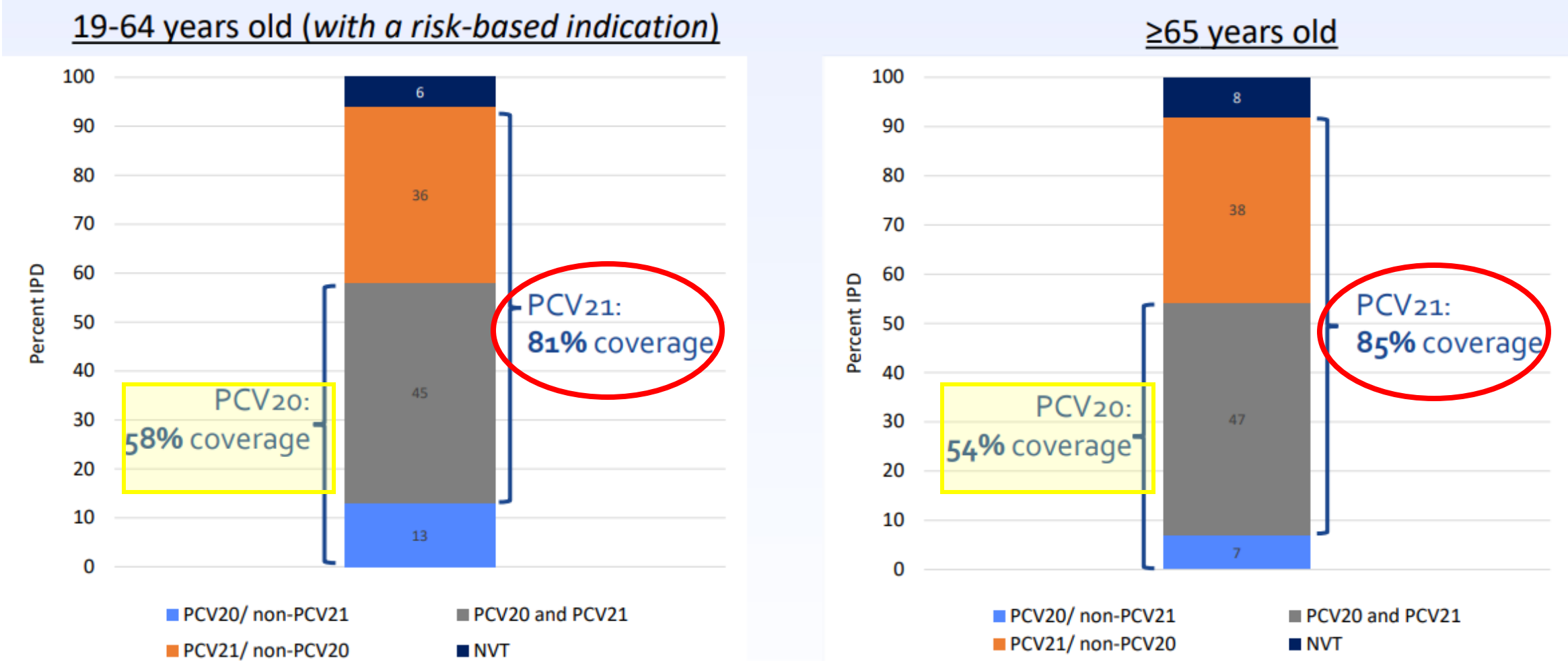
PCV21 is not PCV20 + 1

- PCV21 was specifically developed for ADULT IPD in at-risk patients
- PCV21 contains 11 NOVEL Serotypes and 10 shared serotypes with PCV20
- >80% of adult IPD cases have a risk-based indication for vaccination
- However, serotype 4 remains relevant in certain geographic areas in AI/AN communities.



IPD by vaccine-type 2018-2022

(among adults with a pneumococcal vaccine indication)



Adult Pneumococcal Vaccine Recommendations

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

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

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

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

Reference: Pneumococcal Vaccine for Adults Aged ≥19 Years: Recommendations of the Advisory Committee on Immunization Practices, United States, 2023 | MMWR (cdc.gov)

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** → ≥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; schedule is complete.	
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 at any age & **PPSV23** at <65 yrs	≥5 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	• Alcoholism • Chronic heart disease, including congestive heart failure and cardiomyopathies • Chronic liver disease	• Chronic lung disease, including chronic obstructive pulmonary disease, emphysema, and asthma • Cigarette smoking • Diabetes mellitus

IHS Pneumococcal Guidance – Aug 2025

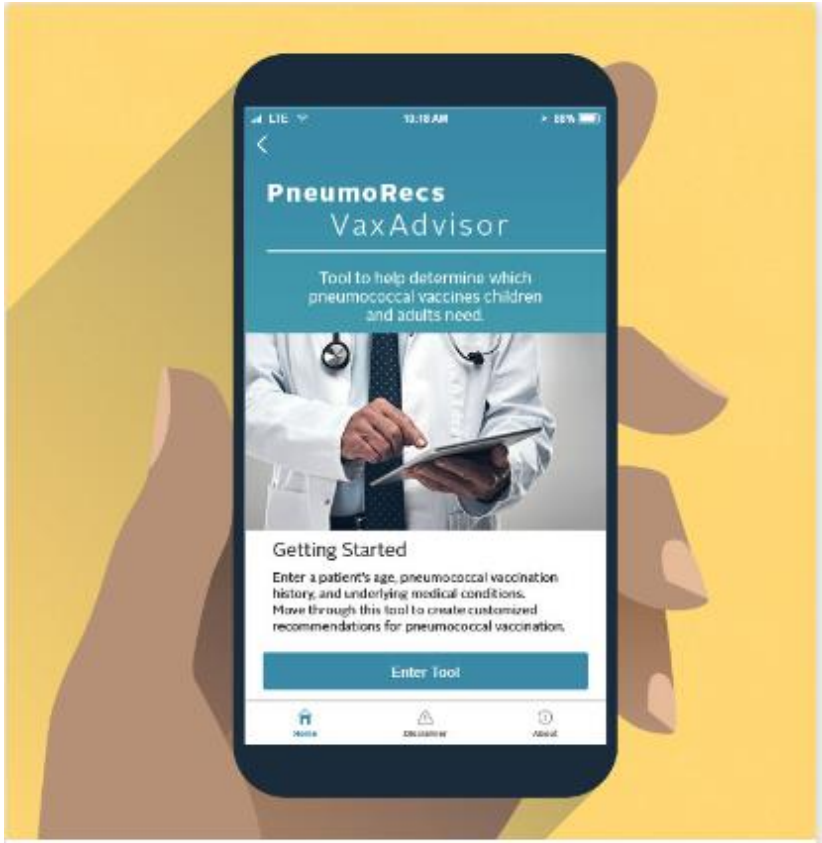
19-64 years		Vaccine
Reside in Alaska, Colorado, the Navajo Nation, New Mexico, or Oregon	→	PCV20
DO NOT reside in these areas	→	PCV21

≥ 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



PneumoRecs VaxAdvisor is available for download on iOS and Android mobile devices.

But WAIT….Another Pneumococcal Vaccine!

PCV31 in Clinical Trials

- VAX-31 is designed to cover ~95% of IPD and ~88% of Pneumococcal Pneumonia in U.S. Adults Aged 50+
- VAX-31 has the potential to provide an incremental 14-34% broader IPD coverage and 19-31% broader pneumonia coverage than standard-of-care vaccines
- In phase 3 adult clinical trials
  - Non-inferiority data expected Q4 2026
  - Concomitant influenza vaccine data expected first half 2027

VAX-31 DOES cover serotype 4!

Respiratory Syncytial Virus (RSV) Vaccines

RSV Symptoms & Infectiousness

- R_0 (measure of infectiousness) = 3
  - Every infected person could infect approximately 3 other people
  - For comparison: influenza R_0 = 1.3-1.7 and COVID R_0 = 2-3
- Contagious via respiratory droplets, contact (handshake, kiss), or contaminated surfaces
  - The virus may transmit 1-2 days prior to symptom onset
  - Symptoms onset 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
Rates of Disease	
• Estimates of 5-7% of respiratory diseases are RSV	• >66% exposed at least once before age 1 • > 90% exposed by age 2
Hospitalization	
• 60,000-160,000 hospitalizations yearly	• Leading cause of hospitalization < 1 year • 58,000-80,000 yearly
Deaths	
• Case fatality rate 8-10% • **6,000-10,000 yearly**	• 100-300 yearly

Reference: RSV | CDC , Collins PL, Graham BS (2008) Viral and host factors in human RSV pathogenesis. J Virol 82: 2040–2055, J Nguyen-Van-Tam et al. European Respiratory Review 2022 31: 220105

Adult RSV Vaccine Recommendations

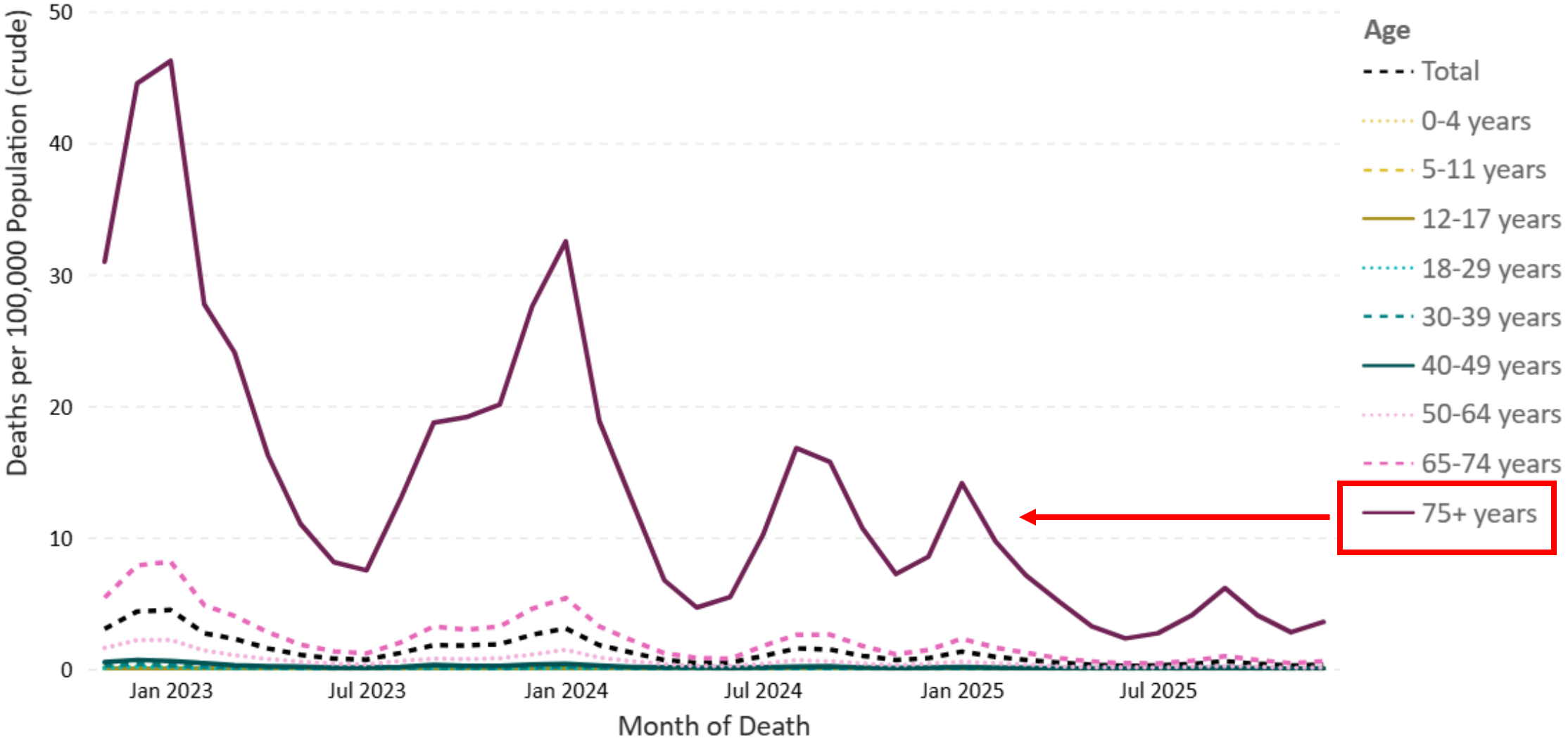
- Currently, RSV vaccination is recommended as a SINGLE DOSE ever
- Routine RSV Vaccination
  - ALL elders 75 years and older
- Risk Based RSV Vaccination
  - Adults 50-74 years with risk factors
    - ALL AI/AN elders are considered at high risk for severe disease
  - Pregnancy
    - Vaccinate at 32-36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

RSV Vaccines for Adults

	mResvia (Moderna)	Arexvy (GSK)	Abrysvo (Pfizer)
Type of Vaccine	• mRNA technology	• Traditional protein based with adjuvant	• Traditional protein based
Recommended Populations	• Routine: Adults 75yrs+ • Risk-based: Adults 50-74yrs	• Routine: Adults 75yrs+ • Risk-based: Adults 50-74yrs	• Routine: Adults 75yrs+ • Risk-based: Adults 50-74yrs • **Pregnant people 32-36 weeks**
Product Preparation	• Pre-filled syringes	• Requires reconstitution • 2 vials (antigen + adjuvant)	• Requires reconstitution • Act-O-Vial • Vial/vial adapter/syringe
Effectiveness	• 61%-81% vaccine effectiveness	• 56%-83% vaccine effectiveness (multiple seasons)	• 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 Vaccines for Adults

Attributes	Spikevax (Moderna)	mNexspike (Moderna)	Comirnaty (Pfizer)	Nuvaxovid (Novavax)
Platform/Technology	• mRNA platform • Brand name recognition	• mRNA platform • Next-generation product • Targeted immune response – more stable spike proteins • Less volume/lower mRA dose (1/5 dose of Spikevax) • Increased tolerability – lower side effect profile • High neutralizing antibody responses and nearly 2x seroresponse rates for 65+	• mRNA platform • Brand name recognition	• Protein-based recombinant vaccine (like some flu and Hep B vaccines) • Very well tolerated • Last to be FDA approved, so ess product recognition, lower overall usage • Equivalent to mRNA immunogenicity • Made with Matrix-M from the bark of Chilean soapbark trees and grown in moth cells
Strains/Variants	• JN.1 lineage LP.8.1 strain	• JN.1 lineage LP.8.1 strain	• JN.1 lineage LP.8.1 strain	• JN.1 lineage
FDA Approval	• Full FDA Approval (7/2025)	• Full FDA Approval (7/2025)	• Full FDA Approval (8/2025)	• Full FDA Approval (6/2025)
Adolescents/Adults	• SCDM: 12 yrs and older	• SCDM: 12 yrs and older	• SCDM: 12 yrs and older	• SCDM: 12 yrs and older

Storage & Handling	• Frozen
	  • Valid until expiration
	• Refrigerated
	  • 60 day BUD
		• Frozen
		  • Valid until expiration
		• Refrigerated
		  • 90 day BUD
			• Refrigerated
			  • Valid until expiration
				• Refrigerated
				  • Valid until expiration

SCDM = Shared Clinical Decision Making

COVID-19 Vaccine 2025-2026 Season

- Greater familiarity with Moderna (Spikevax) and Pfizer (Comirnaty) vaccines
- Moderna mNexspike – mRNA vaccine
  - Next-generation product
  - Targeted immune response – more stable spike proteins
  - Less volume/lower mRA dose (1/5 dose of Spikevax)
  - Increased tolerability – lower side effect profile
  - High neutralizing antibody responses and nearly 2x seroresponse rates for 65+
- Novavax (Nuvaxoid) - Protein-based recombinant vaccine (like some flu & Hep B vaccine)
  - Last to be fully FDA approved, so less product recognition, lower overall usage
  - Equivalent to mRNA immunogenicity
  - Very well tolerated – lower side effects than mRNA vaccines
  - Made with Matrix-M 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


INDIAN HEALTH SERVICE
PHS · 1955