



INDIAN HEALTH SERVICE

National Pharmacy and Therapeutics Committee

Formulary Brief: Adult Pneumococcal Vaccines

-August 2025-



Background:

The Indian Health Service (IHS) National Pharmacy and Therapeutics Committee (NPTC) undertook a review of the evidence for adult pneumococcal vaccination, including research publications, epidemiologic surveillance findings, national and international immunization guidelines, and expert perspectives within the IHS and broader public health community.

Pneumococcal disease, caused by *Streptococcus pneumoniae*, remains a significant cause of morbidity and mortality in the United States, particularly among older adults, individuals with chronic medical conditions, and certain high-risk populations, including American Indian and Alaska Native (AI/AN) communities.¹⁻³ The clinical spectrum of pneumococcal disease ranges from non-invasive infections, such as pneumonia and sinusitis, to severe invasive conditions like bacteremia and meningitis.¹ Although widespread use of pneumococcal conjugate vaccines in adults, vaccine-preventable disease persists - driven in part by changing serotype patterns, waning immunity, and underutilization of adult vaccination.

Recent years have seen the emergence of new pneumococcal conjugate vaccines with expanded serotype coverage, including PCV15, PCV20, and PCV21. These developments have prompted a re-evaluation of adult vaccination strategies. In particular, the impact of regional invasive serotype 4 disease and the evolving epidemiologic landscape underscore the need for tailored vaccine recommendations that reflect regional risk and population needs. The U.S. Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) and IHS have issued updated guidance to optimize vaccine coverage and reduce pneumococcal disease burden among adults.^{10,13}

Discussion:

The NPTC reviewed the current landscape of pneumococcal disease and vaccination strategies in adult populations, with particular attention to trends impacting AI/AN communities. These deliberations highlight the significant burden pneumococcal disease continues to pose, especially among medically-vulnerable adults and within regions experiencing a resurgence of serotype 4 invasive pneumococcal disease (IPD). We recognize the ongoing need to adapt our vaccination strategies in response to evolving epidemiology, shifting serotype prevalence, and the availability of newer polyvalent conjugate vaccines.

Following an evaluation of available vaccine products, the NPTC acknowledges the distinct immunologic and clinical profiles of polysaccharide (e.g., PPSV23) and conjugate vaccines (e.g., PCV15, PCV20, PCV21).⁴⁻⁶ While PPSV23 remains valuable for its broad serotype coverage, its limitations in durability and immune memory justify the preferential use of conjugate vaccines when feasible. PCV20, with its inclusion of serotype 4 and simplified dosing schedule, is particularly well-suited for use in regions where serotype 4 has re-emerged, such as Alaska, New Mexico, Colorado, Oregon, and the Navajo Nation.⁷⁻⁹ Meanwhile, PCV21 offers the broadest serotype range to date but does not protect against serotype 4, which limits its utility in certain geographic areas.

The NPTC also reviewed vaccine use and coverage trends in the context of updated ACIP guidance, which now recommends universal pneumococcal conjugate vaccination for adults aged ≥ 50 years.¹⁰⁻¹² Expert consensus from IHS and other public health entities further supports regionally informed vaccine selection based on serotype activity and patient risk factors. The NPTC recognizes the important role of surveillance data—particularly from Active Bacterial Core Surveillance (ABCs) and tribal epidemiology centers—in shaping our clinical guidance.⁹

Findings:

During its review, the NPTC identified several critical factors influencing pneumococcal disease burden and vaccine effectiveness in adult populations including;

1. **Serotype-Specific Trends:**

Surveillance data, especially from tribal health authorities and the CDC's Active Bacterial Core Surveillance, reveal a resurgence of **serotype 4** IPD in adults since 2022. This trend is particularly notable in regions including Alaska, Colorado, the Navajo Nation, New Mexico, and Oregon. In these areas, serotype 4 now accounts for over 30% of reported IPD cases.⁷⁻¹⁰

2. **Vaccine Coverage Gaps:**

PCV20 and PCV21, both introduced since 2021, offer expanded coverage; however, only PCV20 includes serotype 4, which has implications for regional vaccine selection as mentioned above.⁵

Recommendations:

1. Geographically targeted vaccine selection: In regions with a high prevalence of serotype 4 IPD - including Alaska, Colorado, the Navajo Nation, New Mexico, and Oregon – the NPTC recommends preferential use of PCV20 for adults requiring pneumococcal vaccination, due to its inclusion of serotype 4.
2. Broader coverage with PCV21 in low-prevalence areas: In areas where serotype 4 is not contributing significantly to disease burden, PCV21 is an appropriate choice for adults, offering broader overall serotype coverage.
3. Universal conjugate vaccination at age 50 and older: Consistent with recent ACIP guidance, the NPTC supports a single dose of a pneumococcal conjugate vaccine for all adults aged 50 years and older, regardless of underlying risk conditions.
4. Continued surveillance: Ongoing pneumococcal disease surveillance.

In summary, based on available evidence from active bacterial surveillance in certain tribal communities and in consultation with subject matter experts, IHS guidance is that immunization staff should consider adjusting their approach to adult pneumococcal vaccination based on age, geographic location, and local serotype prevalence.

Adults ≥50 years and those aged 19-49 years with a risk condition are recommended to receive pneumococcal vaccination: <https://www.cdc.gov/pneumococcal/downloads/Vaccine-Timing-Adults-JobAid.pdf>

- IHS patients less than 65 years of age who reside in Alaska, Colorado, the Navajo Nation, New Mexico, or Oregon, who require a pneumococcal vaccine should receive PCV20.
 - IHS patients less than 65 years of age who do not reside in these areas and who require pneumococcal vaccine should receive PCV 21.
- IHS patients aged 65 years and older who require a pneumococcal vaccine should receive PCV21 unless local epidemiology suggests that serotype 4 (or other PCV20, non-PCV21 serotypes) is causing >30% of IPD in this age group. In this case, PCV20 alone or both PCV15 and PPSV23 are expected to provide broader serotype coverage.

If you have any questions regarding this document, please contact the NPTC at IHSNPTC1@ihs.gov. For more information about the NPTC, please visit the [NPTC website](#).

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