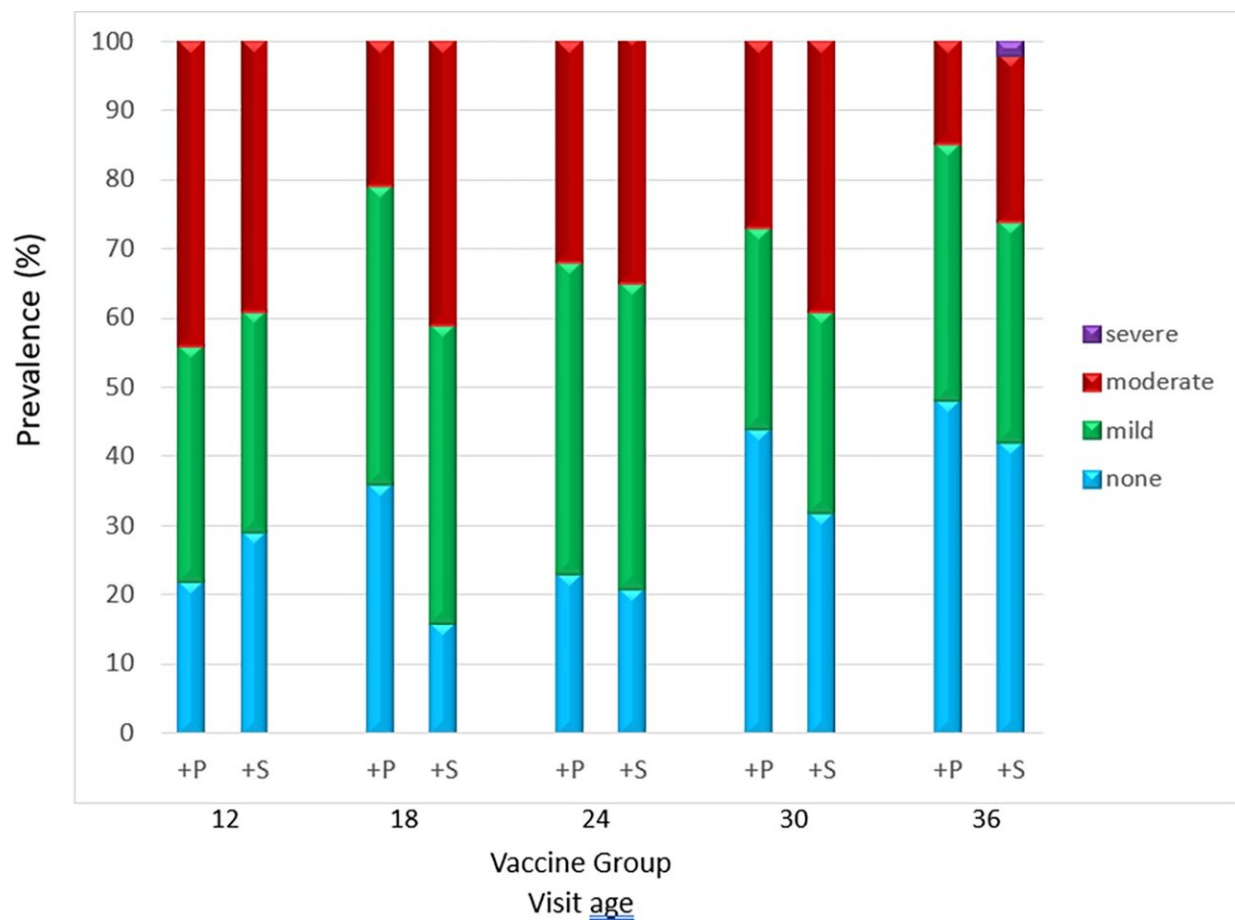


Northern Territory First Nations children receive effective vaccine to reduce infection-induced hearing loss

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Hearing loss prevalence (none, mild, moderate, severe) by booster dose, at ages 12 (baseline), 18 (primary endpoint), 24, 30, and 36 months. Credit: *PLOS Medicine* (2024). DOI: 10.1371/journal.pmed.1004375

A study led by Menzies School of Health Research has uncovered that Northern Territory (NT) First Nations children aged 12–36 months have access to an effective vaccine that could prevent hearing loss.

Published in *PLOS Medicine*, this five-year [study](#) looked to uncover which type of pneumococcal conjugate vaccine (PCV), +P or +S, could best reduce debilitating hearing loss caused by chronic otitis media (middle ear infection).

The +P vaccine (known as PCV13) is the vaccine currently provided to children in the NT, and the study found the group who received +P had better hearing than those who in the +S vaccine (known as PHiD-CV10) group. The difference in hearing loss between the two vaccine groups was found to be 20% (but due to the [small sample size](#), the real difference is likely to be between 1–37%).

Due to vaccine formulations and the bacterial make-up of otitis media, it was expected that the +S vaccine would provide better protection against hearing loss. These findings are crucial to helping guide research, policy and practice, particularly as new vaccine formulations become available.

This research moves one step closer to tackling the impacts of otitis media, where Australian First Nations children have the highest reported rates of otitis media in the world.

These studies, independent of the [pharmaceutical industry](#), looked at the role vaccines can have in preventing hearing loss, helping to address the life-long and debilitating effects of otitis media.

Lead author of the study, Professor Amanda Leach AM, has dedicated her career to tackling otitis media, one of Australia's greatest health challenges.

"Almost every Australian First Nations child living in remote regions of the Northern Territory experiences chronic otitis media in their early years of life. It is crucial that this illness is prevented or treated early, to reduce hearing loss, and subsequent impacts on learning and development.

"These studies are vital in ensuring that vaccines are best meeting the needs of high-risk populations and strive to achieve better health outcomes for First Nations children.

"We also thank the First Nations families who participated in this study. We greatly value their commitment to improving the health and education outcomes for their children," said Prof. Leach.

Senior author of the study and Menzies Senior Principal Research Fellow, Professor Peter Morris, said, "All young children should be able to hear, listen, speak and learn to communicate during their early years of life. However, due to the devastating impacts of chronic [otitis media](#), First Nations children experience life-long disadvantage due to this illness.

"The results of this study are extremely helpful. Many people thought that the +S vaccine would be better, but the prevalence of moderate [hearing loss](#) halved and normal hearing doubled in those who received the +P [vaccine](#) (PVC13) when compared to the +S group. This trend continued at each six month follow up, until the child reached 3 years of age, but with a smaller difference.

"We welcome the opportunity to further evaluate the impact of these vaccines. Clinical trials are the best way to understand their effectiveness and to help stop this preventable disease in its tracks."

More information: Amanda Jane Leach et al, Hearing loss in

Australian First Nations children at 6-monthly assessments from age 12 to 36 months: Secondary outcomes from randomised controlled trials of novel pneumococcal conjugate vaccine schedules, *PLOS Medicine* (2024). [DOI: 10.1371/journal.pmed.1004375](https://doi.org/10.1371/journal.pmed.1004375)

Provided by Menzies School of Health Research

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