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In older people with hearing loss, new hearing aid prescription had minimal association with plasma ADRD biomarkers after 7 years.

Background

Gap.
Treating hearing loss with hearing aids may reduce dementia risk but effects on Alzheimer’s disease and related dementia (ADRD) neuropathology are unclear.

Research question.
Does receiving a new hearing aid prescription influence the plasma concentration of **pTau181**, **NfL**, **GFAP**, and **Aβ 42 / Aβ 40** in older people with hearing loss?

More than the mean: We aimed to investigate the effect of hearing aid prescription on shifting the mean and 90th percentile of the biomarker concentrations.

Methods

Design & observational data	Target trial emulation using data from the ASPREE study and nested ALSOP cohort
Eligibility criteria	Dementia-free, aged 70+, self-reported hearing problems, no past hearing aid use
Treatment strategies	Use hearing aids versus do not use hearing aids
Follow-up	Approximately 7 years from when new hearing aid prescriptions were first reported.
Causal contrast	Effect of new hearing aid prescription among those who survive to biomarker measurement
Estimation	Multiple imputation for missing data. Effects estimated with targeted maximum likelihood (mean difference scale) and IP weighting (quantile difference scale)

Conclusions

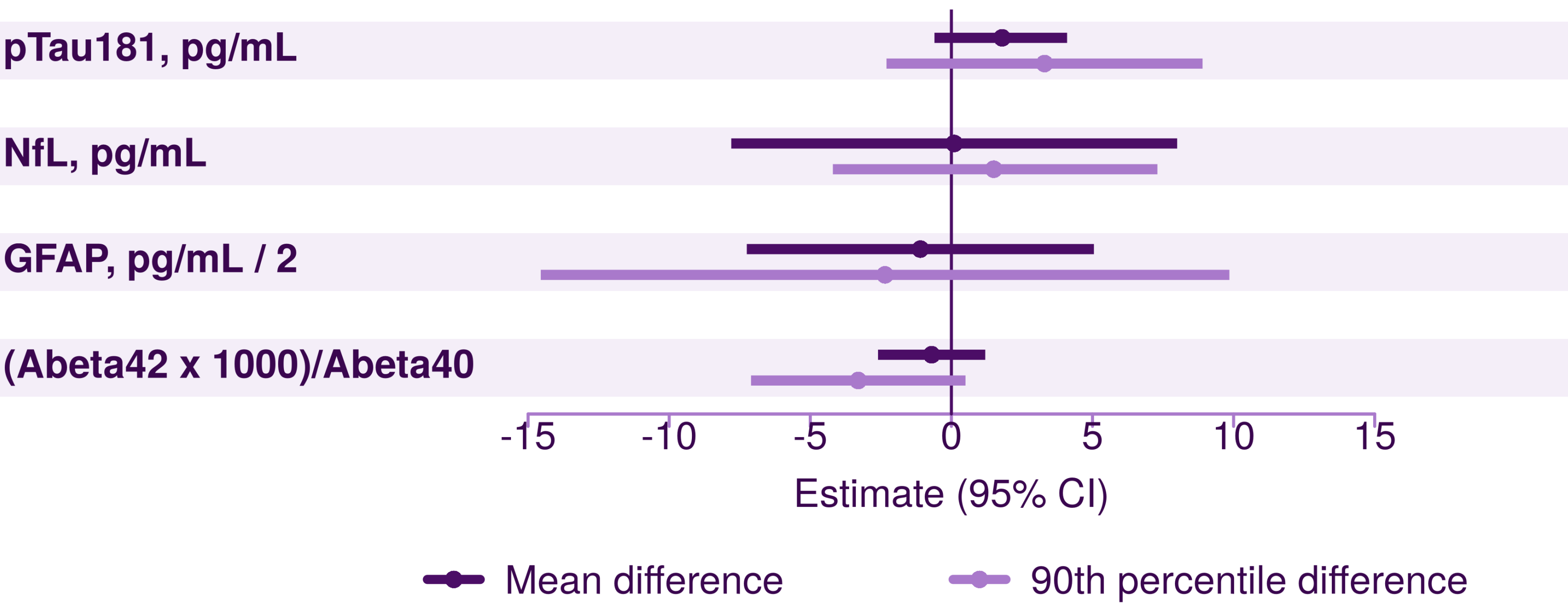
Other mechanisms may underlie putative hearing aid benefits.

- Plasma biomarkers may not capture the main mechanisms through which hearing aids putatively reduce dementia risk.
- Other mechanisms, like reduced social isolation, may be more important.

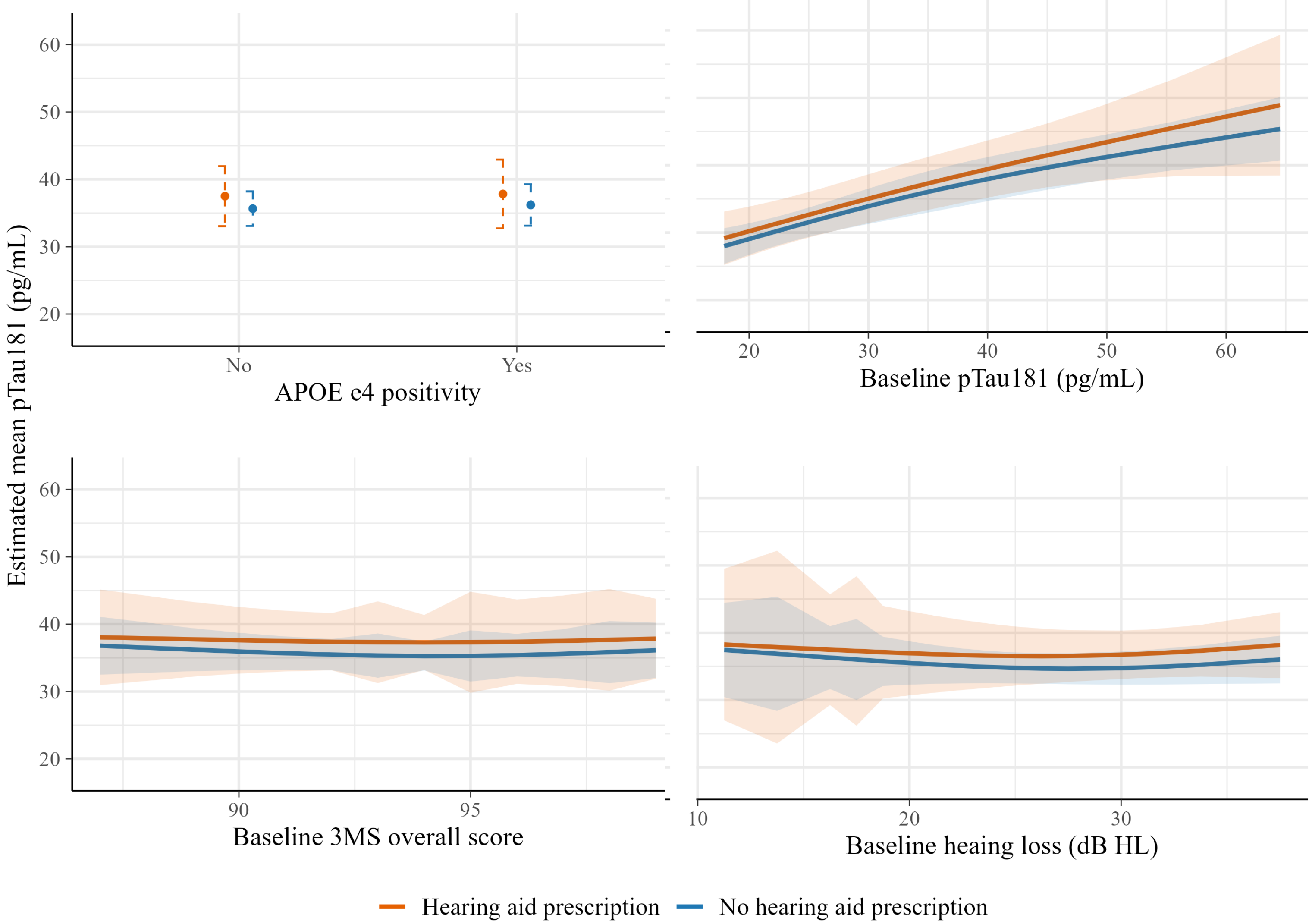
Results

2842 individuals were included (mean age 75 years, 48% female), with **735** receiving a new HA prescription by the start of follow-up.

Estimated effects were close to null for all ADRD biomarkers.



Estimated mean differences were similar across baseline effect modifiers.



Read the paper
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