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Plasma p-tau217 In Early Alzheimer's Disease Trial Screening: *Insights from START*

Marina Ritchie, PhD[1]; Oliver Langford, MS[1]; Yixuan Liang, MS[1]; Daniel Burns[2]; Charlene Flournoy, MS[1]; Joshua D. Grill, PhD[3]; Anthony Caggiano, MD, PhD[4], Michael Grundman, MD, MPH[5]; Robert A. Rissman, PhD[1]; Paul Aisen, MD[1]; Christopher H. van Dyck, MD[6]; Rema Raman, PhD[1]

[1]Epstein Family Alzheimer's Therapeutic Research Institute, University of Southern California; [2]The University of Kansas; [3]University of California, Irvine; [4]Cognition Therapeutics, Inc.; [5]Global R&D Partners, LLC; [6]Yale School of Medicine

BACKGROUND

- Screening for Alzheimer's disease (AD) clinical trials contribute to participant and site burden.
- Incorporation of plasma biomarker testing may reduce burden, cost, and unnecessary screening visits.
- **Synaptic Therapy Alzheimer's Research Trial (START),** a multicenter 18-month early AD trial of zervimesine (CT1812), incorporated a plasma-biomarker informed screening process.

METHODS

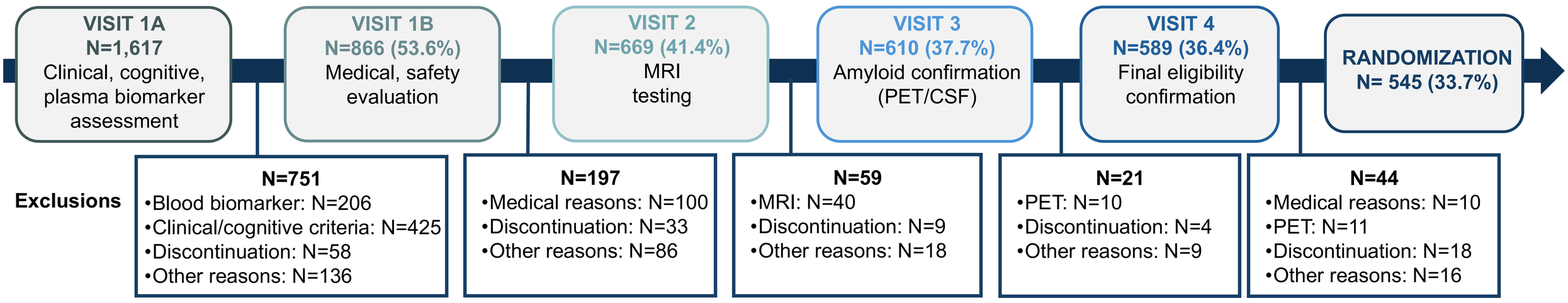
- Participant eligibility and reasons for ineligibility were characterized across sequential screening stages.
- Associations between log-transformed plasma p-tau217 concentrations and clinical/cognitive measures were assessed using Pearson correlations.

START Participant Characteristics

Participant characteristics	Screened N=1,646	Randomized N=545
Age, mean (SD)	72.8 (7.3)	73.2 (6.6)
Sex, female, n (%)	847 (51.8%)	277 (50.8%)
Race and ethnicity, n (%)		
Hispanic	118 (7.2%)	20 (3.7%)
Non-Hispanic Black	110 (6.7%)	24 (4.4%)
Non-Hispanic White	1,353 (82.8%)	489 (89.7%)
Non-Hispanic Other	53 (3.2%)	12 (2.2%)
Education, >HS, n (%)	1,402 (86.7%)	496 (91.3%)
SES, lower, n (%)	233 (14.5%)	62 (11.5%)
APOE ε4 carrier, n (%)	835 (65.8%)	399 (73.8%)

RESULTS

FIGURE 1: START Screening Flowchart and Reasons for Ineligibility

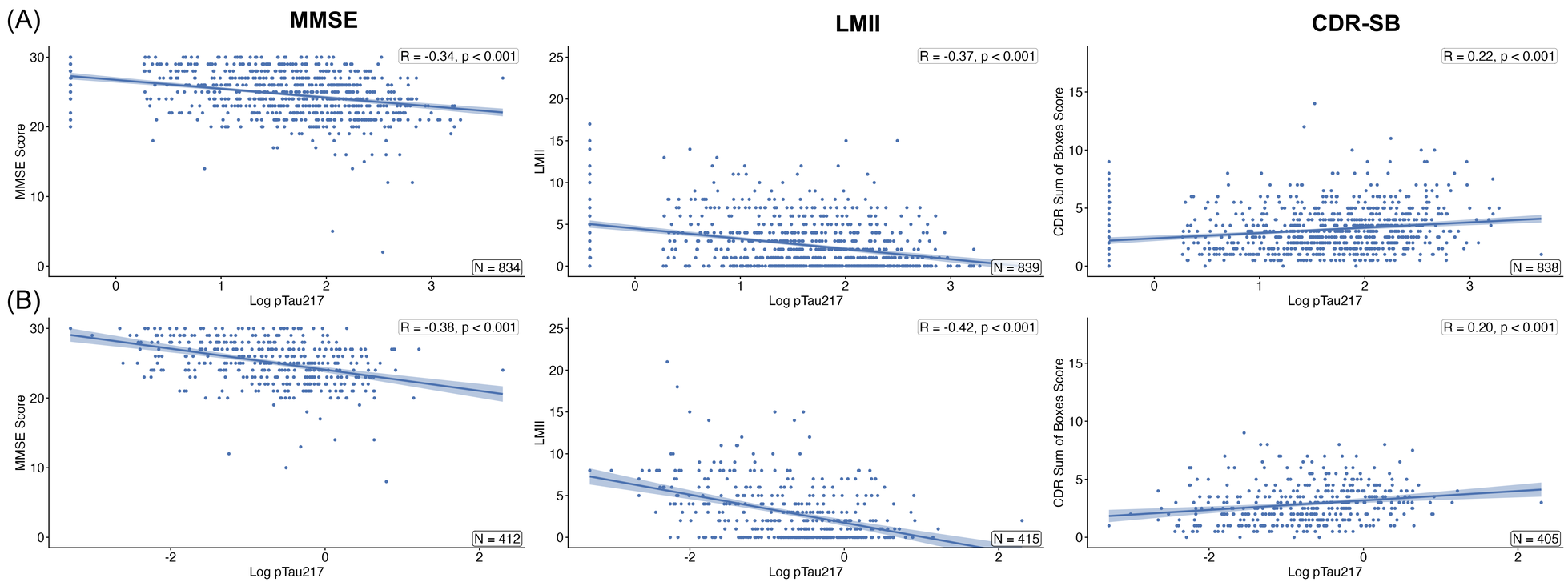


Note: *Participants could have more than one reason for ineligibility; categories are not mutually exclusive. Excludes participants ineligible due to administrative study closeout.*

KEY TAKEAWAYS

- Plasma biomarkers and clinical assessments produced the majority of exclusions in START
- Plasma p-tau217 was associated with cognitive and clinical measures

FIGURE 2: Correlation between cognitive/clinical measures and plasma p-tau217 levels using (A) C2N and (B) Lumipulse assays



Moderate correlations were observed with MMSE and LMII, while weaker correlations were observed for CDR-SB

DISCUSSION

- Plasma biomarkers contributed to identifying 206 (12.7%) screened participants as ineligible before MRI and amyloid PET/CSF testing.
- Higher plasma p-tau217 were associated with poorer cognitive and clinical measures across both assays.
- Incorporating plasma biomarkers early in screening may reduce downstream procedures and associated participant and site burden.

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