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FROM THE ALZHEIMER'S ASSOCIATION INTERNATIONAL CONFERENCE 2026

BLOOD TEST MAY HELP PREDICT RISK OF COGNITIVE DECLINE DUE TO ALZHEIMER'S A DECADE BEFORE SYMPTOMS APPEAR

Key Takeaways

- **Symptom-free older adults with very high levels of the Alzheimer's blood biomarker p-tau217 had an estimated 78% risk of developing cognitive impairment over 10 years.**
- **The blood test provided important clues about future Alzheimer's risk beyond what brain scans and genetic testing provide.**
- **Researchers say the findings could help identify cognitively healthy, at-risk adults for participation in prevention trials, and guide earlier treatment and monitoring decisions.**

LONDON, July 15, 2026 — A blood test that detects a protein linked to Alzheimer's disease may help predict future cognitive impairment in older adults who are currently symptom-free, according to new research presented today at the Alzheimer's Association International Conference® (AAIC®) 2026 in London and online, and simultaneously published in *JAMA* (*The Journal of the American Medical Association*).

Researchers found that higher levels of the blood biomarker p-tau217 predicted faster cognitive decline, with the strongest effects in study participants with elevated amyloid beta based on a PET scan. Cognitively healthy older adults with very high p-tau217 had an approximately 78% risk of developing cognitive impairment (defined as mild cognitive impairment or MCI, dementia or a consecutive clinical dementia rating or CDR, of 0.5) over 10 years, and about a 1-in-3 chance within five years. Even in those with slightly elevated p-tau217 (just over the average), the absolute risk of cognitive impairment was 15% and 45% over 5 and 10 years, respectively.

The results reported at AAIC 2026 add a new dimension to a test already known to reliably identify Alzheimer's-related changes in the brain. This study establishes the test's prognostic value: p-tau217 levels in blood can be used to estimate a person's risk of developing symptoms years later. This gives Alzheimer's care a forward-looking risk measure of a type that clinicians already use in other conditions, for example a cholesterol or blood-pressure reading — used not only to diagnose disease, but also to gauge future risk and guide what to do about it.

"Our findings provide some of the clearest evidence yet that elevated p-tau217 levels may help detect dementia risk years earlier — even in adults with no noticeable memory or thinking problems," said Rachel F. Buckley, Ph.D., lead author and associate chair of research in the Mass General Brigham Neuroscience Institute, and associate professor of neurology, Harvard Medical School, Boston. "Once

verified, these blood tests could be used to recruit patients for clinical trials of treatments to prevent cognitive decline and dementia. In the future, when treatments are approved for use early in the disease process, these tests could help guide monitoring, treatment decisions and counseling for patients and families."

P-tau217 is a measure of the concentration of that specific protein (phosphorylated tau 217 — a modified form of the tau protein) in blood or cerebrospinal fluid. Tangles of the tau protein in the brain are a hallmark of Alzheimer's disease and are closely associated with cognitive decline. But ptau217 is also strongly associated with levels of beta amyloid — another Alzheimer's hallmark.

"This is the future of Alzheimer's care, targeting the earliest stages of the disease, including in its silent stage before memory issues arise. This is when treatments may have the greatest benefit — perhaps even keeping people from ever experiencing dementia symptoms," said Maria C. Carrillo, Ph.D., Alzheimer's Association chief science officer and medical affairs lead. "Identifying people at risk earlier could fundamentally change how we diagnose, treat and prevent dementia, with far-reaching health, happiness and cost implications for patients, families, healthcare systems and society."

Researchers analyzed data from nearly 2,700 cognitively unimpaired adults, average age 70, from six major Alzheimer's research groups and clinical trials, making it one of the largest and most comprehensive analyses to date examining the long-term prognostic value of p-tau217. The patients were cognitively healthy when their blood was collected and were followed for an average of nearly five years, with some followed for more than a decade. Researchers tracked participants over time using standard cognitive assessments to measure memory, thinking and daily functioning, then applied statistical models based on those real-world outcomes to estimate the likelihood of cognitive decline over two, five and 10 years.

The study found:

- Adults with very high p-tau217 levels — more than twice as high as average levels in the study — had a 78% estimated likelihood of progressing to cognitive impairment within 10 years and roughly a 38% risk within five years.
- People with moderately elevated levels had a lower but still significant risk, with approximately 15% risk over five years and 45% risk over 10 years.
- In this study, blood test results provided important predictive information beyond brain scans and genetic testing results.

Researchers cautioned that p-tau217 alone cannot fully predict an individual's future risk — knowing someone's ptau217 level alone can tell you something, but not everything. Factors including age, genetics, kidney function, obesity and racial and ethnic background can influence biomarker levels and dementia risk. The researchers also noted that more diverse study populations and longer follow-up will be needed to refine long-term estimates.

"It is especially encouraging that the findings were so consistent across different groups and analyses, suggesting that we can now provide meaningful information to people about their future risk of developing impairment due to Alzheimer's," said Reisa Sperling, M.D., senior author, a neurologist at the

Mass General Brigham Neuroscience Institute and professor of neurology at Harvard Medical School. "This information may become more relevant if current trials provide clear evidence that we can prevent cognitive decline with treatment if started before symptoms."

The Alzheimer's Association is leading efforts to accelerate the development and responsible integration of blood-based biomarkers into Alzheimer's research and care through research funding and scientific convenings such as the Alzheimer's Association Research Roundtable (AARR). A report from this year's AARR meeting, published in *Alzheimer's & Dementia: TRCI*, outlines a roadmap for earlier intervention. That includes medications as well as lifestyle prevention strategies, like the U.S. POINTER "recipe," which targets multiple risk factors. Additionally, policy solutions such as the Alzheimer's Screening and Prevention (ASAP) Act would help ensure healthcare systems keep pace with scientific advances.

About AAIC
AAIC is the world's largest gathering of researchers from around the world focused on Alzheimer's and other diseases that cause dementia. As a part of the Alzheimer's Association's research program, AAIC serves as a catalyst for generating new knowledge about dementia and fostering a vital, collegial research community.

- AAIC 2026: **alz.org/aaic**
- AAIC 2026 online pressroom: **alz.org/aaic/pressroom.asp**
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About the Alzheimer's Association
The Alzheimer's Association is a worldwide voluntary health organization dedicated to Alzheimer's care, support and research. Our mission is to lead the way to end Alzheimer's and all other dementia — by accelerating global research, driving risk reduction and early detection, and maximizing quality care and support. Our vision is a world without Alzheimer's and all other dementia®. Visit **alz.org** or call +1 800.272.3900.

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- Rachel F. Buckley, Ph.D**.,** et al. The Prognostic value of p-tau217 levels on progression to clinical impairment over 2, 5, and 10 years. (Funding: National Institutes of Health, Alzheimer's Association, Wellcome Leap and Cure Alzheimer's Fund)

***** AAIC 2026 news releases may contain updated data that does not match what is reported in the following abstract.**

Proposal ID: 9890
Oral: Wednesday, July 15, 2026, 2:24 p.m. BST
Part of: Considerations for the Progression of Alzheimer's Disease from Cognitively Unimpaired to Cognitive Impairment: Weighing these Risks

The prognostic value of p-tau217 levels on progression to clinical impairment over 2, 5, and 10 years

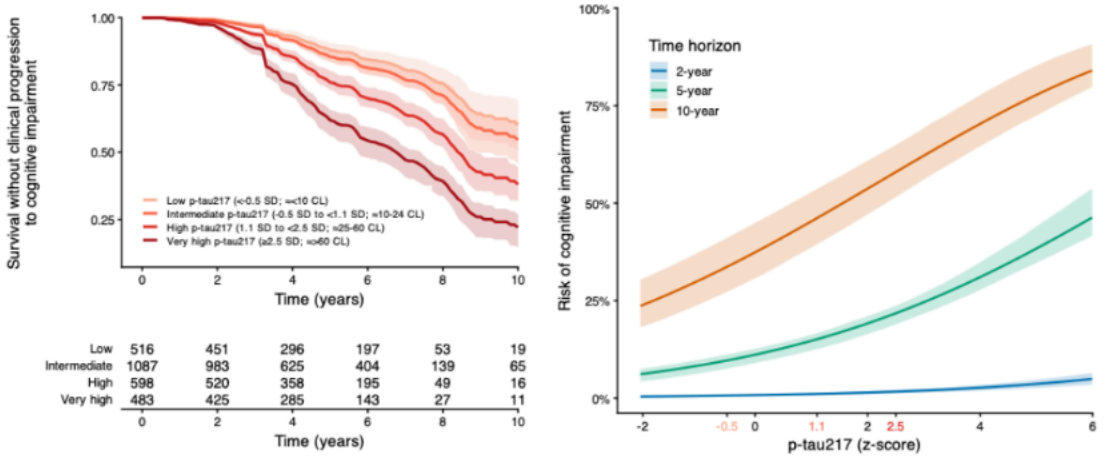
Background: Plasma p-Tau217 shows strong correspondence with amyloid-β (Aβ)-PET, tau-PET and cognitive decline. The prognostic value of p-Tau217 on long-term clinical progression among initially cognitively unimpaired (CU) adults remains unclear. Here, we provide prognostic estimates of clinical progression in a pooled, harmonized sample across longitudinal cohorts.

Methods: We used harmonized data from 2,705 CU participants (Agemean=70±7.0 years; 63% female) across A4/LEARN, HABS, ADNI, WRAP and HABS-HD. Participants were selected based on their first plasma p-Tau217 measurement and ≥1 years of diagnostic and cognitive (harmonized PACC) follow-up (mean=4.7±2.7yrs, range=0.1-13.4yrs). Linear mixed-effects models examined associations with PACC change. Cox proportional-hazards models examined associations between standardized continuous and categorical p-Tau217 with time-to-event (MCI/Dementia/two-consecutive-visits of CDR≥0.5), adjusting for age, sex, APOEε4 status and education. Additional models included Aβ-PET Centiloid (CL). Absolute 2-, 5-, and 10-year risk was estimated from model-derived survival functions.

Results: Higher p-Tau217 predicted faster cognitive decline (β=-0.14;p<0.001), with the strongest effects in those with elevated AβCL (β=-0.06;p<0.001; Fig1). There were 518 events of progression to clinical impairment. Each +1SD of p-Tau217 was associated with a 38% increased hazard ratio (95%CI:31%-44%, p<0.0001), independent of covariates. Model discrimination was high (C-index10-years=0.73; AUC10-years=0.88; Brier10-years=0.20). Risk was highest in the High (>1.1SD) and Very High (>2.5SD) p-Tau217 categories, corresponding with ~25 AβCL and >60 AβCL, respectively (see Fig2A). Predicted 2-, 5-, and 10-year risk in these categories were [High] 4%, 20%, and 39% and [Very-High] 8%, 35%, and 63%, respectively. Covarying for AβCL, p-Tau217 remained associated with 30% increased risk (95%CI:23%-38%,p<0.0001); AβCL was associated with 21% (95%CI:8%-35%,p<0.0001). In individuals <10 AβCL(n=1,124;111 events), p-Tau217 was associated with a more modest hazard ratio of 28% (95%CI:9%-50%,p<0.002; Fig3). Corresponding risk was 8%/2-year, 33%/5-year and 41%/10-year in the Very-High p-Tau217 category.

Conclusion: Plasma pTau217 shows robust 5- and 10-year prognostic value among cognitively unimpaired older adults. Defining clinically actionable p-Tau217 thresholds will be essential to translate these findings into individualized prognostic guidance, enabling more informed monitoring and prevention strategies. Individuals with very high p-Tau217 may represent a biologically distinct disease stage characterized by fibrillar tau pathology, consistent with AT framework models in which different biological processes drive risk across the disease continuum.

Figure 1. (A) Survival curves for clinical progression to incident cognitive impairment by p-tau$_{217}$ group (Low [<-0.5SD corresponding to ≈<10 Aβ-PET Centiloid (AβCL)], Intermediate [-0.5 to <1.1SD; ≈10-24 AβCL], High [1.1SD to<2.5SD; ≈25-60 AβCL] and Very High [≥2.5SD; ≈>60 AβCL]). Cognitive impairment was defined as a within-cohort diagnosis of mild cognitive impairment (MCI), dementia or two (2) consecutive Global Clinical Dementia Rating (CDR) scores ≥0.5. Median clinical follow-up 5.4 (IQR: 2.4-7.2) years. (B) Model-based 2-, 5-, and 10-year absolute risk by p-tau$_{217}$ group (the Ns are the same as for Panel A). Colored tick labels on the x-axis indicate the p-tau217 cut-points used to define the Low, Intermediate, High, and Very High p-tau217 groups.



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