Alzheimer's Disease Data Initiative

Alzheimer's Trials Data Discovery Challenge Rules & Guidelines

About the Challenge

The Alzheimer's Disease Data Initiative (AD Data Initiative), in collaboration with Vivli, is launching the Alzheimer's Trials Data Discovery Challenge (the "Challenge") to accelerate novel scientific discoveries in Alzheimer's disease and related dementias (ADRD).

The challenge leverages a harmonized dataset derived from placebo-arm participants across multiple completed Alzheimer's disease clinical trials. By enabling secure secondary use of these data, the challenge seeks to generate high-impact findings that improve our understanding of disease progression, heterogeneity, sex-specific effects, patient stratification, and factors influencing clinical outcomes.

All Challenge activities will take place within secure Vivli research workspaces. Participants will gain access to the challenge dataset only after completed approval through Vivli's established data access review process (https://vivli.org/drf-worksheet) and executing a Vivli Data Use Agreement with their institution

Challenge Objectives

The Challenge is designed to:

- Generate novel, scientifically rigorous findings from secondary analysis of clinical trial placebo-arm data.
- Encourage reproducible and transparent research practices.
- Support students, early- and mid-career investigators working alongside experienced scientific mentors.
- Produce findings suitable for publication in peer-reviewed journals.
- Contribute openly shared methods and code to advance ADRD research.

Research Tracks

Applicants must propose a project aligned with one of the official Challenge research tracks:

1. Disease Progression
    - Predictors of cognitive, functional, or biomarker decline
    - Progression trajectories across patient subgroups
    - Clinical trial outcome prediction
2. Disease Heterogeneity and Subtyping
    - Identification of biologically or clinically meaningful disease subtypes
    - Patient stratification approaches
    - Characterization of differential progression patterns
3. Sex Differences in ADRD
    - Sex-specific disease mechanisms
    - Differential progression and treatment-response implications
    - Sex-aware predictive modeling

Additional research questions may be published by the Challenge organizers before the application deadline.

Eligibility

Applicants must:

- Be affiliated with an academic institution, nonprofit organization, healthcare organization, government agency, or commercial research organization.
- Participate as a team consisting of:
  - One Principal Investigator (or equivalent scientific sponsor), and
  - At least one additional team member with quantitative, statistical, computational, or data science expertise.
- Be eligible to receive access to challenge datasets under Vivli data sharing policies.

Challenge organizers, judges, Vivli personnel directly involved in challenge administration, and individuals with privileged access to challenge datasets prior to release may not participate. The Challenge organizers strongly encourage participation from investigators representing diverse scientific, geographic, disciplinary, and demographic backgrounds.

Application Process

Participation is limited.

Teams must submit a letter of intent (LOI) that includes:

- Team composition and affiliations
- Designated Principal Investigator/Sponsor
- Specific hypothesis statement (1–2 sentences)
- Selected research track
- Scientific rationale
- Explanation of why the harmonized placebo-arm dataset is uniquely suited to address the proposed question
- Brief summary of proposed methodology

LOI submissions will be reviewed by AD Data Initiative and Challenge leadership.

Selection criteria for advancement include:

- Scientific merit
- Feasibility
- Novelty
- Alignment with challenge goals
- Potential impact

Selected teams will be invited to proceed to the Vivli access process.

If selected from the LOI review, all teams must:

- Submit a Vivli Data Access Request (DAR): https://vivli.org/drf-worksheet.
- Complete any required institutional documentation.
- Satisfy applicable data-use requirements: https://vivli.org/Vivli-Data-Use-Agreement.
- Agree to Vivli terms and conditions governing access and use of clinical trial data, including adherence to the Vivli AI policy: https://vivli.org/vivli_ai-ml_model_requirements.

Access and participation in the Challenge is contingent upon approval through Vivli's independent review process.
Challenge participants may only conduct analyses within approved Vivli challenge workspaces.

Challenge Timeline

Tentative schedule:

Milestone	*Date*
Challenge Launch	July 2026
LOI Submission Deadline #1	September 1, 2026
LOI Submission Deadline #2	October 1, 2026
Vivli DAR Submission Period	Following LOI approval
Data Access Approval & Workspace Provisioning	November 1, 2026
Analysis Period	3 months
Final Submission Deadline	February 1, 2027
Winner Announcement	Spring 2027

The Challenge organizers reserve the right to modify timelines as necessary.

Submission Requirements

Final submissions must include:

1. Executive Summary: Maximum 1 page.
   Must include:
   a. Research question
   b. Key findings
   c. Scientific significance
   d. Potential impact on ADRD research
2. Scientific Report: Maximum 5 pages excluding references.
   Required sections:
   a. Introduction
   b. Objectives and Hypotheses
   c. Data and Cohorts
   d. Methods
   e. Results
   f. Limitations
   g. Conclusions
   h. References
   i. Code and Documentation

Additionally, participants must provide:

- Complete analysis code
- Reproducibility instructions
- Software environment specifications
- Documentation sufficient for independent review

Manuscript Commitment

Prize-winning teams must commit to preparing a manuscript suitable for submission to a peer-reviewed journal.

Open Science Requirements

To promote transparency and reproducibility:

- If selected as a winner, participants must provide a complete set of code used and/or developed for the project, properly documented and cleaned for ease of review, archived and easy to reference. Participants give AD Data Initiative permission to share the code via AD Workbench for researchers to copy, redistribute, or utilize under the MIT license.
- Documentation must be sufficient to reproduce reported findings.
- Organizers will make winning methods, code, and summaries publicly available.
- Participants retain ownership of their intellectual contributions. Successful applications may be shared publicly after reasonable notice to the applicant to enable the management of the program.

Judging Criteria

Submissions will be evaluated by an independent panel of ADRD experts.
Each category will be scored on a 1–5 scale.

Scientific Rigor

- Study design quality
- Statistical validity
- Appropriate use of data
- Robustness of conclusions

Innovation

- Novel methodology
- Creative use of placebo-arm trial data
- Advancement beyond existing approaches

Impact

- Potential influence on ADRD research
- Clinical relevance
- Potential to inform future therapeutic development

Generalizability

- Applicability across populations and studies
- Robustness across settings and cohorts

Reproducibility and Accessibility

- Code quality
- Documentation quality
- Transparency of methods

Awards

Awards may include:

- Cash prizes
- Publication support, including open-access publication fees
- Presentation opportunities through AD Data Initiative, Vivli, and partner scientific meetings

Specific prize amounts will be published on the Challenge website.
Prize disbursement may be contingent upon completion of required submission materials and manuscript preparation milestones.

Publication and Presentation

Participants retain authorship of their work.

Challenge organizers may:

- Publicly announce winning teams
- Share abstracts and project summaries
- Highlight findings through websites, conferences, and scientific communications

Winning teams may be invited to present their work at scientific meetings, webinars, or challenge-related events.

Privacy and Confidentiality

Challenge applications will be treated as confidential and shared only as necessary for evaluation and administration.

Participants must comply with:

- Vivli data-use agreements
- Applicable privacy laws and regulations
- Institutional requirements governing human subject data

No Third-Party Infringement

Participants represent that all submitted materials:

- Are their original work or used with permission
- Do not infringe intellectual property rights
- Do not violate contractual obligations

Organizer Rights

The Challenge organizers reserve the right to:

- Modify challenge timelines
- Clarify rules
- Disqualify non-compliant submissions
- Decline to award prizes if submissions fail to meet scientific standards

Questions

Questions regarding the challenge should be directed to the Challenge organizers at support@alzheimersdata.org.