**Longitudinal Early-Onset Alzheimer’s Disease Study Data Sharing and Publication Policy**

**Introduction**

LEADS is a multicenter collaborative project to advance understanding of early-onset (young-onset) Alzheimer’s disease using a variety of longitudinal measures, including clinical, imaging, fluid biomarkers, and genetics. The goals of LEADS can be best achieved through collaborative and open access to data and biospecimens, while respecting the intellectual contributions of principal and co‐investigators. This document presents the LEADS policies for access to data, access to biospecimens, and publications. The development of these policies was greatly aided by the availability of policies developed for the Alzheimer’s Disease Neuroimaging Initiative (ADNI), Dominantly Inherited Alzheimer Network (DIAN), the Alzheimer Disease Cooperative Study (ADCS), and the Longitudinal Familial Frontotemporal Dementia Study (LEFFTDS) and Advancing Research and Treatment in FTD (ARTFL) study (now under the collective umbrella study ALLFTD).

Sharing LEADS data with the general scientific community is one of the objectives of the study and is supported by the LEADS Executive Committee. In preparation for this level of data sharing, each of the LEADS sites included the following wording within subject consent documents.

“All of the data collected in this study will be sent to the Laboratory of Neuro Imaging (LONI) at the

University of Southern California (USC) where they will be stored indefinitely and shared with other

researchers for future research. Your privacy will be protected. All data will be labeled with a coded

research identifier to protect your identity. Your name and other information which identifies you will

not be linked to your research data. All the research data will be made available to qualified

researchers at other scientific institutions around the world for research purposes. Because this study is supported by the NIH, de-identified genetic data will be submitted to government

health research databases for broad sharing with approved researchers. Broad sharing of research

data will assist other researchers investigating various diseases, including AD and dementia. All data

will be de-identified, so it will not be possible to tell who you are from the data that is submitted.”

The LEADS Executive Committee has created and charged the Data Sharing and Publications Committee with the task of establishing policies to implement this requirement, as well as recommending procedures for dealing with acknowledgement issues. This document outlines the Data Sharing and Publication Committee’s recommendations for sharing data from the LEADS as well as policies for publication and publication credits for those who use LEADS data. The intent of these policies is to facilitate the sharing of data with all interested investigators, to encourage academic productivity, and to provide a mechanism for tracking and archiving data requests, intended analyses and publications related to and resulting from LEADS data.

As originally defined by the DIAN data sharing policy, LEADS will follow the principles of Productivity (with Recognition of the investigator who develops a research idea and does the work to publish it), Transparency, Fairness, and Inclusiveness. The following policies regarding access to LEADS data are intended to provide structure to the request process, respect for intellectual contributions, and standards regarding security/confidentiality.

**Definitions**

*Data* – all information pertaining to, but not limited to, the following: demographics, clinical, family history, neuropsychological, measures derived from neuroimaging, neuroimaging data files, and measures derived from biofluids. This includes the raw data in digital format and data derived from analyses of clinical, neuropsychological, neuroimaging and biofluid samples and measures.

*Biospecimens* – samples of DNA, RNA, plasma, serum, CSF, PBMC, fibroblasts, etc., and any products derived from these samples (including but not limited to proteins, induced pluripotent stem cells, etc.).

**Types of analyses and related requests for data or biospecimens**

LEADS will follow a policy covering access to data with the intent of publication that acknowledges different levels of involvement.

**Level 1 analyses** are those that are specified in the specific aims of the project found in the original grant application to the NIH. The Principal Investigators will be responsible for specifying the analyses and writing the manuscripts that relate to these specific aims. The timing of Level 1 manuscripts will be left to the discretion of the Principal Investigators; these manuscripts must be approved by the LEADS Executive Committee and the Data Sharing and Publications Committee. These investigators may designate a colleague to take the lead, but the ultimate decision is that of the Principal Investigators. In the spirit of collaboration and inclusiveness all site co‐investigators will be invited to participate as co‐authors, with the expectation that all site co‐investigators will meet the requirements for authorship described below. The Principal Investigators, in consultation with the lead author(s), will determine the order of listing of co‐authors; when not otherwise dictated, authorship will be listed alphabetically.

**Level 2 analyses** may be proposed by LEADS co‐investigators so long as they are not among the specific aims. LEADS co‐investigators may nominate a colleague or trainee within their team as a leader of such analyses or perform the analyses themselves. Level 2 manuscripts require approval by the LEADS Executive Committee and the Data Sharing and Publications Committee. Once again, all site co‐investigators will be invited to participate as co‐authors and authorship is as stated above.

**Level 3 analyses** may be proposed by qualified researchers who are not investigators or co‐investigators in LEADS. At present, Level 3 data sharing is from control participants. The next phase of data sharing will be for baseline patient data after baseline Level 1 analyses are completed. Subsequently, longitudinal patient data will be shared after longitudinal Level 1 analyses are completed. Proposals that fall under Level 3 will be reviewed by the Executive Committee and the Data Sharing and Publications Committee. Criteria for review are described below. Publications arising from these analyses would acknowledge the LEADS PIs as co‐authors, would list the LEADS funding in acknowledgements, and would list LEADS investigators in an appendix (see section Authorship below).

**Data Requests**

Level 2 and Level 3 data requests should be submitted in writing to the LEADS Executive Committee (see below for details on data request application and tracking). A standardized application process asks investigators to specify the principal hypotheses, the materials needed (variables or biospecimens), the analytic plan, and assurance of non‐overlap with planned LEADS analyses and other requests (note: this might require a consultation with the LEADS Data Sharing and Publications Committee or Executive Committee).

Level 2 and 3 data requests will be reviewed using the following criteria:

* Scientific merit and feasibility (e.g. availability of LEADS resources to fulfill the request)
* Appropriateness of the investigator’s qualifications and resources to protect the data.
* Appropriateness to LEADS goals/themes

After a request is approved, de‐identified data will be made available to investigators to conduct analyses. All analyses will be based on data sets that have been prepared, cleaned and frozen at regular intervals as determined by the Executive Committee and influenced by the rate of recruitment.

**Requesting Biospecimens**

Biospecimens (blood, blood products, and cerebrospinal fluid) from LEADS participants are a scarce commodity and will be released to co‐investigators in a manner that parallels the levels of hierarchy described above. Requests for biospecimens will be reviewed by the LEADS Executive Committee and the [National Cell Repository for Alzheimer’s Disease Biospecimen Review Committee](https://ncrad.iu.edu/ncrad_brc_committee.html). Biospecimen samples will be distributed through the National Cell Repository for Alzheimer’s Disease (NCRAD). An MTA will be required for all biospecimen distributions; the MTA will specify requirements for returning results and left-over samples, proper acknowledgment, and any biospecimen‐specific procedures. Biospecimen requests may be rejected despite scientific merit if the distribution would substantively deplete the available samples.

**Returning Results**

New data generated through analyses of LEADS datasets must be returned to the Executive Committee at the time of submission of the manuscript for review by the Data Sharing and Publications Committee for possible inclusion in the project database or into another NIH‐approved government database such as dbGap or NIAGADS. A six‐month embargo will be placed on returned data to allow publication of results.

**Manuscript review**

If a data request is approved for a Level 2 or Level 3 analysis, the requestors must agree to prepare a manuscript in a timely manner, determined jointly by the requestors and the LEADS Executive and Data Sharing and Publications Committee. The requesters must also submit the manuscript to the LEADS Data Sharing and Publications Committee prior to submission. The LEADS Data Sharing and Publications Committee reserves the right to require changes in the manuscript to avoid substantial conflict or overlap with other LEADS publications and to ensure proper description of informed consent, approach to confidentiality, acknowledgements of LEADS investigators and funding sources, and disclosure of potential and actual conflicts of interest.

**Protection of Confidentiality**

All precautions to ensure confidentiality must be taken by recipients of LEADS data. The final dataset will be stripped of identifiers prior to release for sharing and be transferred only with encryption and password protection by the LEADS data management team. The code linking a subject’s identity to data will be maintained in a secure place and will only be accessible to research staff on a need to know basis. All United States sites are required to have submitted the LEADS Certificate of Confidentiality with the IRB application before they are approved to enroll subjects.

**Authorship**

Collaborative and collegial engagement is a key to deciding upon authorship. In general, first authors of any LEADS publication should be the ones who generate the first draft and who take principal responsibility for crafting the final version. For Level 1 and Level 2 manuscripts, the senior author(s) should be the principal investigator(s). Co‐authors must also meet appropriate standards for authorship such as making substantial contributions to study data, and meaningful contributions to the revision of the manuscript for intellectual content. All publications based on LEADS data must also include “for the LEADS Study Group” as an author.

Abstracts: In many meetings, abstracts are often featured in press releases and thus might receive media and professional attention. Hence, abstracts must be approved by the LEADS Data Sharing and Publications Committee, just as full‐length manuscripts are required to be approved. Because abstracts are sometimes prepared under relatively stringent time constraints, authors must submit abstracts at least 1 week in advance of the abstract due date to the LEADS Data Sharing and Publications Committee. The LEADS Data Sharing and Publications Committee reserves the right to require modifications of the abstract regarding proper description of informed consent, proper approach to confidentiality, proper acknowledgements of LEADS investigators and funding sources, substantial overlap or conflict with other LEADS abstracts and manuscripts, and proper disclosure of potential and actual conflicts of interest.

Other personnel as Authors: LEADS investigators may include trainees or other site personnel as co‐authors provided that they meet standards for authorship as defined above.

**Obligations incurred when accepting LEADS data**

•  Acceptance of LEADS data obligates the recipient to cite/reference all LEADS funding sources in any presentation or publication that may result from this research. Language will be included in each LEADS publication following listed authors. Please see paragraph at end of this document.

•  Should publications result from the use of LEADS data now or in the future, the recipient agrees to notify the LEADS Executive Committee with details (reference or PubMedCentral ID#) and provide a copy of the publication so that the projects may report productivity derived from our resources to the funding agency, the NIA. Such publications require compliance with the National Institutes for Health (NIH) public access policies.

•  Should funding result from this research now or in the future, please notify the LEADS Executive Committee with details (grant title, sponsor, number, dollar total, and dates) so that LEADS may report productivity derived from our resources to NIA.

•  As described in the “Returning results” section above, new data created through analysis of LEADS must be provided to the LEADS Executive Committee at the time of manuscript submission for possible inclusion in the LEADS database and other NIH‐approved governmental databases. Such data will be subject to distribution in future LEADS datasets.

•  No sharing of data with a third party is allowed without permission of the LEADS Executive Committee.

**Required acknowledgement language**

“Data collection and dissemination of the data presented in this manuscript was supported by the LEADS Consortium (U01 AG057195, funded by the National Institute on Aging). The authors acknowledge the invaluable contributions of the participants in LEADS as well as the assistance of the investigators and support staff at each of the participating sites.” Additional language acknowledging other sources of funding, such as the Alzheimer’s Association sponsored funding of whole genome sequencing, will be required if those additional datasets are used.

**Data Request Application and Data Use Agreement**

A web-based, semi-automated data sharing application and tracking system will be instituted to manage the data requests. Users will complete a web-based application form which when signed and submitted will constitute the investigators’ agreement to comply with this LEADS Data Sharing and Publications Policy. When the application is received and approved by the data sharing committee, the applicant will be given permission to access the data. Applicants will be required to provide the following information:

* Name
* Address and Contact information
* Academic Affiliation (if any) or Institution/Company Name
* Proposed analyses with a named lead investigator on each analysis
* Certification to each point of the Data Use Agreement.

Applicant information will be available to other registered data users so that other data users can see what analyses are underway. This should help applicants decide whether to join in research already underway, compete with these projects or select another research topic. Applicants will receive annual requests to update the application information. These requests will also solicit responses to the following queries about manuscripts:

* Title of each manuscript in development
* Lead (or senior) author of each manuscript in development and contact information for that author
* Status of each manuscript in development (In development, in submission, in press/published)
* Citation of each published manuscript
* Upload a file of each published manuscript

Non-compliance with the required updates will jeopardize further access to LEADS data. The purpose of listing each proposed analysis with a lead investigator is to allow and encourage investigators considering similar projects to collaborate and to identify an individual who is taking responsibility for the use and reporting of requested data.

**Publication Policy**

The LEADS Data Sharing and Publications Committee will not attempt to evaluate the scientific merit of proposed analyses, abstracts or manuscripts. The Data Sharing and Publications Committee will be charged with the administrative review only (including review of scientific overlap with other projects).

Regardless of what subset of data is used in analyses or publications, as part of the Data Use Agreement, investigators will be asked to agree to a Publication Policy as follows:

* All manuscripts will acknowledge the methods of LEADS data gathering using language recommended by the LEADS (see Data Use Agreement).
* All manuscripts will acknowledge the support of NIA using the NIH grant number for the LEADS, as well as naming the financial sponsors of the LEADS (see Data Use Agreement).

In addition to the named authors, all manuscripts will be submitted with an acknowledgement of the LEADS on the author line using a corporate acknowledgement phrase followed by an asterisk (see Data Use Agreement). The asterisk will point to a web site listing that will list the names of the LEADS leadership, key senior contributors to the LEADS project design and/or organization and contributors from the sites.

* Manuscripts will be submitted to the LEADS Data Sharing and Publications Committee for administrative review prior to submission. The purpose of this review will be to make sure that all the above requirements are met.
* Full citation of all published manuscripts will be provided to the LEADS publication committee upon acceptance of manuscripts.
* A copy of the manuscript will be provided to the LEADS Data Sharing and Publications Committee upon publication of the manuscript. If permitted by the journal, a version of the article or link to the article will be available online at the LEADS website.

**Unusual Situations**

It is expected that most users of LEADS data will follow these guidelines in good faith and that most analyses will be of reasonable quality. It is recognized that LEADS data may even be used to support publications with conflicting results. However, we do anticipate the possibility of some unusual circumstances.

1. Egregiously poor manuscripts. If a review of a proposed manuscript reveals that it is egregiously poor in terms of language, writing or substance, the Data Sharing and Publications Committee can recommend to the authors that it not be submitted without significant revision. If the authors choose to submit the manuscript anyway, the Data Sharing and Publications Committee will have three options: 1) request that the acknowledgement credit be withheld; 2) request that the authors publish a statement to the effect that while LEADS data were used, publication committee did not find this manuscript of sufficient merit to warrant submission for publication, or; 3) revoce privileges to use LEADS data in the future.
2. Failure to follow LEADS Data Use Agreement. If users inadvertently violate the Data Use Agreement, it is likely that they will self-correct as infractions are discovered. If users willfully violate the Data Use Agreement, the sole sanction available to the LEADS will be to revoke access to the LEADS data.
3. Fraudulent use of data. Open access using only email registration raises the possibility that individuals could obtain access to data under false pretenses. Should the Data Sharing and Publications Committee discover an attempt to publish data obtained fraudulently, the data user will be sanctioned through NIH communication with them or their academic supervisors. As soon as the data sharing committee becomes aware of any breach of the LEADS Data Use Agreement, immediate steps will be taken to cure the breach or end the violation. This may include discontinuing the user’s data access and/or reporting the violation.
4. Journal Objections. It is possible that journal editors may object to the acknowledgement format with the caveat that those LEADS names credited have gathered data but not participated in the analysis and writing of the paper. The Data Sharing and Publications Committee can authorize exceptions to the acknowledgement policy or can negotiate with journal editors as needed on a case-by-case basis.

**Committee Structure and Funding**

The LEADS Data Sharing and Publications Committee was formed by the LEADS Executive Committee and will make recommendations to the Executive Committee regarding these and other related policies. If investigators disagree with the decisions of the committee, they can appeal to the Executive Committee for final arbitration.