



## **Implementation of the Data Seal of Approval**

The Data Seal of Approval board hereby confirms that the Trusted Digital repository LASA complies with the guidelines version 2010 set by the Data Seal of Approval Board.

The afore-mentioned repository has therefore acquired the Data Seal of Approval of 2010 on May 21, 2013.

The Trusted Digital repository is allowed to place an image of the Data Seal of Approval logo corresponding to the guidelines version date on their website. This image must link to this file which is hosted on the Data Seal of Approval website.

Yours sincerely,

The Data Seal of Approval Board

## Assessment Information

Guidelines Version: 2010 | June 1, 2010  
Guidelines Information Booklet: [DSA-booklet\\_2010.pdf](#)  
All Guidelines Documentation: [Documentation](#)

Repository: LASA  
Seal Acquiry Date: May. 21, 2013

For the latest version of the awarded DSA for this repository please visit our website: <http://assessment.datasealofapproval.org/seals/>

Previously Acquired Seals: None

This repository is owned by:

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<http://www.emgo.nl/research/infrastructure/longitudinal-studies/longitudinal-aging-study-amsterdam>

## Assessment

### **1. The data producer deposits the research data in a data repository with sufficient information for others to assess the scientific and scholarly quality of the research data and compliance with disciplinary and ethical norms.**

*Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

*This guideline cannot be outsourced.*

## Applicant Entry

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

Firstly, LASA produces its own data and only archives its own data. No data from external producers are considered. Therefore, LASA does not deal with (external) depositors of data.

LASA (as its own main depositor) provides information about the quality of the data on the publicly available LASA website at <http://www.lasa-vu.nl/data/Dataquality.htm>

The repository aims to harbour the data of a specific longitudinal study of ageing: the Longitudinal Aging Study Amsterdam (LASA). Data collection within LASA started in 1992 and is ongoing, with roughly 3-year measurement waves. Data are collected on a broad range of factors, including indicators of physical, emotional, social and cognitive functioning, by means of individual, computer assisted interviews, medical interviews and self-administered questionnaires.

The use of the data, usually by scientific researchers, is propagated by the LASA website and personal contacts and is facilitated by the delivery of datafiles by central datamanagement. LASA is part of the structure of VU University Amsterdam and VU University Medical Center, and is supervised by the authorities of these institutions. Moreover, data storage and data quality is regularly assessed by an international advisory board of professors in various disciplines.

Detailed information about the aims, procedures and data have been published in a methodology report (Huisman et al. 2011) and are continuously accessible for users via the internet on the LASA website ([www.lasa-vu.nl](http://www.lasa-vu.nl)). LASA data are freely available for non-commercial use, which is communicated in the methodology report to the research community, and on the LASA website itself: "Collaboration is of great importance in scientific research and researchers are encouraged to use data from LASA in their work. Researchers wishing to work with data from LASA are welcome to submit a research proposal, download the analysis proposal form".

The website also lists all publications that are based on the LASA data and provides a full description of the available data, together with the modes of data collection and storage. The publications implicitly convey the solid scientific reputation that the LASA team has achieved.

Huisman M, et al. Cohort Profile: The Longitudinal Aging Study Amsterdam. *International Journal of Epidemiology* 2011;40:868-876.

## Reviewer Entry

**Data Seal of Approval Board**

W [www.datasealofapproval.org](http://www.datasealofapproval.org)

E [info@datasealofapproval.org](mailto:info@datasealofapproval.org)

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## **2. The data producer provides the research data in formats recommended by the data repository.**

*Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

*This guideline cannot be outsourced.*

### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

The procedures of the LASA data collection are fully synchronised with the procedures of LASA data cleaning and storage. There are fixed procedures for translating raw data from data collections to the final user database, which consists of a number of datafiles maintained in SPSS (.sav) format. No part of the 3-yearly data collection consists of qualitative interviewing. No qualitative data are included within the LASA repository.

The LASA sample of respondents can sometimes be used for side-studies; i.e. data collections on LASA respondents that are outside the scope of the regular follow-up assessments (these do sometimes involve qualitative data collections). Such side studies are often conducted by LASA researchers, but their data are not part and parcel of the LASA main database and are not archived in the central LASA repository. Therefore, the repository has no specific guideline for file formats of qualitative results.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

### **3. The data producer provides the research data together with the metadata requested by the data repository.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*This guideline cannot be outsourced.*

#### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

The data producers and those who maintain the repository for the LASA data are part of the same team. There are fixed procedures for recording metadata. Firstly, all interviews are recorded and transformed into audiofiles that remain accessible through the LASA archive to the logistics manager and the data manager. Secondly, interviewers are consistently asked to manually record special information, occurrences, remarks about the contents of the interview, etc. on so-called 'Report Contact Forms'. These are standardised forms that are centrally archived, but are only accessible by the data manager and logistics manager.

The procedures of gathering and archiving these metadata are now accessible via the LASA website: [www.lasa-vu.nl](http://www.lasa-vu.nl). There are no fixed procedures for identifying new metadata items, nor are new metadata items added to old data.

#### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

#### **4. The data repository has an explicit mission in the area of digital archiving and promulgates it.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*This guideline can be outsourced.*

#### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

The explicit task of LASA is the study of older populations. To fulfill this aim, building and maintaining a data-infrastructure is required. Reference to the archiving role of LASA has been made on the website: <http://www.lasa-vu.nl/data/Dataquality.htm>

The use of the data, usually by scientific researchers, is propagated by the LASA website and personal contacts and is facilitated by the delivery of datafiles by central datamanagement. LASA is part of the structure of VU University Amsterdam and VU University Medical Center, and is supervised by the authorities of these institutions. Moreover, data storage and data quality is regularly assessed by an international advisory board of professors in various disciplines.

For the LASA website please go to:  
[www.lasa-vu.nl](http://www.lasa-vu.nl)

#### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

Given the response to Guideline 7 it's clear the longer term preservation will be through an agreement with DANS-EASY implying that the LASA will not be responsible for all long-term preservation. However the materials provided suggest that LASA does have a publicly available statement of its Digital Archiving Mission

## **5. The data repository uses due diligence to ensure compliance with legal regulations and contracts including, when applicable, regulations governing the protection of human subjects.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*This guideline cannot be outsourced.*

### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

All data collection and research activities that occur within the LASA framework are subject to strict scrutiny by the VU University Medical Center's Medical Ethical Committee (METC), which assesses to what extent the LASA data collection and data handling procedures adhere to national and international laws regarding research practice and privacy regulations. New data collections can only commence when the LASA protocol has been approved by the METC. Data storage procedures are subject to the protocol testing by the METC.

More information regarding the METC policy can be obtained from:  
<http://www.vumc.nl/afdelingen/METC/>

Most crucially, protecting the privacy and health of respondents is among the main aspects that the METC is concerned with. The METC requires that the design and performance of each research study involving human subjects is clearly described in a research protocol. The protocol should contain a statement of the ethical considerations involved and should indicate how the principles in this Declaration have been addressed. The protocol should include information regarding funding, sponsors, institutional affiliations, other potential conflicts of interest, incentives for subjects and provisions for treating and/or compensating subjects who are harmed as a consequence of participation in the research study. The protocol should describe arrangements for post-study access by study subjects to interventions identified as beneficial in the study or access to other appropriate care or benefits. Data collection can only take place once approval by the METC has been given.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## **6. The data repository applies documented processes and procedures for managing data storage.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*This guideline can be outsourced.*

### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

There is a standard approach to making back-ups of the LASA archives (which contain raw data, syntax for constructing cleaned and composite data and end-products). Back-ups are made every week and are being stored on a network location of the EMGO+ Institute of Health and Care Research (VU University Medical Center, Amsterdam). This network itself is backed up regularly according to a fixed protocol by an external party.

The data manager performs tests regularly to ensure that recovery of data is ensured in an optimal fashion.

Metadata and privacy-sensitive data are accessible only via password access and are hidden from public access. This applies to amongst others the name and address of respondents. Each respondent has been assigned a unique respondent number which appears in the files that are sent out.

Statements about the data storage are available via: <http://www.lasa-vu.nl/data/Dataquality.htm>

Data have been and will be migrated to state of the art storage media when this judged to be necessary. Decisions about this are made during regular meetings with the longitudinal data management team, consisting of our data manager, logistics manager, scientific director and assistant-director.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## **7. The data repository has a plan for long-term preservation of its digital assets.**

*Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

*This guideline can be outsourced.*

### **Applicant Entry**

*Statement of Compliance:*

3. In progress: We are in the implementation phase.

*Evidence:*

The LASA team is in the process of making up an agreement with DANS EASY for the storage of LASA data with the DANS EASY data archiving and online access system. This agreement will ensure the long-term data usability of LASA data. DANS offers durable access to digital research data. The DANS data archive collection contains thousands of datasets in the fields of humanities, archaeology, geospatial sciences and behavioural and social sciences.

The agreement with DANS will be made clear to users only when they present themselves to the LASA steering group with requests for data. If these users are external researchers they may be referred to DANS EASY for extracting the data they want. All internal LASA researchers will be able to access data through the regular procedure.

LASA data are compatible with the data requirements of DANS EASY, so that no changes in the type of data and the file formats have to be made for archiving the data in the EASY repository. A selection of the most often used data will be stored in EASY. EASY obtained a Data Seal of Approval in 2010. LASA shall adhere to the guidelines that are posed to depositors and data by DANS.

Information about DANS EASY can be found at:  
<http://www.dans.knaw.nl/en/content/data-archive>

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## **8. Archiving takes place according to explicit work flows across the data life cycle.**

*Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

*This guideline can be outsourced.*

### **Applicant Entry**

*Statement of Compliance:*

3. In progress: We are in the implementation phase.

*Evidence:*

LASA collects its own data, so that all data fall within its mission. Those who are responsible for gathering and producing the data are in constant contact with data management which transforms and archives the data. Routine procedures are therefore known to all.

But while these routine procedures for archiving data and implementing data transformations are in place, they have not been documented fully yet. Resources will be made available so that these procedures are documented and can be made accessible via: [www.lasa-vu.nl](http://www.lasa-vu.nl). These documentations shall be made in 2013 and are expected to appear online early 2014.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

Accepted in light of the deadline for supporting documentation

## **9. The data repository assumes responsibility from the data producers for access and availability of the digital objects.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*This guideline cannot be outsourced.*

### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

The LASA team produces its own data. It hires the interviewers who collect the data from individual respondents and has employed the datamanagement and management of the data collection logistics.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

Accept though ideally we would see a clear separation in responsibility between data production and data archiving/data management. Some kind of clear handover between these roles should be documented

## **10. The data repository enables the users to utilize the research data and refer to them.**

*Minimum Required Statement of Compliance:*

2. Theoretical: We have a theoretical concept.

*This guideline cannot be outsourced.*

### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

All data are provided in the form of SPSS statistics format, which is a widely used statistical package. Even if receiving researchers have no access to the SPSS statistical package, the format can be transformed into formats used by other statistical packages, such as SAS and STATA.

An overview of available data is presented on the LASA website, which is accessible by all researchers. Researchers always have personal contacts with LASA data management which can provide help with searching through available data.

OAI-harvesting is not possible with our repository, but given that about 80% of the contents of the LASA data gathering does not vary between measurement waves and that most measurements take place at regular intervals, the structure of the data is quite transparent. The LASA repository does not make use of persistent identifiers.

Within the processes of the regular use of LASA data, no reference is made to the digital objects perse (i.e. the particular files that contain information on one or more specific variables), rather reference is made to the use of specific variables. We have an administration system for tracking which researcher/data user has obtained what data for which purposes so that results reported by data users can always be backtracked to the digital objects from which they were obtained.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## **11. The data repository ensures the integrity of the digital objects and the metadata.**

*Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

*This guideline cannot be outsourced.*

### **Applicant Entry**

*Statement of Compliance:*

3. In progress: We are in the implementation phase.

*Evidence:*

No more than one official version of the data is allowed. Sometimes, data are being issued that are still in the process of being cleaned or are raw data files. This is done only when data users have good reasons for them as judged by the steering group or the data manager (e.g. for performing power checks of future analyses). Publication of results on the basis of these data is not allowed, until analyses have been re-run on cleaned and processed data.

When changes are made to the data after the initial cleaning and processing stage (i.e. when the data file is considered to be the 'official version') researchers who use the datafile for their analyses are automatically provided with the improved version. Researchers are always required to keep the data that they performed their analyses on, so that the integrity of the analyses can be checked even after an improved version of the data has become available and the old version cannot be sent out anymore.

Until now, no use was being made of multiple versions of the data. Changes in the official versions of the data automatically resulted in a new official version, with the old version being overwritten. However, implementation of working with dated versions, allowing multiple versions of the data, is necessary to ensure complete integrity. We will make the following changes:

- Versioning of the data will occur by assigning specific dates to data files, referring to the data at which a file was created anew, or its contents were modified in some way.
- Periodically checksum checking will be incorporated in the data management procedure. We shall investigate appropriate software for generating checksums and implement this in our data management system.

We are in the implementation phase regarding this, so these changes have, at the moment of writing this, not yet taken place. Rather we commit ourselves to making them before June 2014.

All our data is publicly available once it passed our internal construction and cleaning procedures. Before data passed these procedures, they are not issued, nor are they used in data analysis.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

## 12. The data repository ensures the authenticity of the digital objects and the metadata.

*Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

*This guideline cannot be outsourced.*

### Applicant Entry

*Statement of Compliance:*

3. In progress: We are in the implementation phase.

*Evidence:*

Data are changed only from raw data unto cleaned and processed data, ready for use. Raw data files are generated because LASA gathers its own data. When datafiles are cleaned, researchers can make changes to them under their own responsibility, but never will these changes be implemented in the archived data files.

No links with other datasets are maintained by LASA. Links have been made of LASA data with external datafiles, such as the National Medical Registry, but these links are not maintained by the LASA group, nor are these linked datasets issued by the LASA group (but by, e.g., Statistics Netherlands).

Currently, there is one version of each datafile archived, but we commit ourselves to working with version numbers so that previous versions of datafiles remain available for inspection after (conscious) changes have been made to them. Datafiles that have been made available to researchers will be changed in the analysing stage. However, these changes occur under the responsibility of analysts themselves.

Researchers cannot download the data from somewhere. They will deposit an analysis plan with the LASA steering group; once this plan has been approved and archived, the researcher obtains the data directly (i.e. via e-mail) from the data manager. As we indicated earlier, we commit ourselves to incorporating checksum checking into our regular procedures. What this implies is that researchers can be certain that the data they receive is authentic. Once we have implemented the checksum checking procedure, we will document this procedure on the publicly accessible LASA website.

If a researcher obtained data and is uncertain about what changes (s)he has made to the data him/herself, or if any changes in data were made at all, (s)he can always ask for checks of data consistency with the uniquely identifiable copies of the datafiles from the archive.

LASA does not change file formats. It cannot guarantee that there are no functional changes after researchers have migrated data themselves (i.e. from SPSS to STATA data), or after new versions of statistical packages have become available. LASA checks with each new SPSS version whether '.sav' files remain operational in the new versions. Only once there are indications (e.g. from IBM statistics corp. itself or from the user domain) that these file types are no longer supported in new versions of the SPSS package, LASA shall migrate all data to new file formats. When doing so, content analysis of files will be performed to check (in)consistencies between the pre- and post-migration files.

LASA gathers its own data. There are no other depositors.

### Reviewer Entry

*Accept or send back to applicant for modification:*

Accept

**Data Seal of Approval Board**

W [www.datasealofapproval.org](http://www.datasealofapproval.org)

E [info@datasealofapproval.org](mailto:info@datasealofapproval.org)

*Comments:*

### **13. The technical infrastructure explicitly supports the tasks and functions described in internationally accepted archival standards like OAIS.**

*Minimum Required Statement of Compliance:*

3. In progress: We are in the implementation phase.

*This guideline can be outsourced.*

#### **Applicant Entry**

*Statement of Compliance:*

3. In progress: We are in the implementation phase.

*Evidence:*

Having taken knowledge of the OAIS guidelines we can agree on taking OAIS as a reference and will do so. As the reviewer noted however, the LASA framework is a special case in that it does not make use of independent data producers and gathers and archives its own data only. Also, the scope and scale of the data collection and archive dwarfs that of most initiatives that are referred to in the OAIS documents.

LASA is in the process of making up an agreement with DANS EASY for storage of data. The LASA standards will be checked against those of the DANS EASY repository.

Information about DANS EASY can be found at:  
<http://www.dans.knaw.nl/en/content/data-archive>

LASA does not have explicit plans for infrastructural development, other than the ones we have indicated at previous points of the assessment and which are necessary to be eligible for a DSA. The goal of the LASA repository is to remain fully equipped to archive the data that are being gathered within the LASA study. If potential future changes in the study (e.g. introduction of the use of webbased questionnaires) require adaptation of the repository, these shall be realised accordingly.

#### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

the special nature of LASA is noted however future documentation should be able to benchmark those variations against the OAIS standard.

## **14. The data consumer complies with access regulations set by the data repository.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*This guideline cannot be outsourced.*

### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

Data users are required to fill out an analysis proposal that lists the data that they like to receive and the analyses they plan to perform. These proposals are evaluated by the LASA steering group and data are sent out only if the proposals adhere to the criteria that are set: 1) suggested analysis does not overlap with analyses that have been conducted previously or are in the process of being conducted, 2) there is enough expertise available in the research group in relation to the topic of the analysis, 3) data are being sent out only under the recognition that they will be used for the purpose described in the analysis plan and not for other purposes.

LASA does not make use of special licences or contracts for restricted-use data. Confidential data are not accessible by researchers.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

**15. The data consumer conforms to and agrees with any codes of conduct that are generally accepted in higher education and scientific research for the exchange and proper use of knowledge and information.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*This guideline cannot be outsourced.*

**Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

LASA does not only collect and archive its own data, it also performs research with the data. As such, LASA is its own data consumer and conforms to the usual codes of conduct as accepted in higher education and scientific research. In addition, LASA data are open to researchers from other scientific institutions under the condition that an agreement is made up with LASA on the basis of an analysis plan, as described before.

Each analysis plan is subject to scrutiny by the LASA steering group and evaluation of the expertise and previous research conduct of the applicants is part of this. Data are sent out under the condition that data are only used for the purpose as described in the analysis proposal, that enough scientific expertise is available in the research team and that the researchers can always be asked to reproduce findings.

If researchers are found not to adhere to the usual codes of conduct of performing scientific research they may be barred from further use of LASA data and their supervisors (usually from other scientific institutions) will be notified. In practice, this has never occurred however, as no misconduct took place since the start of LASA (in 1992).

Confidential data, in the form of addresses and names of respondents are not sent out usually. In some cases they may be necessary, e.g. when these are used to link with other data sources on the basis of probability linkage. In those cases, linkage will be performed by the data manager who guards access to the confidential data.

**Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*

It would be good to see an explicit statement of knowledge about what those Codes of Conduct are

## **16. The data consumer respects the applicable licenses of the data repository regarding the use of the research data.**

*Minimum Required Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*This guideline cannot be outsourced.*

### **Applicant Entry**

*Statement of Compliance:*

4. Implemented: This guideline has been fully implemented for the needs of our repository.

*Evidence:*

Access forms can be obtained from the LASA website at:  
[http://www.lasa-vu.nl/data/availability\\_data/availability\\_data.htm](http://www.lasa-vu.nl/data/availability_data/availability_data.htm)

If the codes that are described in this form are not complied with, researchers may be barred from further use of the data. These actions can be enforced because access to the data can only be obtained through the LASA data manager.

### **Reviewer Entry**

*Accept or send back to applicant for modification:*

Accept

*Comments:*