

Data Management Plan- Guidelines
Version 3.5, 20 August 2018

NB: this document got an update in August 2018, but this was the final update and the document will be phased out. The information and examples will be integrated into online information pages and tools. The most comprehensive source for Research Data Management at VU Amsterdam is the [LibGuide Research Data Management](#).

This document provides guidelines on writing a Data Management Plan (DMP) as part of a research proposal.¹ A DMP is a formal document that outlines how you will handle your data both during your research and after the project is completed. Preparing a DMP before data are collected ensures that data are in the correct format, organized well, and better annotated. This saves time in the long term. Writing a DMP is now a requirement when writing a research proposal to get a grant from institutes like the Netherlands Organization for Scientific Research ([NWO](#)), [ZonMw](#), or the European Research Council ([ERC](#)). This plan describes the various issues that are relevant for writing a DMP. A full Data Management Plan often includes (but is not limited to) the following components.

1) General outline & description

This part follows directly from the main research description and outlines the purpose for which the data is collected and how it will be used. Funding agencies may have specific requirements for the ways in which data is being managed, so read carefully the funders' requests on managing data before you start planning. For example, some funders formulate requirements for data repositories for data archiving, archiving formats and documentation (see [part 5](#) on Publication/Archiving).

A more detailed description of the data can include: types of data, file formats, the size and scope of the dataset, a characterisation of secondary licensed sources that may be used or other existing datasets. The institute(s) that provide(s) the grant also should be included.

¹ DMPs are typically required in the case of external research funding, but setting up a DMP is recommended for most research projects and some researchers are actually required to write a DMP no matter how their research is being funded, for example those working at the Faculty of Social Sciences.

Example of a text for a general outline:

“This Data Management Plan (DMP) was created on . . [Date] . . for submission to the . . [Name Foundation] . . as required by . . [Name guidelines] . . guidelines in the interest of securing funding for this study. The aim and purpose of this DMP is to detail and guarantee the preservation of the data collected during this study, as well as any results derived from the associated research. This DMP is intended for review by relevant . . [name research group] . . personnel, as well as . . [Name Institute] . . staff and [the] . . [Name Institute] . . affiliated directly with this study and the collection and preservation of the associated data and research. This DMP covers the data which will be collected for a longitudinal study at the . . [Place Name] . . The study is expected to be conducted between . . [Date] . . and . . [Date] . . The study will collect non-sensitive data from a cohort of mixed-gender subjects ranging from 18 to 85 years of age. No other personal identifiers will be collected during the study apart from those identified above. The study will focus on . . [Urban area name] . . The subjects will be randomly selected in urban and rural public, non-retail locations in . . [Place name] . . Subjects who consent to participate will be anonymously surveyed by asking to respond to a simple yes/no, single question verbal survey. The results will be manually recorded by the surveyor.”

2) Responsibilities

A DMP should include details on which parties are responsible for managing the data. Depending on the project different people (or organisations) can be indicated that are responsible for the different data management activities. These activities can include (but are not limited to):

- a. Collecting the data
- b. Writing the Technical documentation
- c. Managing and analysing the data. This includes guidelines on:
 - i. Managing versions of datasets
 - ii. Storing & creating backups
 - iii. Access control
 - iv. Data formats
 - v. Metadata standards
- d. Quality control and storage and archiving.

Example:

“The Project leader as identified in the general section of this DMP is responsible for the overall gathering, management and analysis of data collected for and during this project. The operational gathering and storage of data is handled by . . [Function description] . . Analysis of the data using the . . [brand name] . software is organised and documented by the main research group, consisting of . . [Group description] . . The meta-standards used are . . [Name Metadata standards] . . The standards are in compliance with current standards as determined by the . . [Name institute] . .”

3) Technical description

A DMP can include a short description of the specific software and hardware that will be used during the various research phases of the project. As this depends on the project, it may not be necessary to include it as part of the DMP. If specific software and hardware needs to be purchased or developed, the

related costs can be included as part of the financial Framework (see [part 6](#)). Different software/hardware may be used for data collection, analysis and storage/archiving. Specific measuring instruments can be described in this section. The technical description can include specifics on synchronisation or storage methods that are used for the datasets. If you use protected data in your research, you should think about the security level of your data storage solution. The protection of personal data should be in line with the European General Data Protection Regulation (GDPR). For more information, consult the VUnet page on [privacy and information security](#) in research. For advice on working with sensitive data, you can consult your faculty's Privacy Champion, who is the first point of contact for issues relating to privacy. You can find the [list of Privacy Champions](#) on VUnet.

Example:

"The associated data types will be captured using Qualtrics survey software and analysed using SPSS data analytics tools. The researchers are not aware of any issues regarding the effects or limitations of these formats regarding the data being submitted. General metadata related to the survey topic will be created for the data being submitted. The associated metadata will be manually created in XML file format. DDI metadata standards will be applied during the creation of the metadata. During the implementation of the survey, associated research data will be physically stored on a password-protected secure server maintained by . .[Name organization]. . using standard SPSS file formats. No data will reside on portable or laptop devices, and no other external media/format(s) will be used for data storage. Research data is backed up on a daily basis. The researchers are currently responsible for storage, maintenance and back-up of the data. The specific storage volume of the data being submitted will not exceed 1GB. "

4) Ethical and legal framework

An important part of a DMP is the identification and description of the legal framework, which should describe issues concerning ownership, applicable laws and legislation and agreements with other parties (e.g. participants, project partners, software suppliers).

To establish the legal ownership of the datasets, legal parties need to be identified. If secondary or historical sources are used, these should be identified and described. Potential issues involving copyright have to be included in this section, irrespective of whether they are of a general or specific nature. This may also involve the primary data(sets) created during this project. As a general rule and in line with the Dutch [Databankenwet](#) (Database Act): Vrije Universiteit Amsterdam, together with other funding organisations, is/are the owner(s) of all data created by VU researchers. When necessary, a separate document can be added to the DMP, in which the details with regard to ownership are specified.

The DMP should also discuss whether a specific law or legislation applies to data collection, data analysis and/or storage of datasets. The legal issues involving the research project may include (but are not limited to):

- Security/access to the datasets
- Informed consent from participants
- Confidentiality (agreements)
- Contractual agreements with project partners or software suppliers (include them as a supplement to the DMP)

In the final stages of the research project the datasets need to be archived. If any legal rights to the datasets need to be transferred, this information should be indicated in the DMP. These legal rights may include (but are not limited to): managing the data, managing access, and publishing data as part of the general publication process of the research results. For research projects there is also a legal retention period of datasets. For most scientific research in the Netherlands the minimum period for data archiving is 10 years after the project has finished (see the [Netherlands Code of Conduct for Research Integrity](#) by the VSNU), but some disciplines have specified other retention periods (see for example the [quality assurance document for human-related research](#) by the Nederlandse Federatie van Universitair Medische Centra (NFU), which lists retention periods of 2 to 115 years). Also check whether your grant provider or the publisher you are publishing with requires a certain retention period. Write down the retention period applicable to your research in this section and refer to the relevant legislation/guidelines.

In the context of Open Science and FAIR data (Findable, Accessible, Interoperable, Reusable), data should in principle be made available for reuse. If there are legal restrictions to the reuse of datasets of your research project, a description of these restrictions needs to be included in the DMP.

More information about [privacy and information security](#) can be found on VUnet. If you need help or advice with issues related to privacy or the GDPR, please contact the Privacy Champion of your faculty (see VUnet for a [list of Privacy Champions](#)). For support in setting up agreements with third parties (e.g. external software suppliers) or external project partners, you can contact [IXA](#) (Innovation Exchange Amsterdam).

Example:

“The . . . [Name University] . . . is considered to be the legal owner of all datasets created during this project. The data will be publically posted and advertised in publications. In accordance with the policy/policies on research data of the funding organization(s) the data will be made available Open Access for the period of no less than 5 years. There will be no charge for accessing this data. We retain the right to use the data before opening it up to wider use, but once we publish the research we will release its corresponding data. There are no ethical and privacy issues per this performance and data about our design. The data is not 'personal data' in a legal sense (as described in . . . [law/legislation] . . .) and . . . [Name scientific protocol] . . . do not apply in this case as there are no human subjects in the study. The data is not copyrighted and no licenses pertain to it. There will be no permission restrictions placed on the data. Other researchers in the field of . . . [Name of scientific discipline] . . . are the most likely consumers of this data. The intended or foreseeable uses/users of the data would be those seeking to do similar research and there are no contractual reasons not to share or re-use data.”

5) Publication and archiving

When the research results are to be reported, some of the data that was used can also be published. The DMP should include a description of publication requirements relating to the datasets as well as any embargoes that may apply. The general description should describe the storage method of the published datasets. This includes: technical formats/standards, metadata standards (see for example the [overview of disciplinary metadata standards](#) published by the Digital Curation Centre) used to describe the data, and the location(s) where the datasets are archived.

Research data may be archived in VU-internal systems, but also in external archives. Vrije Universiteit Amsterdam has three types of data archives available for research data: DataverseNL, ArchStor and DarkStor (see VUnet page on [research data archiving](#) for more information). External accredited organisations providing repositories for research data archiving are the following:

- [4TU.ResearchData](#) (an initiative of TU Delft, TU Eindhoven, University of Twente and Wageningen University & Research, offering their repository services to other institutions as well)
- [B2Share](#) (from EUDAT)
- [DANS EASY](#) (Data Archiving and Networked Services)
- [Dryad](#) Digital Repository
- [Open Science Framework](#) (OSF)
- [Zenodo](#)

You can also search for a suitable repository at the Registry of Research Data Repositories ([re3data.org](#)). This registry also provides more background information on the repositories listed above, such as whether they publish data open access, whether they provide a persistent identifier for your data, and whether they are certified.

If a license needs to be signed by parties that want to reuse the datasets, this should be indicated in this section. If a [Create Commons](#) license is used, please indicate in this section which CC license applies to your project using the icons at the [CC website](#).

Example logo: 

Example:

“Requirements stipulated by the funding or partner organisations regarding this data are indicated in the legal framework section. Submitted data will be made publicly available through the . . [Name Institute] . . There is no agreement in place regarding either an embargo period or right of first use for this data. The data will be submitted in accordance with generally accepted scientific standards on data and metadata as described in the technical section of the DMP. Comprehensive institutional and research group guidelines specified by the . . [Scientific Commission Name] . . were applied regarding the collection of this data. At least one specific research objective associated with this project addresses use of the . . [Name Provider Source] . . data. Data management issues regarding downloading and public-use of secondary source . . [Name Provider] . . data ; restricted-use contractual data; and deductive disclosure pertaining to respondent privacy are detailed on the website: <http://. Access, Sharing and Re-use of Data>. The researchers associated with this study are not aware of any reasons which might prohibit the sharing and re-use of the data being submitted. The following Creative Commons License applies . . [Name cc license] . . There are no additional requirements associated with the data being submitted. ”

6) Financial framework

The financial section may already be described in the main research grant proposal. In that case it is not necessary to include the information here again. If it is not, describe what part of the budget/grant of a research project needs to be allocated to the process of collecting, analysing and storing data. The costs may include (but are not limited to): hardware, software and personnel. Include the specific details of any costs or fees that involve the long-time storage of any datasets by an external organisation. You can use the [UK Data Service Data management tool and checklist](#) to estimate the costs for managing and archiving your research data.

Example:

*“For the purpose of collecting, analysing and storing the data the following funds are reserved:
1) . . [number] . . amount for the acquisition of the following hardware and software. 2) The staff involved in collecting and analysing the data are required to follow the course . . [Name course] . . which costs . . [Number] . . per person 3) For the purpose of long-term storage of the data, as required by the funding organisation and generally accepted scientific guidelines established at the . . [Name University], . . [Number] . . amount is reserved .“*

Support and advice

The University Library offers help and advice on writing a Data Management Plan. Contact Details:

Research Data Services

VU Library, Room 1B-40

Email: ResearchDataServices.ub@vu.nl

Telephone: +31 (0)20 - 59 85166