vi(i)2.6 (( )11-2 (t)-6.6 h(( )11.3 v)-2 oa)10.5 u(r)-6 (s)-2 e(o)10.5 (f)-6.6 (

e) Research data requires special care, special infrastructure, and support, because of its clear evolution, from developing, publishing, archiving, preserving, or curating.[45]

The special care and support of the research data must facilitate its publication (and accessibility thereafter) as rapidly and effectively as possible. Focus on re-

if you intend to conduct interviews, have you asked your interviewees for a permission to record, and re-use collected information?

Legal requirements that affect the management of research data, in

Funding source	Each funder will have their own requirements as to how the research data generated as a result of their funding should be managed. Summary of funders' requirements is available below (Appendix 1)
Type of data	You need to consider the source of the data, and the rights you have to acquire, manage, and manipulate the data as well as publish using the data source.
Secure storage and transmission of research data and authorized access to research data	It is important that all research data be safely stored. It is also important to understand who is responsible on the storage and how much the cost would be, depending on the size and type of the research data. Any share of data across borders, with non-HEI collaborators can raise legal, storage and ethical issues.
Appraisal, selection, and retention of research data	It is important to know the purpose of the research data, 83-6.6 (heetArt (a)10.5 7

Access, data sharing and re-use	Research data are to be made available for dissemination and re-use whenever possible. What contextual details would you need to capture in order to make your data meaningful to users other (Metadata)

Publishing and Depositing

The researcher's entitlement to be the first to publish based on data they have generated must be preserved. If the researcher will not be able to publish their findings by the funder's deadline for data sharing, he/she should request an extension of the embargo period from the funder.

The researcher should record sufficient metadata and documentation about research data during the course of the research. Metadata and documentation about research data should provide sufficient contextual information to enable the data to be accessed, understood, interpreted, and reused by future users. The metadata record describing the data, should be made published to enable data discoverability

a) Metadata

When and how do I include metadata?

It is a good practice to begin to document your data at the very beginning of your research

Digital Curation Centre provides examples of disciplinary-specific metadata, which can be viewed here [6].

b) Digital Object Identifier (DOI): https://www.doi.org/

A reference that enables permanent identification and location of digital objects, such as datasets and journal articles. This means a reference to a dataset elsewhere (e.g., in the journal article it supports) is not going to break or become outdated as a web address might do.

Researchers can ask for support when generating a DOI. Please contact SAS-Space.Info@sas.ac.uk

c) Data Access Statement

What should I include in a data access statement?

Examples of data access statements are provided below, but your statement should typically include:

- where the data can be accessed (preferably a data repository)
- a persistent identifier, such as a Digital Object Identifier (DOI) or accession number, or a link to a permanent record for the dataset

To license something with a Creative Commons license, you don't need to file any paperwork - just publish (in print or on the web) your materials along with a notification that you are using a particular -6.6 (i)2.6 0aperw

a) Data Repository:

A place where data may be stored and made available. This includes but is not limited to a University Repository, a discipline specific repository, or a funder repository. A repository is an archive which supports re-use.

The University currently uses SAS-Space: https://sas-12.66.70C /SpTSpaBTcodyMCID 3 >>11d23 /TT01 g

Appendix 1: Funders' policies on Research Data Management Policy Drivers

A funder is an organisation that provides a financial contribution to support a research project.

1. Governmental and other Legislative Policies: a timeline

In 2008, HEFCE defined Research data as the evidence base on which academic researchers build their analytic or other work.

In the G8 Science Ministers' Statement , https://www.gov.uk/government/news/g8-science-ministers-statement , 13 June 2013 , The G8 definition of Open Data states that data should be easily discoverable, accessible, assessable, intelligible, useable, and wherever possible interoperable to specific quality standards, while at the same time respecting concerns in relation to privacy, safety, security and commercial interests. This statement has been endorsed by the UK Research Councils.

> Open enquiry is at the heart of scientific endeavour, and rapid technological change has profound implications for the way that science is both conducted, and its results communicated. It can provide society with the necessary information to solve global challenges. We are committed to openness in scientific research data to speed up the progress of scientific discovery, create innovation, ensure that the results of scientific research are as widely available as practical, enable transparency in science and engage the public in the scientific process. We have decided to support the set of principles for open scientific research data outlined below as a basis for further discussions.
>
> i. To the greatest extent and with the fewest constraints possible publicly funded scientific research data should be open, while at the same time respecting concerns in relation to privacy, safety, security, and commercial interests, whilst acknowledging the legitimate concerns of private partners.
>
> ii. Open scientific research data should be easily discoverable, accessible, assessable, intelligible, useable, and wherever possible interoperable to specific quality standards.
>
> iii. To maximise the value that can be realised from data, the mechanisms for delivering open scientific research data should be efficient and cost effective, and consistent with the potential benefits.
>
> iv. To ensure successful adoption by scientific communities, open scientific research data principles will need to be underpinned by an appropriate policy environment, including recognition of researchers fulfilling these principles, and appropriate digital infrastructure.
>
> We decide to build on the existing work to coordinate and enable international data collaboration

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In 2016, HEFCE with the UK Research Councils, and other UK funders such as Wellcome Trust, as well as Universities UK, established a Joint Concordat on Open Research Data, now supported by UKRI:

https://www.ukri.org/files/legacy/documents/concordatonopenresearchdata-pdf/

> Principle #1- Open access to research data is an enabler of high-quality research, a facilitator of innovation and safeguards good research practice
>
> Principle #2 - There are sound reasons why the openness of research data may need to be restricted but any restrictions must be justified and justifiable.

Principle #7 Data curation is vital to make data useful for others and for long-term preservation of data
Principle #8 Data supporting publications should be accessible by the publication date and should be in a citeable form.
Principle #9 Support for the development of appropriate data skills is recognised as a responsibility for all stakeholders.
Principle #10 Regular reviews of progress towards open reseowch data should be undertaken.

The Data Protection Act 1998 contains eight enforceable principles, applying to anyone processing personal data. The University of London has already approved the Data Protection and Academic Reseowch Policy and its Guidance (see Appendix 1). It complies with the General Data Protection Regulation 2018 and ensures that the provision are balanced against the essence of the right to data protection and making suitable and specific measures to safeguard the rights of the individuals while undertaking reseorch and after the project has ended. Data protection compliance in the management of reseowch data is to be understood in context with the overall University of London data protection policy which covers how the individual rights are protected by following:

- Code of Conduct in Research
- Legal requirements that affect the management of research data, including the protection of privacy and confidentiality of human porticipants and the release of data under Freedom of Information requests.
- Securing storage and transmission of reseowch data and managing authorized access to research data
- Appraisal, selection, and retention of reseorch data
- Retention, exploitation, and licensing of intellectual property rights in reseowch data
- Alignment of approach to reseorch data with research publications
- Ethical considerations
- Governance of all institutional data

Freedom of Information Act 2000 was created to increase the transporency of the public sector and their activities. Under the Act, reseorch data can be requested although copyright and IP rights to the data remain with the original researcher. When a request for information is made, there are normally 20 working days to respond. In the UK, most universities are defined as public authorities and are thus legally obliged to respond to FOI requests. There are, however, some key exemptions to the Act in the UK including:

- Personal data about living individuals cannot be requested unless it is about you.
- Information that is accessible by other means.
- Information intended for future publication.
- Information that is subject to a confidentiality agreement.
- Information whose release would prejudice legitimate commercial interests.
- If the public interest in withholding the information is greater than the public interest disclosing.

2. Research Funding organisation's policies
   - UK Research Innovation (UKRI):

UKRI believes that good research data management practice contributes towards upholding research integrity as noted in the UK Research Integrity Office Code of Practice for Research

Research integrity makes it clear that research data must be managed in a certain way.
Common Principles on Data Policy and Guidance on best practice in the management of research

data (https://www.ukri.org/files/legacy/documents/rcukcommonprinciplesondatapolicy-pdf/)

service providers. Any data created or repurposed during an ESRC-funded project must be offered to the UK Data Service, or their institutional repository within three months of the end of the grant.

It should be noted that UKRI is currently consulting on its proposed open access policy until noon on 17 April 2020. https://www.ukri.org/funding/information-for-award-holders/open-access/open-access-review/ and the policy on Open Research Data may be affected.

- Some other organisations have also developed data management principles/policies such as[1]
  a. DfiD[2] has a clear policy, which aims to increase the uptake and use of findings from research funded by DFID. Principles include:
     i. Data management plan, metadata, deposit of derived data sets in repository within 12 months of final data collection
  b. The Welcome Trust : in addition to the Concordat, as their open access policy[3] is changing from 1st Jan 21
     i. https://wellcome.ac.uk/funding/guidance/good-research-practice-guidelines
     ii. https://wellcome.ac.uk/funding/guidance/data-software-materials-management-and-sharing-policy ; which expects maximum availability of research data, to underpin the research papers, which must be discoverable, with appropriate identifiers. The Trust expects that data will be preserved and shared through a research data archive or repository unless there is a 'compelling reason not to do so'. Where no discipline-specific repository exists, it recommends Dryad and Figshare and institutional research data repositories are also acceptable.
  c. The British Academy does not currently have a formal policy on research data or data sharing. However, it does, for many of the funding streams, have a section on the application form asking for details of 'who and where any electronic or digital data (including datasets) developed during the project will be stored, along with details on the appropriate method of access'. Additionally, they note that 'it is a condition of the award that all data be freely accessible during, and beyond, the lifetime of the award. There is no minimum duration of data retention given. As a condition of the award of a Leverhulme / British Academy Small Grant Award it is expected that the end of grant report provides information on where the digital resources have been deposited, or a waiver statement for data deposit.
  d. The Royal Society [4]: promotes the principle that research data should be 'intelligently open' meaning that they should be discoverable, accessible, intelligible, assessable, and useable. They expect
     i. award holders and their institutions to consider carefully how to manage and share data that is of benefit to the research community. It expects data to be shared in such a way as to maximise public benefit and, where appropriate, without restrictions from copyright, patents, or other methods of control.
     ii. that all users of research data acknowledge the sources of the data and abide by any terms and conditions of access. Most Royal Society funding schemes require an outline Data Management and Sharing Plan to be submitted as part of the application if the research will generate data of significant value to the research community.
     iii. datasets central to the publication of research findings - including computation, curated and observational data, and data generated by

experimental procedures - to be submitted to an appropriate and openly available data repository. It does not specify a minimum retention period.

e. The Leverhulme Trust has currently no dedicated research data