



Research Data Management: Briefing for library directors

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Acknowledgments

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About SCONUL

The Society of College, National and University Libraries (SCONUL) represents all university libraries in the UK and Ireland, irrespective of mission group. It promotes awareness of the role of academic libraries in supporting research excellence and student achievement and employability, and represents their views and interests to governments and regulators. It helps academic libraries collaborate to deliver services efficiently including through shared services, and to share knowledge and best practice. The Academic Content and Communications Strategy Group leads for SCONUL on issues relating to the cost of content, open access and copyright, in addition to research data management.



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It is available to download at <http://www.sconul.ac.uk/page/research-data-management>

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1. About this briefing

1.1 This briefing is designed to:

- signpost SCONUL members to a non-exhaustive range of research data management (RDM) resources including the Digital Curation Centre (DCC) <http://www.dcc.ac.uk/>, which is a primary resource for how-to guides, case studies, training and policy advice
- outline the research data cycle
- summarise the funders' policy context for publicly-funded research in the UK
- outline the contribution that libraries can make to RDM services
- suggest how RDM services might be developed
- identify the knowledge and skills required for RDM roles.

2. Introduction

2.1 “*What would you do if you lost your research data tomorrow?*”

Research Data Management isn't principally about complying with policy - at heart it means helping you to complete your research, share the results, and allow you to get credit for what you have done.”

Professor Kevin Schurer, Pro-Vice Chancellor (Research and Enterprise),
University of Leicester <http://www2.le.ac.uk/services/research-data>

2.2 “*For the researcher the perception of data as an instrument of research and new knowledge can be transformational. Well-managed data lead to higher-quality research, increased visibility and the consequent benefits of enhanced citation rates.*”¹

2.3 The seminal Royal Society Report *Science as an Open Enterprise* advocated open, shared and re-usable data and for the huge potential this has for science and its application in public policy and in business. Research funder requirements and in particular the requirements of the Engineering and Physical Sciences Research Council (EPSRC) are driving the development of research data management services in UK universities, and researchers themselves increasingly need to store, share, retrieve and access data across institutional and indeed international boundaries.

2.4 Research data is a valuable asset and its good management brings benefit to the researcher, to the institution and to the wider community. Good practice in research data management is increasingly recognised as fundamental to excellence in research and to research integrity. Bad practice in research data management can be expensive and sometimes catastrophic. Examples gathered by the *Sound Data Management Training* project at Queen Marys, London, demonstrate this:

https://code.soundsoftware.ac.uk/projects/sodamat/wiki/Evidence_Promoting_Good_Data_Management

2.5 SCONUL strongly supports the principle of managing, sharing and re-using research data. Considerable investment has been made over the past decade in building and developing a robust repository infrastructure, both in the UK and internationally, to support the dissemination of academic research.

¹ Jones, S., Pryor, G. & Whyte, A. (2013). *How to Develop Research Data Management Services - a guide for HEIs*. DCC How-to Guides. Edinburgh: Digital Curation Centre.
<http://www.dcc.ac.uk/resources/how-guides>

3. Research data cycle

3.1 “Research data management concerns the organisation of data, from its entry to the research cycle through to the dissemination and archiving of valuable results. It aims to ensure reliable verification of results, and permits new and innovative research built on existing information.”²

3.2 In simple terms, research data management concerns how you:

Create data and plan for its use

Organise, structure and name data

Keep it, make it secure, provide access, store and back it up

Find information resources

Share with collaborators and more broadly, publish and get cited.



Fig 1: Constituent aspects of RDM³

3.3 Research data can be generated in all disciplines and it may take many forms, for example, interview notes; survey data; lab notebooks and text corpora. Support for the effective management of this data at any point in the cycle may be required and disciplinary differences may drive varying levels of demand, for example in the *keep* (secure storage) element of the cycle.

² Whyte, A., Tedds, J. (2011). *Making the Case for Research Data Management*. DCC Briefing Papers. Edinburgh: Digital Curation Centre, <http://www.dcc.ac.uk/resources/briefing-papers/making-case-rdm>

³ *What would you do if you lost your research data tomorrow?* University of Leicester, http://www2.le.ac.uk/services/research-data/documents/UoLeic_RDMLeflet_201210.pdf

4. Research data policies for publicly-funded research in the UK

4.1 Funder requirements

Funders' requirements for the management of research data vary, may conflict with one another and can be ambiguous. The DCC is a key resource for RDM and the summary of funder policies in Appendix 1 is taken from the DCC website: <http://www.dcc.ac.uk/resources/policy-and-legal/funders-data-policies> Funders update their policies (or aspects thereof) on a regular basis and care should therefore be taken to check currency with specific funders as necessary.

4.2 Data plans

The main funders require data management and/or data sharing plans or statements to be in place even if there is no requirement to submit these with a grant application (e.g. the EPSRC). The exception is the Arts & Humanities Research Council (AHRC) which requires a technical plan if digital outputs and digital technologies are essential elements of the research output.

4.3 Long term data curation

The Biotechnology and Biological Sciences Research Council (BBSRC), the EPSRC and the Wellcome Trust expect secure preservation of research data and appropriate curation for ten years after the completion of a project and in the case of the EPSRC for ten years after the last access date. The Medical Research Council (MRC) requires primary data to be retained in its original form in the generating institution. The AHRC expects grant holders to keep data accessible for three years after the completion of a project. Other funders set out expectations for long term data retention without specific time limits but emphasise that data should be available, accessible and properly curated post project completion.

4.4 Data repositories

The Natural Environment Research Council (NERC) data centres can support long term data curation but other funders expect institutional or subject repositories to be used for the preservation and curation of research data. The UK Data Archive houses the UK's largest collection of digital research data for Social Sciences and Humanities and is a designated Place of Deposit for the National Archive. <http://www.data-archive.ac.uk/home>

4.5 Data management costs

The AHRC, the BBSRC, the Economic and Social Research Council (ESRC) and the Wellcome Trust indicate that costs for research data management may be included in grant applications, while the other main funders indicate in a more general sense that public funds may be used (e.g. from project underspends: Cancer Research UK) or that resources required to meet data plan commitments must be identified in applications (NERC).

5. What can libraries do?

5.1 Be part of the conversation

5.1.1 A robust approach to the management of research data in any HE institution will engage diverse stakeholders in developing policy, strategy and practice:

- the university
- academic departments/faculty/colleges
- researchers
- the research office
- university library
- IT department
- information assurance
- modern records.

5.1.2 In her article, *Starting the conversation: University-wide research data management policy*, Ricky Erway suggests that no one stakeholder will own all the solutions for effective management of research data but any one of these stakeholders may take an “*entrepreneurial role in furthering the mission of the larger enterprise... by initiating the university-wide conversation, the proactive stakeholder can make sure to be at the table and contribute their expertise to the discussion.*”⁴

5.1.3 She suggests key questions for consideration at an institution-wide level including:

- What requirements are posed by others?
- What data should be retained?
- How should the costs of data management be borne?
- How are data accessed?
- How open should data be?

5.1.4 To which may be added:

- What kind of data is your institution generating?
- How do different disciplines understand research data?
- How well developed is this understanding?
- What options are there for long term curation and storage of data?
- What are the requirements for local short-term and local long-term curation and storage of data?
- How can these requirements be met?

⁴Erway, R (2013) *Starting the conversation: University-wide research data management policy* OCLC Online Computer Library Center, Inc. <http://www.educause.edu/ero/article/starting-conversation-university-wide-research-data-management-policy>

- What would constitute a research data management service?

5.1.5 The expertise that the library can bring to the conversation will encompass a range of significant issues:

- researcher training and development
- creation of metadata and an understanding of metadata standards
- managing open access repositories
- open access publishing
- curation and preservation of digital records and objects
- archival and records management
- retention, scheduling and disposal of information resources
- copyright and licencing
- some understanding of discipline-specific research practice.

5.2 Develop a policy

5.2.1 The academic library may take a lead in developing research data management policies and position these in ways that reflect institutional priorities. Examples of different policy styles abound.

5.2.2 The University of Exeter policy places the management of research data firmly in the open access landscape:

“The University recognises that Open Access to both research data and research publications allows greater visibility of research and can stimulate new research opportunities and collaborations.”

https://ore.exeter.ac.uk/repository/bitstream/handle/10036/4280/OA_RDM_Policy_Final.pdf?sequence=4

5.2.3 The University of Hertfordshire places the management of research data as an underpinning element for the University’s strategic development, its essential functions and its academic integrity. Research data is seen as a key and valuable corporate asset that must be managed correctly.

<http://sitem.herts.ac.uk/secreg/upr/IM12.htm>

5.2.4 The University of Manchester places the management of research data within the overarching *University Code of Good Research Conduct* and places it in the realm of public good:

“...a systematic approach to research data management and preservation is fundamental to good research practice. It is also clear that research data acquired using public funding should be treated as a public good and made openly available...”

<http://www.library.manchester.ac.uk/ourservices/research-services/rdm/policy/>

- 5.2.5 Kings College, London, places the management of research data within a compliance framework:

“...research data...is managed and curated to the highest standards throughout its lifecycle, and with due regard to relevant legislation on access and privacy...The policy... reflects and adheres to the principles, practices and recommendations set out in legislation and current policies of relevant agencies...”

http://www.kcl.ac.uk/college/policyzone/assets/files/research/Research_Data_Management_Policy_v12_June_2013.pdf

- 5.2.6 The University of Northampton links effective research data management to good research and places its long term management in the context of modern records management.

<http://www.northampton.ac.uk/research/open-research-at-the-university-of-northampton>

6. Developing research data management services

6.1 Implementing a policy

- 6.1.1 The DCC is a key source of advice and guidance, for example: <http://www.dcc.ac.uk/resources/how-guides>.
- 6.1.2 The DCC also offers biannual Research Data Management Forum workshop events, taking thematic approaches and bringing together a range of practitioners: <http://www.dcc.ac.uk/events/research-data-management-forum-rdmf>
- 6.1.3 The websites of HEIs with developing and/or established services are also an excellent source of information.
- 6.1.4 Having or cultivating a champion at the senior table is critical for the successful development and implementation of policy. Without a champion, progress is likely to be slow. Similarly, a cross-service working group (library, IT, research office) tasked with implementation is likely to be more effective than a single service approach.

6.2 Describe a service

- 6.2.1. Mapping research data management to the research lifecycle can assist in defining the parameters of an RDM service. An example focused on potential library services is given below:

Research lifecycle	What service?	How provided?
Develop initial ideas	Advice and guidance: <ul style="list-style-type: none"> • literature review; signpost to data sources, including data for re-use • identifying related researchers. 	<ul style="list-style-type: none"> • consultancy • 1-2-1 support • online guides/support • training. For example: Dryad is an open repository for journal articles and supporting datasets in the field of evolutionary biology: http://datadryad.org/
Develop a plan to deliver an externally funded project	Advice and guidance: <ul style="list-style-type: none"> • data management plans • long-term resource requirement • ethical/legal compliance • skills for researcher and researcher teams. 	<ul style="list-style-type: none"> • consultancy • 1-2-1 support • online guides/support • training. For example: Resources at Bristol: http://data.bris.ac.uk/research/

Research lifecycle	What service?	How provided?
		<p>A factsheet from Oxford: http://sudamih.oucs.ox.ac.uk/docs/Research%20Data%20Management%20Factsheet.pdf</p> <p>Data management planning tool: https://dmponline.dcc.ac.uk/</p> <p>Data management plan checklist: DCC (2013). <i>Checklist for a Data Management Plan. v.4.0.</i> Edinburgh: Digital Curation Centre. http://www.dcc.ac.uk/resources/data-management-plans</p>
<p>Carry out research project</p>	<p>Guidance and training for:</p> <ul style="list-style-type: none"> • active data management (labelling, versioning) • structuring data • metadata organisation, incremental archiving; logging/data auditing • data management/sharing policies • data analysis tools • data sharing tools. 	<ul style="list-style-type: none"> • consultancy • 1-2-1 support • online guides/support • training <p>For example: Advice from Manchester on metadata: http://www.library.manchester.ac.uk/our-services/research-services/rdm/howtomanageyourdata/metadata/</p> <p>Advice from Exeter on version control: http://as.exeter.ac.uk/library/resources/rdm/organise/versioncontrol/</p>
<p>Secure the evidence for research results and publish (enabling discovery, retrieval and re-use)</p>	<p>Guidance on:</p> <ul style="list-style-type: none"> • deposit requirements • compliance • deposit options • selecting data to archive • DOI writing • data citation • licensing • due diligence • metadata • non-digital data. 	<ul style="list-style-type: none"> • consultancy • 1-2-1 support • online guides/support • training. <p>For example: Advice from Edinburgh on sharing (and not sharing) data: http://www.ed.ac.uk/schools-departments/information-services/research-support/data-management/data-sharing-guide</p> <p>Advice from Salford on archiving data: http://www.salford.ac.uk/research/research-data-management/archiving</p>

Research lifecycle	What service?	How provided?
Post project	Management of: <ul style="list-style-type: none"> institutional repository; on-going curation data archive policy/implementation e.g. review; take-down; assessment of continuing value licensing standards: archival, metadata, technical register of assets. 	<ul style="list-style-type: none"> repository and/or asset register management and maintenance policy, procedures and processes for archive management (e.g. data retention and take-down policies, processes for assessment and review) consultancy 1-2-1 support online guides/support. <p>For example: DCC checklist for appraising data: DCC (2014). <i>Five steps to decide what data to keep: a checklist for appraising research data v.1</i>. Edinburgh: Digital Curation Centre. http://www.dcc.ac.uk/resources/how-guides</p> <p>Online guide to preservation from Glasgow University: http://www.gla.ac.uk/services/datamanagement/lookingafteryourdata/preservation/</p>

6.2.2 In *Mapping life-cycle models to the university - in theory and in practice*, Dr James Wilson (University of Oxford) considered the value of an approach based on the research cycle and concluded that it could be “*useful for defining (the) “vision” of (an) integrated institutional research data management infrastructure*” but that the model can over-simplify and may have “*limited usefulness for structuring researcher support*”.⁵

6.2.3 Identifying all the components of a research data management service illustrates the necessary connections between stakeholders, existing systems and the prevailing research environment and may suggest at an institutional level where lead responsibilities lie for providing and managing RDM services if these are currently unclear, although not necessarily how they may be coordinated.

⁵ Wilson, Dr. J (20 June 2014) *Mapping life-cycle models to the university - in theory and in practice*, (University of Oxford), presentation to Research Data Management Forum 11: Workflows and Lifecycle Models for Data Management <http://www.dcc.ac.uk/events/research-data-management-forum-rdmf/rdmf11>

Fig 2: Components of a Research Data Management service



6.3 Create a road map

6.3.1 There are varied examples of roadmaps (plans or strategies) for RDM which illustrate the range of activities required to achieve effective research data management on a business as usual basis. LIBER (Association of European Research Libraries) proposed a strategy for getting started, *Ten recommendations for Libraries to get started with research data management*, LIBER, 2012: <http://libereurope.eu/wp-content/uploads/The%20research%20data%20group%202012%20v7%20final.pdf>

6.3.2 In December 2013, LERU (League of European Research Universities) produced the *LERU Roadmap for Research Data*.

“The Roadmap provides a guide for research-intensive universities, indeed for any European university, which wants seriously to engage with the potential and challenges of data-driven research.”⁶

6.3.3 It considers issues such as advocacy, benefits and challenges of sharing research, technical infrastructure, costs and skills and sets out a number of

⁶ LERU Research Data Working Group (2013) *LERU Roadmap for Research Data Advice Paper Number 14*, Belgium, League of European Research Libraries http://www.leru.org/files/publications/AP14_LERU_Roadmap_for_Research_data_final.pdf

recomendations for member libraries, for university management and for the EU.

- 6.3.4 Individual universities have published roadmaps setting out agreed institutional approaches, for example:
<http://www.bath.ac.uk/rdso/assets/pdf/University-of-Bath-Roadmap-for-EPSRC.pdf>

6.4 Build a business plan

- 6.4.1 The DCC how-to guide, *How to Develop Research Data Management Services* provides a summary of business plan components:

“Research data management is likely to be a new activity and realistic business plans are likely to be phased and incremental, most usually comprising, two, three or five year periods of activity. Good practice suggests that a successful business plan should articulate clear long term goals linked to institutional strategy and likely levels of investment, supported by achievable but scalable commitments (including scalable data storage solutions) to develop initial provision from which further service can be developed. It should include an analysis of the likely return on investment, most likely to be focused on efficiency in the research process, the impact of research and the opportunities for new research, how some or all of the costs for RDM can be recouped by the institution, sustainability and likely long term costs.”⁷

- 6.4.2 Funding models for RDM services vary and information about the costs involved both to establish and run services is limited. The LERU Roadmap⁸ provides an indication of cost from two research intensive universities but there are as yet no standard costing models available for wider use.

⁷ Jones, S., Pryor, G. & Whyte, A. (2013). *How to Develop Research Data Management Services - a guide for HEIs*. DCC How-to Guides. Edinburgh: Digital Curation Centre.
<http://www.dcc.ac.uk/resources/how-guides/how-develop-rdm-services#sthash.7b3NddQ5.20ootm6W.dpuf>

⁸ LERU Research Data Working Group (2013) LERU Roadmap for Research Data Advice Paper Number 14, Belgium, League of European Research Libraries
http://www.leru.org/files/publications/AP14_LERU_Roadmap_for_Research_data_final.pdf

7. Knowledge, skills and competencies

7.1 Supporting researchers in RDM

7.1.1 The Digital Curation Centre and Research Libraries UK (RLUK) have highlighted the knowledge and skills required of the academic librarian in supporting research data management: <http://www.dcc.ac.uk/training/data-management-courses-and-training/career-profiles>

7.1.2 The DCC/RLUK profile notes:

The librarian requires knowledge of:

- the research cycle and the stages of a research career in order to understand where support might be most needed
- RDM principles, including RDM planning, curation and preservation
- the discipline-specific nature of data
- open access and data sharing.

The librarian is likely to possess relevant skills in:

- advocacy, negotiation and diplomacy to work with researchers and other professional staff
- guidance and training to support researchers in carrying out their responsibilities
- advice and guidance to assist with necessary processes and procedures
- understanding researcher requirements in order to anticipate and provide appropriate support.

New skills are likely to be required in:

- bibliometrics
- compiling data reviews (allied to traditional literature reviews)
- monitoring data re-use, citations and impact.

7.1.3 Staff with experience to PhD level, particularly from data-intensive disciplines, will be valuable assets in the library of the future.

7.1.4 Notwithstanding the recognised need to develop librarians' knowledge, skills and confidence in this field, there is also a recognition that RDM services are likely to recruit from a variety of sources in future, seeking new skill sets that combine knowledge and competence from a range of backgrounds including, libraries, IT services, research, and data management. Recruits may work in multi-disciplinary teams and/or across different service areas as well as across academic disciplines and are likely to need above all, the well-developed soft people skills that enable effective collaboration.

7.2 Skills for digital curation

- 7.2.1 At the 2013 international conference of the Digital Curator Vocational Education Europe (DigCurV) Project, Laura Molloy and Ann Gow, (HATII) University of Glasgow, proposed a Curriculum Framework for digital curation.

“The framework defines separate skills lenses to match the specific needs of distinct audiences within digital curation in the shape of Executives, Managers, and Practitioners”.

<http://www.digcur-education.org/eng/International-Conference>

- 7.2.2. They proposed that practitioners need:

- technical knowledge
- to be task focused
- people skills
- an understanding of the landscape.

- 7.2.3 That managers need:

- all of the above
- project management.

- 7.2.4 That senior managers need:

- a strategic approach
- to understand challenges
- to shape policy
- to make funding and/or resource decisions.

7.3 Current requirements for RDM posts

- 7.3.1 A scan of requirements for recently advertised practitioner roles in the sector suggests a focus on duties and responsibilities that include:

- collaborative strategic planning
- policy development
- project management
- auditing good practice and/or provision of services
- identifying demand for data storage, analysing requirements for RDM services
- developing, managing, maintaining a data repository
- developing procedures and work flows for RDM
- designing, developing and providing researcher training
- providing advice and guidance for researchers

- liaison, networking, communication
- advocacy with researchers, other professional services and key stakeholders
- building communities of practice.

8. Future challenges

- 8.1 Future challenges will emanate from data sharing, publishing and associated copyright, IPR management, data curation and preservation as well as compliance and reporting.
- 8.2 Further challenges will emerge as institutions and professional bodies seek to share vision, resources and expertise in order to meet funder requirements as efficiently as possible and to advocate for open research data.
- 8.3 The SCONUL Shared and Collaborative Services Strategy Group (SCSSG), has identified shared preservation services for research data as a high priority and more critical than delivering shared storage for active data given the progress that has been made in this area, (e.g. the Jisc Data Centre and the JANET Framework agreement for Arkivum). SCSSG has also identified the benefits of a shared service approach to the way in which research data is finally presented to, and can be manipulated by, users, for example through common tools and software. A shared services equivalent of Figshare functionality could be a major asset, with the potential to provide significant savings across the sector.
- 8.4 RLUK have identified collaboration in research data management as an element in the Open Scholarship strand of the RLUK strategy 2014-17⁹, and are seeking to:
 - work with partner organisations to develop collaborative strategies for RDM
 - create a service environment for research data that increases re-use and openness
 - promote a collaborative approach to training in RDM for staff at RLUK member libraries
 - influence stakeholders to recognise the role of research libraries in managing research data.
- 8.5 Jisc, through its co-design programme and in particular through the Research at Risk theme is seeking a shared vision “*which we are developing partly through a roadmap analysis and report with RLUK, SCONUL, UCISA, RUGIT and ARMA.*”¹⁰.

⁹ *Powering Scholarship, RLUK Strategy 2014-17*, <http://www.rluk.ac.uk/wp-content/uploads/2014/02/RLUK-Strategy-2014-online.pdf>

¹⁰ *Jisc Research Data Management blog*, Rachel Bruce, 26.10.14, <http://researchdata.jiscinvolve.org/wp/2014/10/26/research-at-risk-research-data-management-where-are-we-now/>

9 Conclusion

- 9.1 Ensuring the storage and preservation of research data in a way that enables its reuse is critical to an effective RDM service and should be identified as part of the design specification. Libraries' expertise in curation, preservation, metadata and discovery puts us centre-stage in RDM service development within our institutions. Evolving institutional and funder requirements on RDM provide us with an opportunity to work closely with colleagues across academic and support services within our universities.
- 9.2 Funder approaches to RDM are still developing but it seems very likely that these will take on increasing importance over time. Libraries' skills sets in this area will need to develop to keep pace.
- 9.3 While each institution will need to develop an RDM service suitable to its own requirements, many SCONUL members are already deeply involved in planning and delivering their own institutions' approach to research data management and there is much to be learned by sharing information and good practice within our community. Some pointers to good practice are included in this document, but SCONUL would be keen to share information on other approaches being developed.
- 9.3 We have included references to sources of information and expertise within this briefing but again, would be happy to circulate information about others to members, including training opportunities.
- 9.4 Feedback on this briefing would, of course, be welcome. Please send any comments to ann.rossiter@sconul.ac.uk.

Appendix 1 Research data policies for publicly-funded research in the UK

The information in the table below is correct to the best of our knowledge as of January 2015. The table is intended to give a snapshot view of the information an institution will benefit from considering and give a sense of the breadth of variation in the detail of the public funding landscape. For precise, up-to-date information, we advise readers to consult the individual funding bodies.

Funding body	Time limits	Data plan	Access/data sharing	Long term curation	Policy monitoring	Repository	Costs
<p>AHRC The Council's data policy is detailed in the Research Funding Guide (August 2013, v2.5)</p> <p>See more at: http://www.dcc.ac.uk/resources/policy-and-legal/research-funding-policies/ahrc</p>	<p>Archaeology Data Service (ADS) must be consulted within 3 months of project start and offered for deposit within 3 months of completion.</p>	<p>Technical plan required if digital outputs and digital technologies are an essential element of research output.</p>	<p>Significant electronic resources or datasets must be available in an accessible depository for at least three years after the end of the grant.</p>	<p>No specific mandate to preserve except archaeology. Other grant holders are expected to keep data accessible for three years.</p>	<p>No active monitoring.</p>	<p>Institutional or subject repositories as available.</p>	<p>May be possible to budget for in applications.</p>
<p>BBSRC An extensive data sharing policy came into effect in April 2007 and was updated in June 2010.</p> <p>See more at: http://www.dcc.ac.uk/resources/policy-and-legal/research-funding-policies/bbsrc</p>	<p>No later than the release of main findings through publication, or three years as a general guide.</p> <p>Data should be maintained for 10 years after project completion.</p>	<p>Data sharing plan required.</p>	<p>Data sharing encouraged in all research areas where there is strong scientific need and where it is cost effective.</p>	<p>Material should be created in suitably accessible formats using established standards. Data should be kept securely for 10 years after the end of a project through research institutions.</p>	<p>Monitored through final report assessment.</p>	<p>Encourages data sharing where there is a strong scientific need and where it is cost effective.</p>	<p>Where justifiable funding can be requested.</p>

Funding body	Time limits	Data plan	Access/data sharing	Long term curation	Policy monitoring	Repository	Costs
<p>Cancer Research UK In 2007, CRUK released an open access policy, requiring that publications are made freely available via UK PubMed Central. CRUK has issued a data sharing and preservation policy.</p> <p>See more at: http://www.dcc.ac.uk/resources/policy-and-legal/funders-data-policies/cancer-research-uk</p>	<p>No later than acceptance for publication of main paper.</p> <p>Data should be preserved and available to share for a minimum of 5 years following end of research grant.</p>	<p>Data management and sharing plan required.</p>	<p>Data should be made as freely and widely accessible as possible with due regard to IPR and patient privacy and confidentiality.</p>	<p>Data should be properly curated and released with appropriate high quality metadata.</p>	<p>Monitored through grant review process and end of grant report.</p>	<p>Does not prescribe where or how data should be preserved and shared.</p>	<p>May be met from underspend on grant but no additional funds available.</p>
<p>EPSRC The EPSRC mandated open-access publication in 2009.</p> <p>A policy framework on research data was released in May 2011 and a clarification document released in 2014</p> <p>See more at: http://www.dcc.ac.uk/resources/policy-and-legal/research-funding-policies/epsrc</p>	<p>Appropriately structured metadata published online within 12 months of data generation.</p> <p>Data maintained for 10+ years.</p>	<p>Data plans do not need to be submitted in bid but policies and plans must be in place.</p> <p>Research organisations in receipt of funding expected to have a roadmap in place enabling compliance by May 2015.</p>	<p>Research papers must note how and on what terms supporting data may be accessed.</p> <p>Metadata on research data help must be published. Digital research data must be assigned a robust DOI.</p>	<p>Effective curation throughout data lifecycle. Secure preservation for a minimum of 10 years from the end of “privileged access” or from the last date access was requested by a third party.</p>	<p>Monitored on a case by case basis.</p>	<p>Researchers are expected to use institutional or subject repositories.</p>	<p>Research organisations expected to make provision from public research funding received; both direct and indirect funding streams.</p>
<p>ESRC The ESRC has a statement on open access to research outputs.</p>	<p>Data must be available for preparation for re-use and/or archiving within</p>	<p>Statement on data sharing is required and a data management</p>	<p>Data should be made available in a timely and responsible</p>	<p>Award holders are expected to make data available for re-use; ESRC</p>	<p>Compliance will be monitored.</p>	<p>ESRC undertakes post-award RDM and preservation</p>	<p>Costs may be submitted in funding bid and will be reviewed as</p>

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<p>A new research data policy was released in September 2010.</p> <p>See more at: http://www.dcc.ac.uk/resources/policy-and-legal/research-funding-policies/esrc</p>	<p>3 months of the end of the award.</p>	<p>and sharing plan.</p>	<p>manner.</p>	<p>data service providers are responsible for long term access.</p>		<p>via its data service providers. http://ukdata.service.ac.uk</p>	<p>part of the whole decision.</p>
<p>MRC The MRC position statement supports open and unrestricted access to published research.</p> <p>It also has a policy on research data sharing. This policy was revised in September 2011.</p> <p>See more at: http://www.dcc.ac.uk/resources/policy-and-legal/research-funding-policies/mrc</p>	<p>Data must be available in a timely and responsible manner.</p> <p>Data must be securely maintained for a minimum of 10 years after completion of research.</p>	<p>Data management plan required.</p>	<p>Data support service is in development to facilitate access and sharing.</p>	<p>Data must be properly curated throughout its lifecycle and released with appropriate, high quality metadata.</p> <p>Primary data must be retained in original form within the establishment that generated them for a minimum of 10 years.</p>	<p>No statement.</p>	<p>The principal investigator and the HE institution are responsible for long term access and preservation.</p>	<p>No statement that costs will be met.</p>
<p>NERC NERC has a position statement on access to published research.</p> <p>A new data policy was released in January 2011 and guidelines for outline and full DMPs were issued in September 2012.</p>	<p>Data should be offered for deposit as soon after the end of data collection as possible.</p> <p>An embargo period is</p>	<p>Single page outline data management plan is mandatory.</p>	<p>Published research papers state how supporting data can be accessed.</p>	<p>A data centre infrastructure is in place; NERC will identify data of long term value and this informs acceptance</p>	<p>Award payments may be withheld if policy requirements are not met.</p>	<p>NERC data centres support long-term curation of data. http://www.nerc.ac.uk/research/sites/data/</p>	<p>Funding applications must identify all resources needed to implement data plan.</p>

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See more at: http://www.dcc.ac.uk/resources/policy-and-legal/research-funding-policies/nerc	allowed; normally a maximum of 2 years.			and disposal decisions.			
<p>STFC A statement on access to published research outputs is available within STFC's Research Grants Handbook. http://www.stfc.ac.uk/rgh/rghDisplay2.aspx?m=s&s=64</p> <p>A scientific data policy was released by STFC in September 2011. https://www.stfc.ac.uk/Resources/pdf/STFC_Scientific_Data_Policy.pdf</p> <p>See more at: http://www.dcc.ac.uk/resources/policy-and-legal/research-funding-policies/stfc</p>	<p>"Published" data should be made available within 6 months of the relevant publication.</p> <p>Data resulting from publicly funded research should be available after a limited period.</p> <p>Original data should be retained for the longest possible period and at least for 10 years after the end of the project.</p> <p>For data that by their nature cannot be re-measured e.g. earth observations, effort should be made to retain them in perpetuity.</p>	Data plans expected.	<p>Data resulting from publicly funded research should be publicly available to everyone after a limited period.</p> <p>There may be a requirement for registration to enable tracking of data use and to provide notification of Ts and Cs as applicable.</p>	STFC expects data to be managed through institutional or subject repositories.	Compliance monitoring arrangements are not specified.	There are a number of data centres, services and portals in place e.g. UK Solar System Data Centre.	Public funds may be used.

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<p>Wellcome Trust The Trust has a statement on open access of research outputs. http://www.wellcome.ac.uk/About-us/Policy/Policy-and-position-statements/WTD002766.htm</p> <p>A data management and sharing policy http://www.wellcome.ac.uk/About-us/Policy/Policy-and-position-statements/WTX035043.htm and very thorough Q&A on how to comply with its data policy is also provided.</p> <p>See more at: http://www.dcc.ac.uk/resources/policy-and-legal/research-funding-policies/wellcome-trust</p>	<p>Relevant data should be available on publication of research.</p> <p>Research institutions must securely maintain data for a minimum of 10 years.</p>	<p>Data management and sharing plan is required if datasets to be generated are likely to have potential for re-use and/or long term value.</p>	<p>Researchers are to maximise the availability of data.</p>	<p>Minimum of 10 years.</p> <p>Institutions are expected to have guidelines for storage and disposal of data.</p>	<p>Awardees must report on their approach to disseminating their research in the end of grant report.</p>	<p>The Trust supports the key databases such as EMBL. Where there is no provision, the institution in which the funded researchers are based is responsible.</p>	<p>Cost may be included in funding bids</p>



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