MRC Data Management Plans

GUIDANCE FOR REVIEWERS IN ASSESSING A DATA MANAGEMENT PLAN

16/07/2014

This guidance is for

- Referees reviewing grant and fellowship proposals for MRC funding, and quinquennial review (QQR) reports and plans of MRC Institutes and Units
- MRC Research Boards and Panels.

The purpose of this Guidance

This Guidance accompanies that for applicants preparing a Data Management Plan as part of a grant, fellowship or institute/unit programme proposal. It aims to orientate referees, Board and Panels and other reviewers to what is required, and to indicate the level of detail expected of applicants.

Policy and guidance

In considering a Data Management Plan, a reviewer needs to be familiar with the following policy and guidance.

1. MRC’s overarching policy aim for data-sharing is to maximise the life-time value of research data for human health and to do so timely, responsibly, with as few restrictions as possible, and in a way consistent with the law, regulation and recognised good practice. Full details are set out at http://www.mrc.ac.uk/research/research-policy-ethics/data-sharing/policy/
2. MRC has formulated a set of data sharing requirements for population and patient studies, with additional details on expectations and prevailing good practice. Full details are available at http://www.mrc.ac.uk/research/research-policy-ethics/data-sharing/population-patient-studies/

The purpose of a Data Management Plan

1. To stimulate applicants to plan data management well in advance of significant data collection and to consider the whole study and data lifecycle, from study planning to study closure, from data generation to sharing and preservation.
2. To encourage applicants to develop and implement good data management policies, systems and procedures as part of high quality research.
3. To promote efficient collaborative research and other forms of data sharing beyond the primary research.
4. To encourage applicants to identify specific factors that may promote or limit data sharing and to propose solutions to significant challenges.
5. To enable MRC Boards / Panels to recognise excellence in data management.
6. To promote transparency about applicants’ plans for enabling access to data and for data-sharing, and to recognise their 'sharing achievements' with previous MRC funding.
7. To encourage applicants to identify and justify significant data management and sharing costs.
8. To enable peer reviewers to assess general compliance with MRC policy.

Practical principles
Detailed information on what is required of a DMP is available in the guidance for applicants: [http://www.mrc.ac.uk/research/research-policy-ethics/data-sharing/data-management-plans/](http://www.mrc.ac.uk/research/research-policy-ethics/data-sharing/data-management-plans/)

The length and details of a plan should be proportional to the scale, type and complexity of the research data and their anticipated long-term value. Most need be no longer than a quarter of a page.

1. Whatever the length, plans should be concise, focus on key principles and be precise, e.g. about formal standards they (will) use.
2. Plans must be precise about the standards for managing personal information.
3. Plans need to be concise and precise about their study policy on access to data (including who makes access decisions and on what criteria).
4. Plans should be realistic and honest. For instance, for a study with a large legacy of data, adopting new standards may require considerable time. If data are or will not be suitable for sharing, the plan should explain the constraints.
5. Plans should be assessed in relation to prevailing standards, recognising that good practice may differ between fields.

**The role of the reviewer**

A Data Management Plan is reviewed alongside the Case for Support of the corresponding research grant or fellowship proposal. For Institute/units, the plan is part of the report submitted for the Quinquennial Review.

The role of the reviewer is to provide an opinion, as best they can, on whether:

1. Appropriate and realistic consideration has been given to MRC’s data management requirements
2. That significant opportunities for high-value sharing of data are being realised – through appropriate study policies, capabilities and funding
3. Resources for data management and data sharing are well justified and can be supported.

**Referees** are asked to provide concise comments on the quality of data management. They need go into detail only where they wish to highlight excellent practice, have concerns or have feedback for the applicant. In scoring a research proposal, the referee should integrate the quality of data management with the all the other attributes that determine the overall quality of the proposal.

**A Research Board / Fellowship Panel** will consider referees’ comments on quality of data management, which will form an integrated component of the Board’s / Panel’s assessment of the funding proposal. They may highlight excellent practice, identify concerns and suggest feedback.

**Quinquennial review subcommittees** will have the opportunity to discuss data management, data sharing etc. with Unit/Institute Directors.

Below are given suggestions for each of the points included in a data management plan that can help reviewers to evaluate whether the plan is fit for purpose.

**What the reviewer can expect in a Data Management Plan**

Information about the research and the rationale for collecting new data should be made in the main part of the Case for Support, with minimal if any duplication here in the Data Management Plan.

0. Proposal name

1. Description of the data
   1.1 Type of study
   1.2 Types of data
   1.3 Format and scale of data
   This section is descriptive, providing essential context for the plan.

2. Data collection / generation
   2.1 Methodologies for data collection / generation
   2.2 Data quality and standards
   Reviewers may consider whether the applicants have a sound approach to the following:
   - either in the Case for Support or here in the Plan that new data collection is justified, and that existing sources of data have been considered and evaluated
   - how data will be collected and which standards may be used
   - whether data are required to be quality assured and, if so, according to which standards
   - how data generation quality and processes will be documented.

3. Data management, documentation and curation
   3.1 Managing, storing and curating data.
   Reviewers may consider whether the applicants have a sound approach to the following:
   - data storage and back-up procedures described are fit for purpose, e.g. considering procedures for all institutions involved in research, considering multiple media and multiple copies for back-up
   Reviewers may expect a reference (e.g. URL) to the following, but not long detail:
   - institutional storage and back-up policies
   - evidence that proposed measures reflect existing best practices
   3.2 Metadata standards and data documentation
   Reviewers consider whether the applicants have a sound approach to the following:
   - whether data generation methods will be captured or described in digital format
   - how provenance of data and coding will be tracked and documented
   - metadata standards used to describe the data
   - how variables, records, codes,.. will be described
   3.3 Data preservation strategy and standards
   Reviewers may consider whether the applicants have a sound approach to the following:
   - selecting data for long-term storage, preservation and retention

4. Data security and confidentiality of potentially disclosive personal information
   This section applies if research data include personal data relating to human participants in research.
   4.1 Formal information/data security standards
   4.2 Main risks to data security
   Reviewers must consider whether the applicants have a sound approach to:
   - how personal, confidential or sensitive data are collected
- risk identification and management, in line with the Data Protection Act, e.g. by encrypting data, anonymising data, controlling access to data, care when transferring data.

5. Data sharing and access

Applicants are encouraged to identify data repository (ies) that are, or will be, entrusted with storing, curating and/or sharing data, where they exist for particular disciplinary domains or data types.

5.1 Suitability for sharing

5.2 Discovery by potential users of the research data

Reviewers may consider whether the applicants have a sound approach to the following:

- a study website publicising the data and explaining the data sharing policy for the study
- study plans to submit a study record and variables to the MRC Research Data gateway (or to other relevant community databases or catalogues).

5.3 Governance of access

For population and patient cohorts, omics data bases, databanks and other studies with custodianship of data ‘assets’ with significant potential for sharing, reviewers should consider whether the applicants have a sound approach to the following:

- How data access will be governed – by whom and by what criteria
- An appropriate and proportionate degree of independent oversight – by whom and how
- Deposit of the research data to a suitable community database, repository, archive or other infrastructure, where appropriate.

5.4 The study team’s exclusive use of the data

Reviewers should consider whether the applicants have proposed:

- a reasonable timescale for data sharing consistent with the nature of the research, the length of study (or the funding), and nature of the data and MRC’s expectation that data will be shared in a timely fashion without unnecessary restrictions.

5.5 Justifiable restrictions or delays to sharing, with planned actions to limit such restrictions

Reviewers should consider whether:

- barriers to data sharing data been appropriately identified (data confidentiality, restrictive consent agreements, IPR)
- strategies have been proposed for dealing with these issues, for example by discussing data sharing and re-use with participants and gaining specific consent from participants to share research data; use agreements that allow for data sharing; by anonymising data to remove personal and disclosive information; by regulating access to data

5.6 Regulation of responsibilities of users

6. Responsibilities

Reviewers may consider whether the applicants have a sound approach to the following:

- allocating senior data management responsibilities to named individuals
- identifying key data management tasks and providing for the necessary skills
- for inter-institutional collaborations, responsibilities have been allocated appropriately.
- a study or data lifecycle approach to data management

7. Relevant institutional, departmental or study policies on data sharing and data security

8. Author of this Data Management Plan (Name) and, if different to that of the Principal Investigator, their telephone & email contact details.