Annexes

EAGDA requested evidence on the way that funders and their committees assess data sharing and management plans practice, to ascertain:

- what different models are used across funders and scientific disciplines;
- if there are clear characteristics or metrics for data management plans that could form the basis of a best practice checklist;
- if EAGDA should provide advice to funders on what should be taken into account in practice with regard to data sharing and management plans in funding decisions.

A set of template questions was devised with input from EAGDA members and sent to all EAGDA funder representatives. Responses were solicited both from members of funding committees either by email or phone, and internally from grant handlers or funding divisions. The responses were then collated and key themes extracted. Data were received from CRUK, ESRC, MRC and Wellcome.

The following annexes contain details of the findings from this exercise, all of which have been invaluable in informing the EAGDA recommendations.

Annex 1: Summary of findings: Current practice in assessing data sharing and management plans for CRUK, ESRC, MRC and Wellcome

Annex 2: Emerging feedback: Suggestions and examples of good practice

Annex 3: Template questions on data sharing for committees and grant handlers

Annex 4: Detailed responses from individual funders

Annex 5: Template for Data Sharing and Management Plans: Cancer Research UK & MRC

Annex 1: Summary of Findings: Current practice in assessing data sharing and management plans for CRUK, ESRC, MRC and Wellcome

Current policies and processes

This section summarises what funders indicate they expect from their applicants with regard to producing a data sharing and management plan (DMP). Templates from CRUK and MRC and funding committee guidance from MRC can be found in Annex 3 and Annex 4.

- All funders expect researchers to make data available as far as possible. All require grant applicants to submit a data sharing and management plan in some, if not all, circumstances but there is significant variation:
  - CRUK, ESRC and MRC require all applications generating data to include a plan;
  - Wellcome requires all grants to make data available as far as possible, but only requires data plans to be submitted for applications generating data likely to hold significant value as a resource.

- In most cases the plan takes the form of a free text box, except for the MRC and the CRUK Population Research Committee, which both provide a template (see Annex 4). Wellcome, ESRC and MRC provide guidance for writing a plan.

- The plan is checked to varying degrees by different people throughout the application process – there sometimes appears to be uncertainty about who is ultimately responsible for checking plans, and whether this is the role of the grant handlers, peer reviewers or the funding committees.
  - MRC provide guidance for reviewers on assessing plans (see Annex 5).
  - Wellcome indicated that grant advisors are unlikely to have the experience and expertise to a) determine whether or not applications should have a data plan and b) assess a plan’s quality.

- Applicants’ data sharing track records are generally not checked and adherence to plans is not followed up, with some exceptions:
  - The ESRC business and management/economics committee can impose sanctions or withhold funding if data is not deposited in UKDS within 3 months.
  - The ESRC psychology (1) committee looks at data sharing in the final grant report.

- CRUK has recently adopted the approach of follow up on data plans pre-award, once funding has been approved, for their population health studies. A personal approach to PIs is made, enquiring as to: what type of data will be generated; potential restrictions on access; where it will be stored; what metadata will be added; how the PI plans to make data discoverable; and what access governance and decision-making process will be put in place.

Current practice: views of funding committee members

This section summarises the views of funding committee members about how DMPs are currently considered and taken into account in practice.
• There are slight differences in approach between the funders, but not significantly more than those within the respective organisations.

• Crudely plotted below are the responses from committee members to the question: “How integral is an applicant’s data sharing plan to their assessment of the funding application?”, where the options given were:
  a) It is considered an integral part of the application.
  b) It is considered as a separate issue from the main application.
  c) It is not considered by the committee.

![Figure 1: Responses from committee members choosing each answer to Q. 2. NB MRC did not survey committee members.](image)

The fact that it was hard to categorise responses indicates that for most respondents, there was not a clear policy or process in place (to their knowledge) for taking data plans into account.

Most respondents indicated that data sharing was important but a subordinate issue to the quality of the science (more or less answer (b)), which it was their primary role to assess.

There were almost no consequences described for those who submit poor quality data plans. Only one respondent could think of an example in which an otherwise strong application was rejected on the basis of a poor plan (in the field of bioinformatics).

There were some trends within each funder:
  o ESRC committees give more weight to data sharing plans, and are more likely to see data sharing as integral to scientific merit.
  o CRUK committees place a little less weight on the plans and are more likely to see them as a box-ticking exercise.
  o Wellcome committee members generally saw data sharing as something to consider, but had not previously given much thought as to how plans should be taken into account.
  o MRC thought that most committee members saw the value of data sharing plans, but this was subordinate to the quality of the science being assessed.
• There was substantial variation within organisations themselves. Members on the same committee could hold inconsistent attitudes to data sharing – one CRUK science committee member said that data sharing wasn’t really discussed while the other said it was considered to be “crucial”.
• There were some diverging views (not aligned to organisations) regarding the general culture surrounding data sharing – some seemed confident that “good” scientists could be trusted to share their data effectively, while others warned that researchers would do the absolute minimum to comply with whatever regulations or policies were imposed.

Emerging themes across funders

This section outlines themes that emerged from the stakeholder interviews, categorised according to whether they address the principle behind requiring data plans, the challenges in practice, or the metrics and criteria by which they could be assessed at the implementation stage.

Assessing data plans in principle

• The value of promoting data sharing is still in question. Most respondents were keen to support data sharing in principle. However, some expressed reservations about the fairness of researchers being able to “piggyback” on the work of others, raising concerns about exploitation and lack of due credit to data producers. This indicates that not all committees are fully supportive of funders’ efforts to promote data sharing by their research communities.

• The value of committees considering data plans is questionable. A predominant theme across funders and disciplines was that the case for taking data plans into account when assessing applications had not been universally made. Several respondents pushed back against the funders pursuing these questions, arguing that their role was to assess the quality of the science and not to take myriad other factors such as data sharing into account. In contrast, the CRUK Population Research Committee now consider that good data sharing and management is part of good science, not distinct from it.

• Different types of research create data with different potential value for reuse, and thus require different levels of data sharing and management. Across the board there was recognition that data sharing needs to be proportionate, as blanket approaches “would not be beneficial and [would be] unmanageable” (MRC respondent). For example, basic research might only need a paper published with underlying data available in order to fulfil reasonable expectations, while genomics research would require a much more sophisticated data plan in order to be acceptable. There can also be differences in what is appropriate even within the same discipline: in neuroscience, behavioural data does not hold much value for reuse but electrophysiology data holds a lot of potential for data mining and asking novel questions.
• International research organisations may be less familiar with data sharing policy and procedures than those within the UK, or may have different legislation or regulation that places restrictions on data or sample sharing. This has implications for what would be a reasonable expectation for data plans for any international or cross-border projects or consortia.

• Institutions may vary considerably in their support for data management. This makes it difficult in principle to determine where the responsibility for data management should lie in each case and therefore the extent to which a PI can be held responsible for making their data available and accessible. It may be beyond the scope of committees to take into account the institutional infrastructure and arrangements in order to weigh up the quality of a data plan.

Assessing data plans in practice

• There is a lack of clarity about how data sharing policies should be implemented. Responses reflected a lack of clear, consistent process and/or principles by which to assess data plans. Respondents from various organisations appeared to be unsure about whether they should be looking at the quality of data plans and if so, exactly how to balance quality of data sharing plans with other factors – specifically, how would one go about assessing a very strong proposal that has a poor plan? Should plans be competitively assessed against one another or meet a certain threshold of acceptability? The MRC has guidance for reviewers (See Annex 5) but it has not been possible in this report to assess whether this guidance is used in practice or how effective it is.

• It is not clear what good data management would cost. Applicants can ask for data plan costs to be covered but there is no established guidance on what can be taken into account for these costs nor how much time, resource and institutional support is required to implement the plan. This makes it difficult to assess whether proposed costs are reasonable and appropriate to the study being proposed.

• There is a lack of clarity about what is appropriate for the timing of data release. Funders do generally have stated policies on this, but the information doesn’t always filter down effectively to committee members. Timing is particularly a concern in the context of intellectual property and research with a commercial interest. IP issues should not negate the need for a plan for sharing data post-competitively.

• There is often a lack of expertise in data sharing among those assessing applications. Committee members may not be aware of established infrastructures and repositories for curating and managing access to data beyond their own specific field, nor what best practice would look like in each case. Committees and grant handlers may also not have expertise in IP to assess whether and when data should be shared post-competitively. The lack of specific data expertise may also make it difficult to identify and support well planned new approaches to data management: plans are only really discussed if they are poor, but not if they are particularly good or innovative. Peer review was not spontaneously mentioned as a means to address these issues of expertise.
• **Plans submitted by applicants are often generic/formulaic/standard.** The CRUK population research committee indicated that providing a template has helped improve the quality of plans. However, when applicants have a template, such as with MRC funding, some submit a formulaic ‘copy and pasted’ plan. This may defeat the purpose of the plan as a tool to encourage researchers to seriously think about data sharing and management at the outset of their research.

**Metrics and criteria**

• **Applicants’ data sharing track records are not currently checked.** Respondents had very little idea how this could be done in practice. There are currently no fair metrics to allow comparison between track records. For example, the number of collaborations created off the back of shared data can be more meaningful than the number of data downloads. Also, early career researchers will have had little or no control over their history of data sharing if this was dictated by their PI.

• **There is no ongoing monitoring of adherence to stated data plans.** Applicants therefore have little incentive to implement their plans if their time and resource could be otherwise spent on pursuing their scientific objectives. An ESRC committee member commented that there is currently too much focus placed on strengthening weak plans and not enough on following up on strong ones. CRUK indicated that they are beginning to push for applicants to strengthen their data plans once a funding application has been approved but before the award is officially made. This has the effect of incentivising grantees to think seriously about their data management before their award starts.
Annex 2: Emerging feedback: Suggestions and examples of good practice

Several interviewees proposed solutions for funders to consider and models of best practice that could serve as exemplars. They are captured here to provide additional context to EAGDA’s recommendations.

Guidance for reviewers and committee members

- Funders could provide guidance and support for committees to take data sharing plans into account more consistently. Respondents from all organisations felt they needed to be “told what to do”/“nudged”/“given a firmer steer” in order for appropriate assessment of data sharing plans to become routine.
- Funders should avoid taking a blanket approach to data sharing. There are diverging views on the extent to which funders should be prescriptive in what they want their committees to focus on.
  - Several respondents argued that funders should think more about scientific outputs and whether sharing is always appropriate before deciding to push committees to think more about data plans. Additionally, one respondent cautioned against introducing additional bureaucracy that distracts from the scientific questions applicants are pursuing.
  - On the other hand, the CRUK Population Health Committee considers that data sharing is integral to good science and that therefore consideration of how data will be managed is central to assessment of the scientific quality of a proposal.

Embedding expertise

- A data specialist could be included on the panel, but there was also concern that they may not have the expertise to cover all types of data.
- Another suggested model was to include a less formal “data advocate”, analogous to a patient representative, for funding decisions.
- A specialist review could be undertaken for data sharing plans, although this would be an added burden. Wellcome suggested this be done only for applications where the data generated would be particularly valuable.
  - The counterpoint to this is that it separates data planning out even further from the quality of the science, when it could alternatively be considered as an integral part of the broader application.
- More training for committee members on data sharing is needed: an ESRC committee member suggested a short video might be a good way to do this.
- Costs may be difficult to estimate, but projects such as the EU-funded project “Collaboration to Clarify the Costs of Curation”\(^1\) developed tools for analysis that funders could use in-house and/or direct applicants to.

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1. [http://www.4cproject.eu/](http://www.4cproject.eu/)
Support for researchers

- There need to be more incentives for good practice. These incentives should target the right behaviours, i.e., making data available for access, rather than the right outputs, i.e., publications resulting from data access. The data producers’ responsibility is to make the data discoverable, accessible and useable for others as far as possible.
- Grant advisers or other specialist groups within organisations could assist applicants in developing a data plan.
- Adequate funding should be provided to cover costs associated with data sharing.
  - This does already appear to be the stated policy, but there is no guidance about how much data management and governance should cost.
- There could be an ombudsman or helpdesk facility for researchers who have unsuccessfully attempted to access data.
- A funder-backed repository could keep data safe and withhold access for a certain amount of time, where there are considerations around commercial interest.
- One example of good practice was cited: the Karma study in Sweden, which created a world-leading breast cancer cohort. It was supported by the Swedish Research Council to provide a platform for discovering cohort data with different levels of data access permissions.

Categorisation to achieve a nuanced approach

- A CRUK population research committee member suggested having applicants choose between 5 levels of data sharing, where 0 would mean no sharing at all and 4 would mean all data is made available on the internet.
- Wellcome suggested that applications could be categorised according to how valuable the data generated is likely to be for secondary use, and subsequently assessed in a level of detail relevant to the category.
  - Wellcome recently conducted a pilot study in which applications were assigned to one of three categories, and there was close agreement between the two reviewers. This work has not yet been followed up.

Checking track record and monitoring implementation

- Funders should be checking data sharing practice, as Wellcome are successfully doing with open access compliance.
- An ESRC committee member gave the example of the AHRC history data service in the 2000s, where applicants’ track record was introduced at panel meetings by a specialist observer.
- A data sharing track record section could be added to application forms. This should focus on researchers making their data available, not on outputs.
- Standard reporting such as ‘ResearchFish’ could be used to monitor the implementation of data sharing plans.
  - CRUK’s Scientific Milestone Reports have the potential to be used for this type of monitoring, and their population research committee is currently developing metrics to evaluate progress using these.
- Systems to capture and acknowledge different kinds of contribution in research, such as data sharing, would enable track records to be checked and would incentivise researchers to think more about data and other output sharing.
• Check on adherence during funding renewals? Or annual reporting, can ask about ds.

Ensuring reciprocity from data users
• To combat the perception that data users may ‘piggyback’ or ‘parasitise’ on others’ data, data plans could include a provision about returning derived or cleaned data to enhance the resource and thus provide a reciprocal benefit to the data producers.
• One cited example of good practice was Biobank’s policy that researchers who use the data shared must make any new data generated available under the same terms. This could be part of the conditions of access, perhaps requiring that new data is made available for other researchers in the same infrastructure/resource as the original data.

Broader context
• Pushing for better data plans will be counterproductive if there is not the necessary infrastructure on place to support it and to make data easily useable and discoverable by those who want to access it. If this infrastructure, whether institutional or subject-based, is established and widely known about, applicants would have no excuse for not having a clear plan in place.
Annex 3: Template questions on data sharing for committees and grant handlers

Template for funding committee questions on data sharing

1. Is data sharing considered important by the committee(s) you sit on? Why/why not? If there are diverse views across the panel please give a sense of what the range is.

2. Is an applicant’s plans for data sharing:
   a. considered as an integral part of the committee’s discussion about the quality of science in the application (i.e. a poor plan would negatively impact on the overall assessment);
   b. considered as a separate issue from the main application (i.e. a poor plan would not preclude the success of an application, but e.g., the committee might recommend that a better plan be provided before funds could be released);
   c. not considered by the committee itself (i.e. it is not the committee’s role to take data plans into account).

Or, is another approach taken to evaluating data management plans?

3. Is the quality of data management plans submitted generally adequate to allow the committee to properly scrutinise them?

4. To what extent do peer reviewers offer advice to committees on assessing data management plans?

5. Does the committee have any role in checking an applicant’s track record in making their data available?

6. Is there anything you’d like to see done differently about the way your committee(s) approach data sharing?

EAGDA: Template for grant manager questions on data sharing

1. Is data sharing considered important by your grant managers? (i.e. those assisting applicants with their applications, and those managing the grant once awarded).

2. Where in the funding process is the quality of data management plans assessed (if at all)? E.g., initial discussions with grant managers; peer review; funding committee/panel; post-award pre-funding discussions; or through the management of the award once funding is released?

3. Do you require applicants to use a template for data management plans or are they free text? (if a template it would be helpful to collect examples of these)

4. What is the quality of data management plans submitted? Would you request an applicant to resubmit if you did not feel that their plans were adequate?

5. How do peer reviewers and committees in different fields vary in their treatment of data management plans? If there is a range of views, please indicate what these are (as far as you know).

6. Do you monitor the implementation of data management plans?

7. Is there anything you’d like to see done differently about the way the funding process handles data sharing?
Annex 4: Detailed responses from individual funders

Cancer Research UK current practice in data sharing

Data sharing policy & guidelines

- Data sharing policy in place since 2009
- CRUK recognises that data sharing strategies will vary according to the type of data collected and thus do not specify the exact content and format of the data sharing plan.
- Grant holders are obliged to keep Cancer Research Technology informed of all developments where there might be a potential for commercial interest, and in particular prior to any data sharing.
- It is recognised that it may be necessary to delay data sharing and modify any data sharing plan to ensure that patient benefit can be maximised.
- The latest point at which data should be shared is:
  - Acceptance for publication of the results upon which the data is based, when no third party agreements restrict sharing.
  - After all relevant patents are filed or a decision is made not to file a patent.
- Applicants may include proportionate, relevant data management and sharing activities as a running cost within applications.

Responses to questionnaire

Science Committee

**Funder**

- DS important, but **no mechanism to check adherence**.
- Plan takes free text form.
- Assessment takes place:
  - Admin content check
  - Peer review & expert review panel (ERP) provide comments
  - Science committee may comment
- For programmes submitted for renewal – ERP and committee generally aware if data previously made available as promised, and may consider this information in scoring previous work.
- Level of detail in plans depends on research area:
  - e.g. plans for basic research will be generic (“we will publish a paper”) compared with plans for, say, genomics-based research.
- Office may suggest alterations or ask for more detail but not aware of examples where studies had to resubmit on basis of their DS plan.
- “**Committee members trust the expertise and comments from the ERPs**” – if the ERP has concerns they will flag it to the committee.

**Committee member 1**

- DS not really discussed – **quality of the science is the priority**.
- Expect generic plan but not assessed.
- Don’t know how committee would check track record.
- **Need mechanisms for sharing:**
  - e.g. image repository for clinical radiological images.

**Committee member 2**

- DS considered “crucial”. [N.B. different response to other committee member]
• Grants not been turned down because of poor plan, but amendments have been requested.
• Would welcome more specificity on where data will be made available.
• Committee don’t feel it’s their role to check track record, but should be stressed as something to check.

Clinical Research Committee

Funder

• DS important but doesn’t factor into discussions significantly.
• Plan takes free text form.
• Assessment of plans could “in theory” take place at any stage, but opportunities not always seized upon.
• There might be ways to “nudge” the committee into greater considerations of DS:
  o Patient representatives on panels has meant greater discussion on consumer involvement in clinical trials. Could think about analogous “data advocates”?
• Plans are rarely specific or in-depth – usually just reiterating their institution’s data sharing policy – but this is not necessarily a problem.
• Don’t have a framework to determine adequacy of a plan.
• Peer reviewers and committee members do not comment on DS.
• Scientific Milestone Reports (SMR) ask about related issues (e.g. publication, sample collection, requests to access samples) – in theory could be an opportunity to raise issues on DS and provide feedback.

Committee member 1

• DS not formally discussed, not been asked to by CRUK. However, willingness to share data is seen as important commitment.
• DS plan is necessary, but science is the main focus – “how one would balance an excellent proposal with an inadequate data sharing approach is not clear”.
• Plans tend to be vague, clear framework from CRUK would help.
• Peer reviewers rarely comment.
• Sometimes knowledge of poor previous DS sharing brought up, but this is not systematic – CRUK not always able to supply this information.
• Clear guidance is needed:
  o For clinical trial data, does CRUK want all data uploaded to https://clinicalstudydatarequest.com or another academic data sharing platform?
  o At what point is data expected to be shared?
  o What is expected in terms of data sharing for translational research?

Committee member 2

• DS not a major consideration.
• “It is taken for granted that general academic good practice will be followed.”
• Committee decisions based primarily on CRUKs strategic objectives – DS not a major part of this. Detailed plans only brought in recently, so too early to say.
• Peer reviewers do not comment on DS plans.
• Committee does not check track record.
• Have a duty to ensure appropriate infrastructure is in place for data reuse.
• CRUK could offer an ombudsman facility for researchers who have attempted unsuccessfully to access data from a CRUK funded study.

Committee member 3

• DS is important to consider.
• Consideration of plan depends on nature of the study.
• Little advice from peer reviewers.
• “Ideally” committee would have a role in checking track record but currently practically difficult to implement.

Population Research Committee

Funder
• DS is important, template is now provided for applicants and give advice to fill it out.
• Quality assessed primarily in committee meeting, can theoretically be checked at other points.
• Could in theory request resubmission on the basis of the plan, but this has not happened yet.
• Peer reviewers/committee members who are epidemiologists and statisticians more likely to pick up on DS issues than behavioural scientists.
• Committee is currently developing metrics to evaluate progress in Scientific Milestone reports.
• A more systematic approach is needed.
• “Ideally data sharing may come to be considered as seriously as, say, succession planning and training of junior researchers in the context of programme grants.”

Committee member 1
• DS “absolutely” considered important.
• As DS becoming more important, applicants spend more time on their plans.
• Structured template might have improved things, free text plans didn’t provide much information.
• Reviewers seldom comment on DS plans, main focus is science.
• “Sketchy” track records sometimes discussed, but not specifically DS.
• “Scientists do sometimes do what we’re told! And so if CRUK emphasises that data sharing is extremely important, that CRUK wants its money to be spent in the best possible way and resources to be shared within the research community, then committees would put more emphasis on it.”
• Important to learn from examples of best practice:
  o e.g. Karma study in Sweden – provides platform for discovering the cohort data (of women being screened for breast cancer) with different levels of data access permissions.

Committee member 2
• Plans usually only discussed or commented on by reviewers when inadequate.
• Committee doesn’t have formal role in checking track record.

Committee member 3
• Panel recognises need to protect intellectual property – differences of opinion on how to balance DS with incentives to generate data.
• Concern regarding how to secure confidentiality when sharing individual patient data.
• Recognised “with frustration” that when researchers buy data (e.g. from CPRD) the data doesn’t belong to them and they cannot share it.
• Plans are not generally scrutinised (much like skills mix, facilities, experience) and reviewers don’t comment.
• Suggestion: have 5 levels of data sharing described by CRUK & applicants state which level to adopt and why.
  o e.g. Level 0: no data sharing to level 4: all data put on internet.
• Would be good to let researchers know what is considered reasonable in terms of not sharing data – what would CRUK think of following reasons to reject access to data:
- Request comes from tobacco industry
- Data are part of ongoing clinical trial
- Researchers who spent 10 years collecting data are still analysing/writing papers
- Researchers don’t trust the group who have requested the data.

Committee member 4

- DS “essential” but not covered in depth – only affects score if really poor.
- Committee should have a role in checking track record – could add a DS track record section to application form and SMR.
- DS needs adequate funding in order to be done properly – funders need to commit to providing resources for:
  - Data managers
  - Software developers
  - Bioinformaticians
  - Data access committees
ESRC current practice in data sharing

Data sharing policy & guidelines

- All data created or repurposed during the lifetime of an ESRC grant must be made available for re-use or archiving within three months of the end of the grant
- ESRC provides guidance for peer reviewers.²
- Data can be deposited with the ESRC data service provider (currently UK Data Service), or an appropriate responsible digital repository, provided certain criteria are met (policy updated 2015).
- National resources such as ESRC longitudinal studies and time-series data arising from grants as well as other strategic investments will be expected to continue to deposit their data at the UK Data Service.
- Data Management Plans (DMPs) are living documents and best used as an integral part of the research cycle
- “HEIs are not expected to report on a research projects’ adherence to the DMP and we do not specify how it should be monitored. We do not plan to do so and this is not the purpose of explicitly stating our expectations of institutions. Rather, it is for institutions to embed it within its broader activities supporting good data management so that best practice continues to be promoted and encouraged.”

Responses to questionnaire

Business and Management/Economics Committee

**Funder**

- Grant holders must deposit data with UKDS within 3 months of the end of their grant – can *[withhold funding or impose sanctions]* if not.
- Applicants can include costs and time for data sharing in grant applications.
- Plan is free text (but guidance notes exist).
- **Quality of plans not assessed by ESRC staff but expected to be considered as part of the review process.**
- Wouldn’t expect a proposal to be invited for resubmission if there was a poor DS plan.
- ESRC emphasises the *[need for researchers to build DS into their plans early on]* (so that appropriate permissions are in place …etc).
- **International research organisations may not be as familiar** with DS requirements.

**Committee**

- Data sharing is key for the Big Data initiative.
- It is normally *[difficult to separate questions about data from questions about scientific merit]*.
- Application would have to be highly innovative for a poor data plan not to preclude success.
- ESRC has well-established, sometimes implicit protocols.
- Key issues have been acquisition strategy, approval process for acquisitions & governance arrangements.
- Some plans demand level of expertise *[beyond the committee]*.

• **Reviewers don’t include significant comments** on DS plans – ESRC has well-established protocols / may see their role just as assessing scientific merit and may lack expertise to comment. [N.B. contrast with funder perspective]
• Track record never discussed.

**Psychology (1) Committee**

**Funder**
- Case officers read the plan and feel comfortable returning those with insufficient detail (“less than one page”).
- Free text attached document.
- Plans are generally only mentioned at panel if there is a problem or if the plan is excellent.
- **There are mechanisms to monitor whether or not data has been deposited, in the final grant reports.**
- Would recommend training of case officers and panel members.

**Committee**
- DS important and plans usually adequate, only mentioned by peer reviewers if something is amiss. Don’t see the need to assess in more detail.
- **Would be asking too much to check track records.**

**Psychology (2) Committee**

**Funder**
- Checked by peer reviewers and introducers at panel meeting.
- Only ask to resubmit if the plan is missing.
- Free text with guidance.
- Track record not checked systematically.

**Committee**
- DS does not play a big part in discussions, only discussed in detail when there are issues surrounding confidentiality etc…
- Might put conditions in place before release of money.
- Plans adequate but “routine”, rarely commented on by reviewers unless there is a proposal to withhold data.
- Don’t check track record.
- *“we could perhaps be given a firmer steer”.*

**Data Infrastructure Committee**

**Funder**
- DS important at a “general level” but reviewers only seem to consider at the level of “is there one?” and committees unlikely to delve deeply.
- Responsibility of research organisation to check plan during two-stage submission process prior to application reaching council.
- Committees rely on comments from office or peer review.
- Plan is free text with guidance.
Would need to be major inadequacies for proposal to be rejected – sometimes asked to strengthen but no consistency/strategy to this.

- Data management expertise not considered when setting up panels.
- Don’t monitor implementation – key issue to address
  - only hear when there are major issues
  - Mechanisms to do so: standard reporting (ResearchFish) or other reporting in terms of major “managed” investments.
  - End of award reports should also focus on this.
  - Focus too much on improving weak plans and not following up strong ones.

Committee
- DS considered reasonably important, but for some it is just seen as “part of the process”, like attaching a CV.
- Plans only scrutinised in detail when data thought to be particularly important.
- Plans submitted are improving.
- Some peer reviewers comment on plans but there is not a consistent approach.
- No current checking of track records
  - E.g. In AHRC in 2000s, History Data Service did check – could be introduced in panel meetings, although only through specialist observer rather than actual panel member, so panel could ignore.
- Panel membership suggestions:
  - Wouldn’t recommend data management specialist on panel – voice can be drowned and don’t have research expertise.
  - Panellists could do with training – perhaps a short video
  - Could get data management specialist to provide short review – but added burden.

Linguistics Committee

Committee
- DS integral not discussed as much as the importance of making use of available data.
- Some plans demand level of expertise beyond the committee.
- Peer reviewers do make comments and ask questions.
- Need more specificity about data sharing and reviewers should be asked to comment.
- Would be ideal if ESRC itself could draw attention to applicant’s track record and issues surrounding DS.

Sociology Committee

Committee
- DS important but only discussed if there are concerns (e.g. proposal to withhold data).
- Strong proposals tend to come with good DS plans.
- Many plans based on institution policy and are “formulaic” – not a bad thing but these need to be properly monitored/audited to ensure they are followed through with.
- Reviewers comment on DS when follow ESRC guidelines but not always.
- Imagine track record checking done by ESRC on the committee’s behalf – seems important. Not routinely checked by committee.
- Would benefit from training/updating about best practice/ ensure introducers comment on data in committee meetings.
Medical Research Council current practice in data sharing

Data sharing policy & guidelines

- MRC does not prescribe when or how researchers should preserve and share data but requires them to make clear provision for doing so when planning and executing research.
- A data management plan (DMP) should be submitted as part of the research grant or fellowship proposal, including applications for the extension or renewal of existing funding. The DMP is reviewed by peer reviewers along with the Case for Support. MRC policy states that it is viewed as an integral part of the grant or fellowship application, or institute/unit Quinquennial Review proposals.
- Additionally, for all population & patient based studies, the DMP should indicate how the study meets the requirements of the MRC's detailed guidance on data sharing for population and patient studies, particularly around access criteria and independent oversight, the means for ensuring the study and its variables are readily discoverable, and specificity about use of formal data standards.
- For MRC Institutes and Units, a DMP is developed as part of the Quinquennial Review (QQR) report (Directors may choose to develop more than one DMP, specific to particular programmes).
- The DMP template provided similar to CRUK PRC’s with a few additional sections including one on data collection (see Annex 3).
- The MRC has produced guidance for reviewers on how to assess a DMP (Annex 4).

Responses to questionnaire

Note The evidence obtained from MRC was given by Heads of Theme for Molecular & Cellular Medicine, Neuroscience & Mental Health, Population & Systems Medicine, Population Health, Translation and Infection & Immunity. Most answers were not committee specific and no funding committee members were surveyed.

Funder

- DS plans are not discussed in any depth by committees and “aren't particularly relevant” to their decision making. The “quality of the science” is their priority.
- Committees are reluctant to challenge DS plans because of a “lack of awareness of the tools and infrastructure […] for depositing data”.
- Template for plans
- Some DS plans seem to be “copy-pasted” and miss their objective to make the researcher consider data management in the planning of research.
- Assessment takes place:
  - Quantitative content check by programme managers
  - Peer reviewers may comment (particularly on future access of data) but do not advise
  - Science committee may comment, often focusing on the mechanics of sharing. More likely to comment if funding is for gathering data to provide a resource for other researchers, involves human participants.
- Committees do not typically check data sharing track records and would benefit from fair metrics that allows this.
- Data sharing needs to be proportionate, as blanket approaches are “unmanageable”.
- No systematic monitoring of DS plans
- The DS plans for population and clinical studies should be scrutinised to ensure the full benefits are generated.
• New types of data generated, such as electron microscopy images, create demand for new software capacities/capabilities.
• New business models for running data infrastructure/resources are needed to cover costs beyond the grant and make them sustainable.

Translation committee

Funder

• Questions asked for translation research proposal require applicants to provide comprehensive information for data sharing plans.
• **Panels don’t have the necessary expertise** and it would be hard to have “one expert for all types of data encountered”
• The structure of translation projects means how much and when to share data is usually established at the start.
• Indirect monitoring of DS plans
**Wellcome current practice in data sharing**

**Data sharing position & guidelines**

- Data sharing policy originally published in 2007 and updated in 2010. All researchers are expected to maximise access to their research data with as few restrictions as possible.
- Applicants need only submit a data management and sharing plan if they are seeking funding via Wellcome's biomedical sciences or medical humanities funding streams, and their research is likely to generate data that will hold significant value as a resource for other researchers. This would include:
  - all applications where a primary goal is to create a database resource
  - any applications that might generate a 'community resource' as defined by the Fort Lauderdale and Toronto statements
  - other proposals generating large-scale or other high-value data outputs with clear utility to research questions beyond those the data generators are seeking to address.
- Researchers generating smaller-scale and limited data outputs are not required to submit a data management and sharing plan, but are nonetheless expected to consider their approach and adopt best practice. Generally, the expected approach for projects of this type would be to make data available to other researchers on publication, and where possible to deposit data in appropriate data repositories in a timely manner.
- Wellcome have produced guidance for creating DMPs with 7 questions.
- Data management and sharing plans are considered by referees, Committee members and Wellcome staff as an integral part of the peer review process.
- Applicants may include any costs associated with their proposed approach as part of their proposal.

**Responses to questionnaire**

**Funder**

- Review of DS plans left to peer reviewers and committee members. However, they currently don’t receive enough scrutiny.
- Wellcome should take a more proactive role to determine (1) if research is likely to generate data of valuable and (2) whether plan answers the questions provided in the guidance document.
- Small pilot study showed it was reasonably feasible to categorise grants according to how valuable data generated will be and how detailed a plan is needed. Three categories emerged:
  - No plan needed
  - Research will generate significant data and needs a plan but is not a major data resource
  - Major data resources (e.g. cohort study; genomic datasets)
- Grant advisers could work with applicants to develop a relevant plan.
- If high value datasets are going to be produced, it would be desirable for the funding interview committee to comment explicitly on the data plan.
- For the highest value grant (in terms of potential value of data for reuse), a specialist review from dedicated data scientist may be needed, but this doesn’t currently happen.
- Clear guidance and training needed for committees and grant handlers.

**Cognitive neuroscience and mental health committee**
• DS is at the “tail-end” of a list of considerations – only raised at the point where an application is already considered very strong.
• Depends on field – behavioural data too variable/difficult to replicate vs. electrophysiology with large potential for data mining.
• Plan doesn’t affect decision to interview but lack of/poor plan would need to be explained.
• Debates about at what stage data should be made available – varies considerably, clinical data and degree of anonymization is an issue.
• DS blessing because it’s good to make most of material but curse because it allows others to “piggyback” on hard work.
• Quality varies – those in consortia have clear plans, other just state they will publish.
• Don’t generally check track record
• Wellcome needs to make clear decision about how important DS is and where it fits into the scale.
  o Clearer steers on forms and committees
  o Remind committees in advance
  o Standard readout at start of meetings emphasising Wellcome’s commitment to DS.

Cell and developmental biology committee

• Not much attention paid to DS as applicants generally “very good scientists” and journals make it mandatory to share data.
• Quality of applicant and proposal most important – DS plans usually very standard and “copy-paste”.
• Track record not checked.
• Concerned making changes will create more bureaucracy:
  o Example of what not to do: EU Marie Curie where almost half of the application form is taken up with side issues and asking for promises that cannot be kept seriously.

Population health and tropical medicine interview committee

• Don’t discuss DS much – for many candidates (e.g. LMIC candidates from one of the Major Overseas Programmes) there tends to be a template.
• If the plan is an issue, the committee would still make an award conditional on inadequacies being addressed.
• Most reviewers comment that plan is acceptable.
• Wouldn’t know how to go about checking track record:
  o Should be done by Wellcome staff with SOP on how to approach this
  o Previous data sharing may not have been within applicant’s power e.g. data may have been controlled by their supervisor.
• If Wellcome wants more emphasis on DS they need to specifically ask committees to do so, so that they get into a routine.

Biomedical resources committee

• Data management important component – many of the instruments requested produce large amounts of primary data (light and electron microscopy, mass spectrometry …etc)
  o Sometimes can be mined in many different ways (e.g. proteomics) but sometimes of little interest to the community – requires a “nuanced” approach.
• Most committee members are scientists with technological bent who face issues in their own research and therefore have a good awareness.
• Scientifically strong application won’t be brought down by a poor plan but might do for a borderline one. *Seen one case of an application go down because of unrealistic plan (in bioinformatics).*
• Plans are variable but generally adequate.
• **Reviewers generally very helpful – using same group of reviewers for similar applications helpful because it encourages comparison.**
• Track record not really checked.
• **Wellcome should check (/dip-stick) good practice:**
  o Already doing this effectively for open access.

**Population health committee**

• DS reasonably important, standard of plans generally adequate, limited advice from peer reviewers, track record not checked.
• **Would like Wellcome to reflect on its “blanket” approach to data sharing and think about scientific outputs and appropriateness a bit more.**

**Translational funding committee**

• Purpose of funding is to get a place for investment to produce a product – **different type of committee.**
• **Intellectual property** needs to be protected, cannot jeopardise commercial interest – cannot go into public domain prematurely.
• Possibility of repository for some funded routes to **keep data private and secure for a certain amount of time.**
• Important to think about **reusability and standardisation of data** once deposited – someone (helpdesk?) needs to take responsibility for this.
• **Scientists will do minimum to comply. Change in mindset needed – science is competitive.**
• Plans not looked at in detail, no checks for **discoverability/usability.**
• Track record **should** matter.
• Would be sensible to withhold funding until poor plans are improved, but this almost never happens.
• Need a **specialist group in Wellcome** to sit down with applicant and make plans.
Annex 5: Template for Data Sharing and Management Plans: Cancer Research UK & MRC

**Cancer Research UK**

The following template can be used to develop a Data Management and Sharing Plan to accompany a research application. The notes (*italics*) provide further context and guidance for its completion.

To be completed with reference to Cancer Research UK’s Guidance on Data Management and Sharing document.

<table>
<thead>
<tr>
<th>0. Title of project/programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>As named in eGMS</td>
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</table>

<table>
<thead>
<tr>
<th>1. Description of the data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1 Type of study</strong></td>
</tr>
<tr>
<td>Up to three lines of text that summarise the type of study (or studies) for which the data are being collected.</td>
</tr>
<tr>
<td><strong>1.2 Types of data</strong></td>
</tr>
<tr>
<td>Types of research data to be managed in the following terms: quantitative, qualitative; generated from surveys, clinical measurements, interviews, medical records, electronic health records, administrative records, genotypic data, images, tissue samples etc.</td>
</tr>
<tr>
<td><strong>1.3 Format and scale of the data</strong></td>
</tr>
<tr>
<td>File formats, software used, number of records, databases, sweeps, repetitions,… (in terms that are meaningful in your field of research). Do formats and software enable sharing and long-term validity of data?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Data management, documentation and curation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make sure you justify why new data collection or long term management is needed in the Justification for Support section of the Research Proposal.</td>
</tr>
<tr>
<td>Keep this section concise and accessible to readers who are not data-management experts. Focus on principles, systems and major standards. Focus on the main kind(s) of study data.</td>
</tr>
<tr>
<td><strong>2.1 Managing, storing and curating data.</strong></td>
</tr>
<tr>
<td>Briefly, how data will be stored, backed-up, managed and curated in the short to medium term. Specify any community agreed or other formal data standards used (with URL references). [Enter data security standards in Section 3].</td>
</tr>
<tr>
<td><strong>2.2 Metadata standards and data documentation</strong></td>
</tr>
<tr>
<td>Plans for documenting, annotating and describing data so that research data are usable by others than your own team. This may include documenting the methods used to generate the data, analytical and</td>
</tr>
</tbody>
</table>
procedural information, capturing instrument metadata alongside data, documenting provenance of data and their coding, detailed descriptions for variables, records, etc.

### 2.3 Data preservation strategy and standards

Plans and place for long-term storage, preservation and planned retention period for the research data. Formal preservation standards, if any. Indicate which data may not be retained (if any).

### 3. Data security and confidentiality of potentially disclosive personal information

Complete this section only if your research data include personal data relating to human participants in research. Information provided will be in line with your ethical review.

#### Main risks to data security

If not using formal standards, summarise the main risks to the confidentiality and security of information related to human participants, and how these risks will be managed. Cover the main processes or facilities for storage and processing of personal data, data access, with controls put in place and any auditing of user compliance with consent and security conditions.

### 4. Data sharing and access

#### 4.1 Mechanisms for sharing

Data generated across all research areas has the potential for re-use and should be shared regardless of whether they have been used in a publication. Use this section to identify any data repository (-ies) that are, or will be, entrusted with storing, curating and/or sharing data from your study, where they exist for particular disciplinary domains or data types.

Consider:
- Personal data relating to human participants in research
- Intellectual property rights and proprietary data

#### 4.2 Discovery by potential users of the research data

Indicate how potential new users can find out about your data and identify whether they could be suitable for their research purposes, e.g. through summary information (metadata) being readily available on the study website, or in other databases or catalogues.

Indicate whether your policy or approach to data sharing is (or will be) published on your study website (or by other means).

#### 4.3 The study team’s exclusive use of the data

CRUK’s requirement is for timely data sharing, with the understanding that a limited, defined period of exclusive use of data for primary research is reasonable according to the nature and value of the data, and that this restriction on sharing should be based on simple, clear principles. Summarize the principles of your current/intended policy.

#### 4.4 Restrictions or delays to sharing, with planned actions to limit such restrictions

Restriction to data sharing may be due to participant confidentiality, consent agreements or IPR. Strategies to limit restrictions may include data being anonymised or aggregated; gaining participant consent for data sharing; gaining copyright permissions. For prospective studies, consent procedures
should include provision for data sharing to maximise the value of the data for wider research use, while providing adequate safeguards for participants. As part of the consent process, proposed procedures for data sharing should be set out clearly and current and potential future risks associated with this explained to research participants.

4.5 Milestones for sharing

Detail major milestones in your plans for sharing. This can be recorded in yearly intervals and can include expected times of publications. This will be used to track your progress towards data outputs and sharing as collected annually in Researchfish.

4.6 Governance of access

Identify who makes or will make the decision on whether to supply research data to a potential new user, and indicate how independent oversight of data access and sharing works (or will work). Include details of the person to contact for potential new users to request data (unless plans involve submission of data to a third party repository).

4.7 Regulation of responsibilities of users

Indicate whether external users are (will be) bound by data sharing agreements, setting out their main responsibilities.

5. Responsibilities

Specify who, alongside the PI, is responsible for ensuring the study-wide data management, as well as for specific roles such as metadata creation, data security and quality assurance of data.

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

Please complete, where such policies are (i) relevant to your study, and (ii) are in the public domain, e.g. accessibly through the internet.

Add any others that are relevant.

<table>
<thead>
<tr>
<th>Policy</th>
<th>URL or Reference</th>
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</thead>
<tbody>
<tr>
<td>Data Management Policy and Procedures</td>
<td></td>
</tr>
<tr>
<td>Data Security Policy</td>
<td></td>
</tr>
<tr>
<td>Data Sharing Policy</td>
<td></td>
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<tr>
<td>Institutional Information Policy</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

7. Author of this Data Management Plan (Name) and, if different to that of the Principal Investigator, their telephone & email contact details
The following **template** should be used to develop a Data Management Plan (DMP) to accompany a research proposal. The notes (*in italics*) provide further context and guidance for its completion. Where substantial data is generated from the research, the DMP will be more in depth and therefore likely to be 2 or 3 pages long. For low impact studies generating small amounts of data, DMPs will be short ie less than half a page. If you opt NOT to use the template the topics listed in the template MUST be addressed.

<table>
<thead>
<tr>
<th>0. Proposal name</th>
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</thead>
<tbody>
<tr>
<td><em>Exactly as in the proposal that the DMP accompanies</em></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>1. Description of the data</th>
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<tr>
<td>Up to three lines of text that summarise the type of study (or studies) for which the data are being collected.</td>
</tr>
</tbody>
</table>

| **1.2 Types of data** |
| Types of research data to be managed in the following terms: quantitative, qualitative; generated from surveys, clinical measurements, interviews, medical records, electronic health records, administrative records, genotypic data, images, tissue samples,... |

| **1.3 Format and scale of the data** |
| File formats, software used, number of records, databases, sweeps, repetitions,... (in terms that are meaningful in your field of research). Do formats and software enable sharing and long-term validity of data? |

<table>
<thead>
<tr>
<th>2. Data collection / generation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make sure you justify why new data collection or long term management is needed in your Case for Support. Focus in this template on the good practice and standards for ensuring new data are of high quality and processing is well documented.</td>
</tr>
</tbody>
</table>

| **2.1 Methodologies for data collection / generation** |
| How the data will be collected/generated and which community data standards (if any) will be used at this stage. |

| **2.2 Data quality and standards** |
| How consistency and quality of data collection / generation will be controlled and documented, through processes of calibration, repeat samples or measurements, standardised data capture or recording, data entry validation, peer review of data or representation with controlled vocabularies. |

<table>
<thead>
<tr>
<th>3. Data management, documentation and curation</th>
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</thead>
<tbody>
<tr>
<td>Keep this section concise and accessible to readers who are not data-management experts. Focus on principles, systems and major standards. Focus on the main kind(s) of study data. Give brief examples and avoid long lists.</td>
</tr>
</tbody>
</table>

| **3.1 Managing, storing and curating data.** |
| Briefly describe how data will be stored, backed-up, managed and curated in the short to medium term. Specify any community agreed or other formal data standards used (with URL references). [Enter data security standards in Section 4]. |
### 3.2 Metadata standards and data documentation

What metadata is produced about the data generated from the research? For example descriptions of data that enable research data to be used by others outside of your own team. This may include documenting the methods used to generate the data, analytical and procedural information, capturing instrument metadata alongside data, documenting provenance of data and their coding, detailed descriptions for variables, records, etc.

### 3.3 Data preservation strategy and standards

Plans and place for long-term storage, preservation and planned retention period for the research data. Formal preservation standards, if any. Indicate which data may not be retained (if any).

### 4. Data security and confidentiality of potentially disclosive information

This section MUST be completed if your research data includes personal data relating to human participants in research. For other research, the safeguarding and security of data should also be considered. Information provided will be in line with you ethical review. Please note this section concerns protecting the data, not the patients.

#### 4.1 Formal information/data security standards

Identify formal information standards with which your study is or will be compliant. An example is ISO 27001. If your organisation is ISO compliant, please state the registration number.

#### 4.2 Main risks to data security

All personal data has an element of risk. Summarise the main risks to the confidentiality and security of information related to human participants, the level of risk and how these risks will be managed. Cover the main processes or facilities for storage and processing of personal data, data access, with controls put in place and any auditing of user compliance with consent and security conditions. It is not sufficient to write not applicable under this heading.

MRC guidance on the Confidentiality and data security is provided (please see page 24 of the PDF file generated by selecting the above or adjacent link).

### 5. Data sharing and access

Identify any data repository (-ies) that are, or will be, entrusted with storing, curating and/or sharing data from your study, where they exist for particular disciplinary domains or data types. Information on repositories is available here.

#### 5.1 Suitability for sharing

Is the data you propose to collect (or existing data you propose to use) in the study suitable for sharing? If yes, briefly state why it is suitable.

If No, indicate why the data will not be suitable for sharing and then go to Section 6.

#### 5.2 Discovery by potential users of the research data

Indicate how potential new users (outside of your organisation) can find out about your data and identify whether it could be suitable for their research purposes, e.g. through summary information (metadata) being readily available on the study website, in the MRC gateway for population and patient research data, or in other databases or catalogues. How widely accessible is this depository?

Indicate whether your policy or approach to data sharing is (or will be) published on your study website (or by other means).

#### 5.3 Governance of access

Identify who makes or will make the decision on whether to supply research data to a potential new user.

For population health and patient-based research, indicate how independent oversight of data access and sharing.
Indicate whether the research data will be deposited in and available from an identified community database, repository, archive or other infrastructure established to curate and share data.

5.4 The study team’s exclusive use of the data

MRC’s requirement is for timely data sharing, with the understanding that a limited, defined period of exclusive use of data for primary research is reasonable according to the nature and value of the data, and that this restriction on sharing should be based on simple, clear principles. What are the timescale/dependencies for when data will be accessible to others outside of your team? Summarize the principles of your current/intended policy.

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

Restriction to data sharing may be due to participant confidentiality, consent agreements or IPR. Strategies to limit restrictions may include data being anonymised or aggregated; gaining participant consent for data sharing; gaining copyright permissions. For prospective studies, consent procedures should include provision for data sharing to maximise the value of the data for wider research use, while providing adequate safeguards for participants. As part of the consent process, proposed procedures for data sharing should be set out clearly and current and potential future risks associated with this explained to research participants.

5.6 Regulation of responsibilities of users

Indicate whether external users are (will be) bound by data sharing agreements, setting out their main responsibilities (please see page 13 section 7, titled Data-sharing agreements of the PDF file generated by selecting either of two links above).

6. Responsibilities

Apart from the PI, who is responsible at your organisation/within your consortia for:
- study-wide data management
- metadata creation,
- data security
- quality assurance of data.

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

Please complete, where such policies are (i) relevant to your study, and (ii) are in the public domain, e.g. accessible through the internet. Add any others that are relevant

<table>
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<td>Data Sharing Policy</td>
<td>e.g. a study policy of sharing research data</td>
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<tr>
<td>Institutional Information Policy</td>
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<tr>
<td>Other:</td>
<td></td>
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<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

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

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/

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.

**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.