Exercise 1: Assessing your Research Data Infrastructure (RDI)

Take our quick survey to check if your institution has its finger on the pulse in terms of research data management or is in need of an RDI booster shot.

Research funders increasingly require evidence of appropriate provision for data curation within HEIs as part of grant applications. Planning for data management may help you understand what data you hold, how it is being created & managed, how (or if) it will be shared, and how long you need to keep it.

Sound Research Data Infrastructure (RDI) means having more than storage and networks. It also relies on skills, organisational support and the involvement of a wide range of stakeholders at various points in the data curation lifecycle.

A good balance of the following key elements is essential to ensure that research data management is adequately supported at your institution:

1. organisational backing
2. technical infrastructure
3. appropriate staff skills

For each topic, select the statement that best reflects your situation

Risks associated with poor data management

☐ A) Our institution is fully aware of the potential risks associated with poor data management. We view data management as part of good research practice and have taken steps to provide a working environment that fosters good practice.

☐ B) We know that research data management is important for maintaining our institutional reputation and are keen to minimize any risks. We are currently working to identify our main RDM risks and to develop mitigation strategies.

☐ C) We would like to understand more about the risks associated with poor data management so we can assess our infrastructure and identify areas for improvement.

Research funder policies relating to data management

☐ A) Our support staff and researchers are fully aware of funders' requirements for data management and understand how these relate to our research activity.

☐ B) We are aware that research funders have issued some new data management requirements but we aren't really sure how these relate to our research activity or how we can best comply with these mandates.

☐ C) We aren't very familiar with research funders' data management requirements. We'd like to understand these requirements better.

Institutional polices relating to data management

☐ A) We have developed and implemented specific policies relating to research data management at our institution.

☐ B) We have some policies that loosely cover aspects of research data management but nothing specific. We are planning to develop specific policies relating to our data in the near future.

☐ C) We don't have any data management policies in place at the moment but would like to learn more about developing and implementing effective policies for research data management.

Training, support and guidance for researchers

☐ A) We have developed training, support and guidance materials to help our staff develop good research data management practices.

☐ B) We have some training, support and guidance on issues loosely related to data management but currently don't offer anything specifically focused on this.

☐ C) We don't have any training, support or guidance that covers RDM issues.

Back-up and storage

☐ A) We offer secure storage and run regular back-ups. Researchers are fully aware of this service and know where to store data to benefit from back-ups.

☐ B) We offer secure storage and regular back-ups but are not sure researchers are aware of this service and how it can be of value to their research activity.

☐ C) We run back-ups and provide access to some secure storage but these services could be improved at our institution. We're not sure how aware our researchers are about these services and their potential benefits.

Institutional repositories

- ☐ A) Our institution has a repository/repositories where researchers can store, access and share their publications and data.

- ☐ B) Our institution has a repository for publications. We are currently considering how we might best capture and store related data sets.

- ☐ C) Individual research groups and departments may run their own repositories but we don't have any institutional service for publications or data at present.

IT infrastructure

- ☐ A) We are confident that our current IT infrastructure will be able to cope as the volume of our institutional research data and storage demands grow.

- ☐ B) We have enough storage space for the next year or so but may need to increase our capacity if there is a significant growth in research data generation.

- ☐ C) We are currently finding it difficult to provide researchers with enough storage to meet their needs. Additional demands on storage space would be hard to accommodate with our existing infrastructure.

Funding to support research data management

- ☐ A) We understand the costs associated with sustaining our research data management infrastructure and have allocated a portion of our operational budget to cover these costs over the longer term.

- ☐ B) We tend to rely on securing short-term research grants to develop and pilot components of our research data management infrastructure. So far, we've been successful but are not sure if we can sustain our infrastructure.

- ☐ C) We don't have access to any funds - institutional or external - to support the development of our research data management infrastructure.

Staff skills

- ☐ A) Staff within the institution can provide dedicated guidance on specific aspects of research data management (e.g. data protection, ethics, data licensing). These individuals are well-known to researchers.

- ☐ B) We have members of staff who are very knowledgeable in aspects of research data management but they are not always well known to researchers.

- ☐ C) We don't have many members of support staff who can support research data management. Those we do have are often unknown to researchers.

Mostly C's - Your RDI could use a boost.

Start by getting a better grasp on what data management involves and how poor data management can affect your reputation. The DCC and UK Data Archive offer some useful introductory guides that can help explain the bigger picture. It will be difficult to improve your institutional infrastructure without an overall understanding of the data you currently hold and how researchers at are managing their data. The Data Asset Framework (DAF) implementation guide offers some useful examples of questionnaires and interviews that you can reuse to help get an idea of the scale and nature of their research data holdings and data management activity.

Mostly B's – Making steady progress

Like most UK HEIs you're aware of the increasing need to improve RDI and are making a good start. Now you need to keep the momentum going! We recommend taking stock of your current strengths and weaknesses using the DCC's CARDIO toolkit. You may also want to consider consolidating disparate sources of institutional guidance and support. The JISC Incremental project provides a useful model for this approach. It can be tough to secure ongoing senior management commitment for RDM as university funding continues to shrink. The DCC briefing paper on Making the Case for Research Data Management can help you gain support to develop new services and support systems.

Mostly A's – Finger on the pulse!

You know what you need to achieve and have made great progress in securing senior management support and in embedding RDM support throughout your institution. Now is not the time to rest on your laurels - remember that your infrastructure is only as good as your weakest link. Continue to plan for staff and system changes, evolving user needs and revisions to requirements. You may also wish to consider cooperating with other HEIs in your region to share best practice.

Equally split between A's, B's and C's?

A balance between technological infrastructure, staff skills and organisational support is important for supporting data management practice at your institution. You seem to be very strong in some areas but not in others. It could be that this imbalance is due to misconceptions about what is actually in place - you may be stronger in some of the areas than you think. Prioritise the aspects that need improvement, using your strengths to help make the case for support.

In groups, identify those questions where you answered A and explain why you think your institution satisfies the criteria

Based on your group's discussions...

– Identify those within your group who are performing well in those areas that you're less confident about

– Can you learn any lessons from their example?

– Are you still confident about your A ratings?

– For each of your Bs and Cs, write down one *practical* thing you can do when you return to work in order to edge towards an A.