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DATA MANAGEMENT PLANS
Requirements and
Recommendations
for H2020 Projects

Matthias Razum – April 20, 2018

DATA MANAGEMENT PLANS

Data Management Plans (DMP) typically state

- what data will be created and how,

- outline the plans for sharing and preservation

- noting what is appropriate given the nature of the data and any restrictions that may need to be applied.

Source: Digital Curation Centre

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HORZION 2020 REQUIREMENTS

Guidelines on FAIR Data Management in Horizon 2020

- Publications: open access is an obligation in Horizon 2020

- Data: open access by default with opt-out ("flexible pilot"), applicable

  • during the application phase

  • during the grant agreement preparation (GAP) phase and

  • after the signature of the grant agreement

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DMP FOR HORIZON 2020 PROJECTS

A DMP should include information on:

- the handling of research data during and after the end of the project

- what data will be collected, processed and/or generated

- which methodology and standards will be applied

- whether data will be shared/made open access and

- how data will be curated and preserved (including after the end of the project)

Source: Guidelines on FAIR Data Management in Horizon 2020

Data Management Plans

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FURTHER RECOMMENDATIONS

For a H2020 proposal:

- ensure resource and budgetary planning for data management

- include a deliverable for an initial DMP at month 6 at the latest

- costs related to open access to research data are eligible for reimbursement during the duration of the project

Your policy should also:

- reflect the current state of consortium agreements on data management

- be consistent with exploitation and Intellectual Property Rights (IPR) requirements

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TYPICAL STRUCTURE FOR DMP

1. Data Summary

2. FAIR data

3. Allocation of resources

4. Data security

5. Ethical aspects

6. Other issues

Data Management Plans

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TYPICAL STRUCTURE OF A DMP: DATA SUMMARY

- What is the purpose of the data collection/generation and its relation to the objectives of the project?

- What types and formats of data will the project generate/collect?

- Will you re-use any existing data and how?

- What is the origin of the data?

- What is the expected size of the data?

- To whom might it be useful ('data utility')?

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THE FAIR DATA PRINCIPLES: A SET OF GUIDING PRINCIPLES TO MAKE DATA

- FINDABLE,
- ACCESSIBLE,
- INTEROPERABLE, AND
- RE-USABLE

Source: Force11

TYPICAL STRUCTURE OF A DMP: FAIR DATA - FINDABLE

- Are the data produced and/or used in the project discoverable with metadata, identifiable and locatable by means of a standard identification mechanism?

- What naming conventions do you follow?

- Will search keywords be provided that optimize possibilities for re-use?

- Do you provide clear version numbers?

- What metadata will be created?

  - In case metadata standards do not exist in your discipline, please outline what type of metadata will be created and how

F1. (meta)data are assigned a <u>globally unique and eternally persistent identifier.</u>
F2. data are described with <u>rich metadata.</u>
F3. (meta)data are <u>registered or indexed in a searchable resource.</u>
F4. metadata <u>specify</u> the data identifier.

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- Which data produced and/or used in the project will be made openly available as the default?

  - If certain datasets cannot be shared (or need to be shared under restrictions), explain why, clearly separating legal and contractual reasons from voluntary restrictions.

- How will the data be made accessible (e.g. by deposition in a repository)?

- What methods or software tools are needed to access the data?

- Is documentation about the software needed to access the data included?Is it possible to include the relevant software (e.g. in open source code)?

A1 (meta)data are retrievable by their identifier using a standardized communications protocol.

A1.1 the protocol is open, free, and universally implementable.

A1.2 the protocol allows for an authentication and authorization procedure, where necessary.

A2 metadata are accessible, even when the data are no longer available.

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- Where will the data and associated metadata, documentation and code be deposited? Preference should be given to certified repositories which support open access where possible.

- Have you explored appropriate arrangements with the identified repository? If there are restrictions on use, how will access be provided?

- Is there a need for a data access committee?

- Are there well described conditions for access (i.e. a machine readable license)?

- How will the identity of the person accessing the data be ascertained?

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- Are the data produced in the project interoperable, that is allowing data exchange and re-use between researchers, institutions, organizations, countries, etc.?

- What data and metadata vocabularies, standards or methodologies will you follow to make your data interoperable?

- Will you be using standard vocabularies for all data types present in your data set, to allow inter-disciplinary interoperability?

- In case itis unavoidable that you use uncommon or generate project specific ontologies or vocabularies, will you provide mappings to more commonly used ontologies?

I1. (meta)data use a formal, accessible, shared, and broadly applicable language for knowledge representation.
I2. (meta)data use vocabularies that follow FAIR principles.
I3. (meta)data include qualified references to other (meta)data.

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TYPICAL STRUCTURE OF A DMP: FAIR DATA - RE-USABLE

- How will the data be licensed to permit the widest re-use possible?

- When will the data be made available for re-use?
  - If an embargo is sought to give time to publish or seek patents, specify why and how long this will apply, bearing in mind that research data should be made available as soon as possible.

- Are the data produced and/or used in the project useable by third parties, in particular after the end of the project?

  - If the re-use of some data is restricted, explain why.

- How long is it intended that the data remains re-usable?

- Are data quality assurance processes described?

R1. meta(data) have a plurality of accurate and relevant attributes.
R1.1. (meta)data are released with a clear and accessible data usage license.
R1.2. (meta)data are associated with their provenance.
R1.3. (meta)data meet domain-relevant community standards.

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- What are the costs for making data FAIR in your project?

- How will these be covered?

- Who will be responsible for data management in your project?

- Are the resources for long term preservation discussed?

  - costs

  - potential value

  - who decides and how what data will be kept and for how long?

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TYPICAL STRUCTURE OF A DMP: DATA SECURITY

- What provisions are in place for data security (including data recovery as well as secure storage and transfer of sensitive data)?

- Is the data safely stored in certified repositories for long term preservation and curation?

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TYPICAL STRUCTURE OF A DMP: ETHICAL ASPECTS

- Are there any ethical or legal issues that can have an impact on data sharing?

- Is informed consent for data sharing and long term preservation included in questionnaires dealing with personal data?

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TYPICAL STRUCTURE OF A DMP: OTHER ISSUES

- Do you make use of other national/funder/sectorial/departmental procedures for data management? If yes, which ones?

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