FAIR principles for sharing research data and code

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Data Sharing

Research Life Cycle

Planning
- Identify grants & funding
- Collect & manage preliminary assets
- Describe & organize assets

Implementation
- Collect Assets
- Organize Assets
- Describe Assets
- Analyze Assets

Discovery & Impact
- Understand metrics
- Use social media

Publication
- Identify open access publications
- Deposit work
- Share & cite work

Preservation
- Migrate to sustainable formats
- Store reliably

Re-use
What constitutes “data sharing”?

1. Sharing the raw data + meta data
2. Sharing statistical results
3. Sharing code
4. Publishing detailed methods
What makes a good data repository?

**FINDABLE**
Data has rich metadata and unique identifier

**ACCESSIBLE**
Data can be easily downloaded or used by using standard protocols

**INTEROPERABLE**
Metadata use an accessible and standard language

**REUSABLE**
Data is well-described and provides clear usage of licences

https://blog.orvium.io/fair-principles-in-scientific-data/
Sharing code

- Get in the habit of using Git for managing code
- Can the code be openly shared?
- Does the code contain intellectual property that cannot be openly shared?
Making shared code more FAIR
Things to consider before sharing research data
1. Ethics

- Does the study have ethical approval to share the data?

- For human research participants, does the consent form explicitly mention sharing the data?

- For human research participants, can the data be anonymized?

- Are there institutional rules about sharing animal data?
2. Standards

- Is there an existing standard for the data?
- Specific filetype?
- Specific filename/organization structure?
3. Repositories

- What type of data is going to be shared?
- Can more than the raw data be shared?
- Does the repository meet the FAIR principles?
- What are the preservation policies of the repository?
Where can I find more information?

A curated, informative and educational resource on data and metadata standards, inter-related to databases and data policies.

We guide consumers to discover, select and use these resources with confidence, and producers to make their resource more discoverable, more widely adopted and cited.
What if I cannot find an existing repository?
Small data files (e.g., tabular)?
A more generic option
Some final thoughts

• Data sharing takes time and effort

• Rich meta-data and the adoption of data standards makes data more useful

• Consider adopting some of the FAIR principles for local data management