

# Know Moore About...

## Research Data Management

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# Topics

- Introduction to data
- RDM and Open Research
- Key areas of data management
- Data management plans

# What is data?

- Documents
- Lab books
- Videos
- Field notes
- Experiment results
- Images
- Protocols
- Survey
- Manuscripts
- Interview transcripts
- Physical samples

**Anything used and produced during research**

# Why manage data?



**Why manage data?**

# Research Reproducibility Crisis



Funder



d



Good academic  
practice



Preservation

# FAIR Data

Helps data to be  
discovered by both  
humans and machines

F

Findable

A

Accessible

I

Interoperable

R

Reusable

# RDM is...

Backup

Organisation

Storage

Sharing



# **Backup & storage**





# Data disasters

“King’s College University fire: students evacuated after blaze in the Strand”

- London Standard (2017)

“Data-storage service’s crash sets back researchers”

- Chronicle of Higher Education (2014)

“Nottingham university fire destroys new multimillion pound chemistry building”

- Daily Telegraph (2014)

“Manchester cancer hospital fire may have destroyed vital research”

- The Guardian (2017)

# Data backup

Method

Frequency

Location

Amount

# Storing data

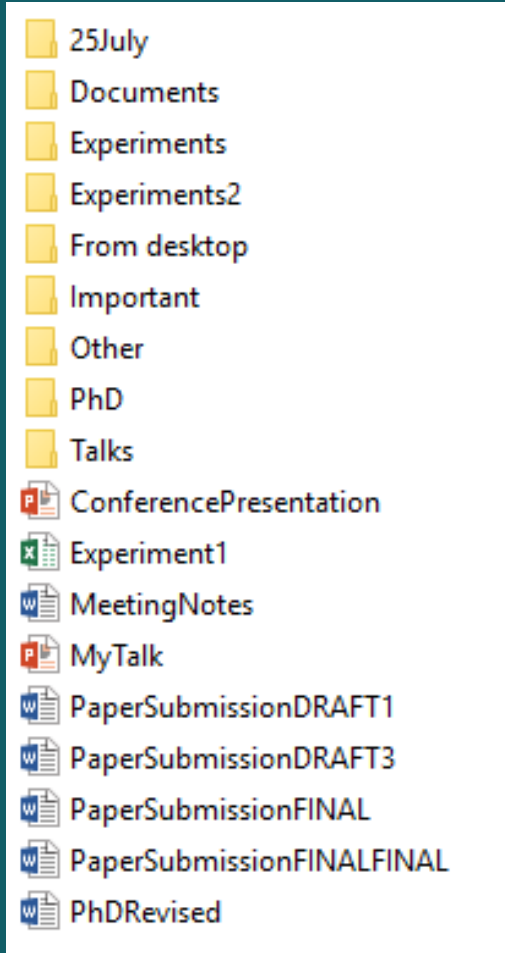
- How long do you need to store it?
- Investigate potential costs
- Be careful in the Cloud

The background of the image shows a row of Leitz ring-bound planners. The planners are dark-colored with light-colored labels. The labels have the 'LEITZ' logo at the top, followed by 'Lieferanten-Rechnungen' (Supplier Invoices), a date range '1-12', and the year '2015'. A white circle is overlaid on the left side of the image, containing the word 'Organisation' in a bold, dark font.

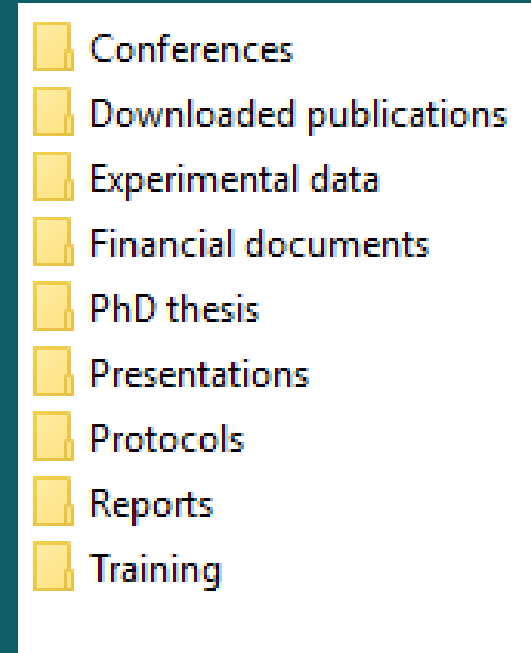
# Organisation

# Organisation

## Example A



## Example B



# File naming conventions



My talk



Meeting notes



Results 20200602

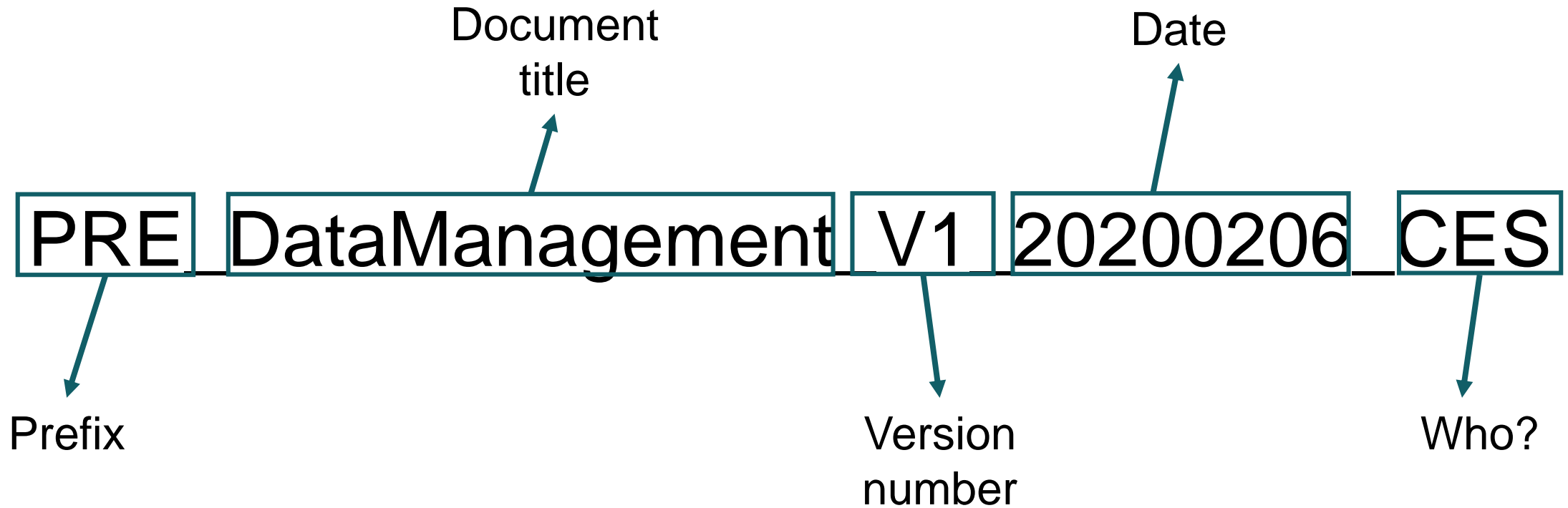


Smith article

Would you know what any of these files were  
in three years?



# File naming conventions



A person wearing a white lab coat and yellow gloves is using a pipette to transfer liquid into a small vial. The background shows a laboratory setting with various equipment and a blurred view of other lab benches.

# Physical samples

- Create maps and add notes
- Reference all samples
- Convert paper copies to digital copies

A person with long blonde hair, wearing a blue shirt and a watch, is sitting at a desk and writing in a spiral notebook with a black pen. The background is blurred, showing a laptop and some office equipment. A teal-colored overlay covers the entire image, and a large white circle is positioned on the left side, containing the word "Sharing" in a bold, dark font.

**Sharing**

# How to share data

- At time of publication (or earlier)
- Select a suitable repository
- Describe and licence your data
- Investigate potential costs

# Repositories

1

Discipline



2

Institutional



Apollo

3

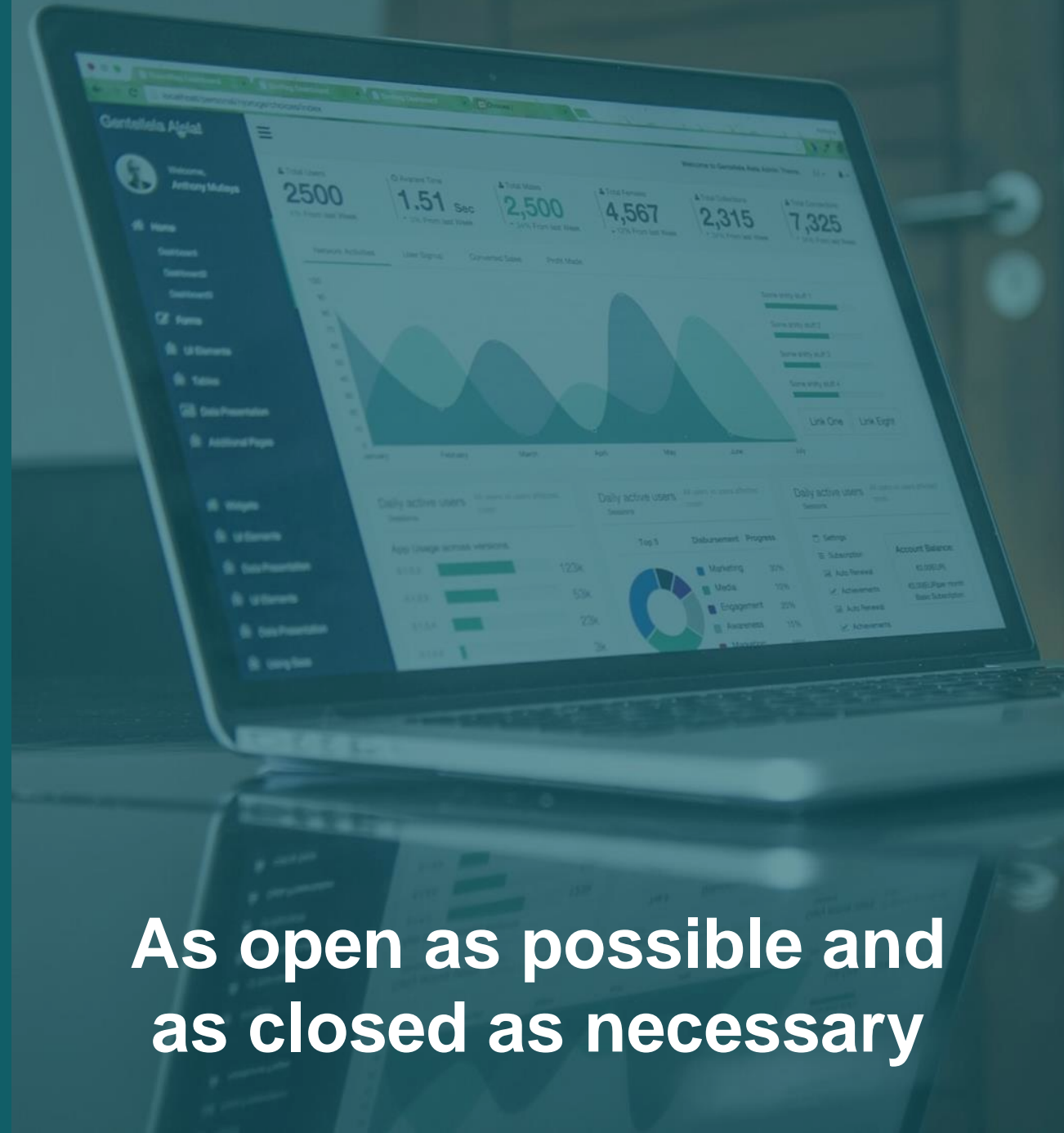
General



# Accessible data

- Tell people it's there!
- Add metadata & a README file
- Use open source software
- Include licensing information

**As open as possible and  
as closed as necessary**





**Personal  
data**





# GDPR

- Data breach notification
- Right to be forgotten
- Increased responsibility for the researcher and the organisation
- Financial penalties

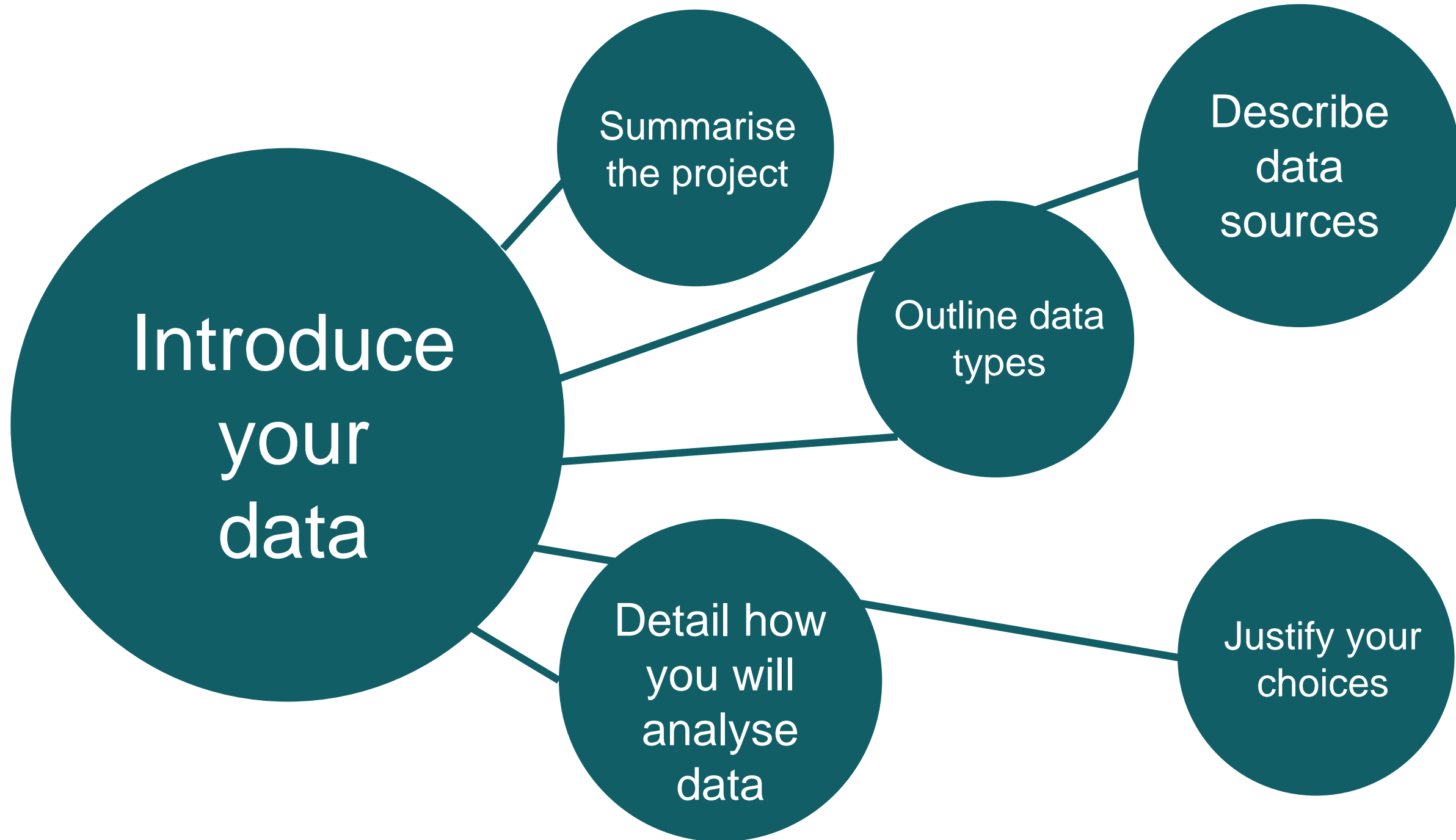
# Rules of personal data

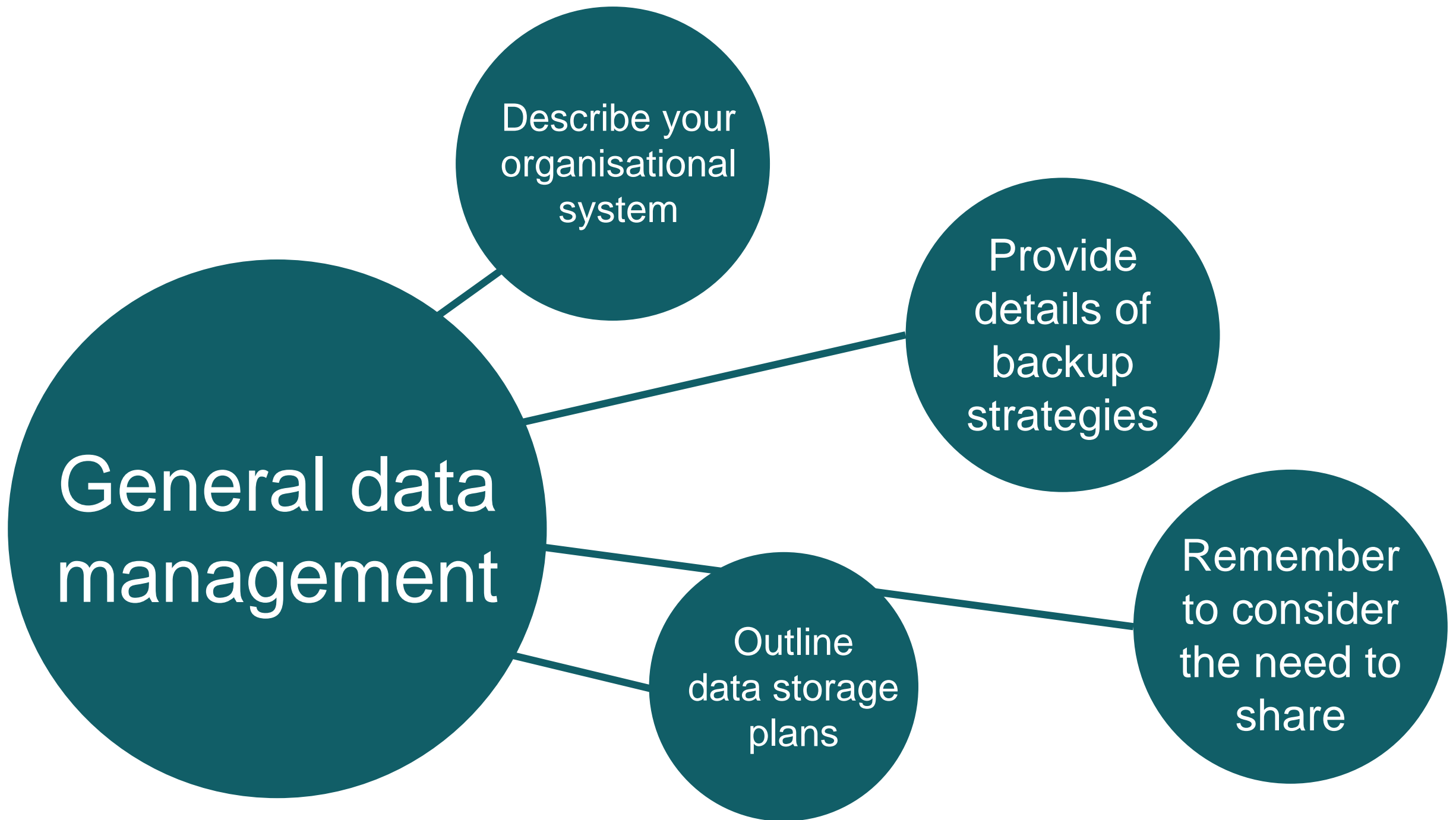
- Don't collect it unless you need it!
- Informed, open, written consent
- Anonymise
- Use managed repositories



A wooden signpost with multiple directional arrows stands on a grassy hillside. The background features a mountain range under a sunset sky with orange and blue hues. A large white circle is overlaid on the left side of the image, containing the text.

# **Data Management Plans**







# Data responsibility

```
graph LR; A((Data responsibility)) --- B((Who is responsible for the data?)); A --- C((Include contact information)); A --- D((Remember this could be a named person or role))
```

Who is  
responsible  
for the  
data?

Include  
contact  
information

Remember  
this could be a  
named person  
or role

# Data sharing

```
graph LR; A((Data sharing)) --- B((How will data be shared?)); A --- C((During)); A --- D((After)); A --- E((Which data will be shared?)); A --- F((Plans for data sharing)); F --- G((Remember to think FAIR))
```

How will  
data be  
shared?

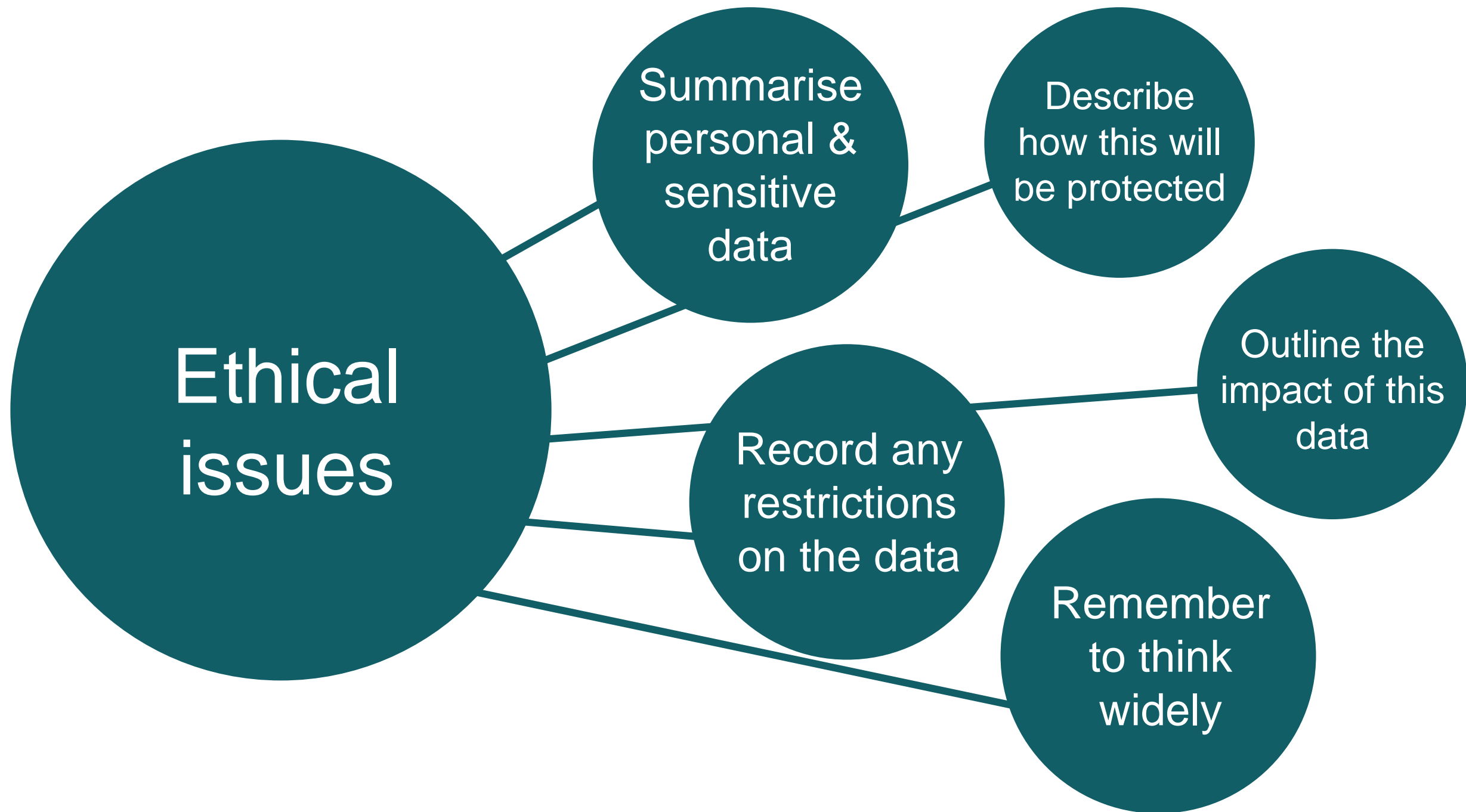
During

After

Which data  
will be  
shared?

Plans for  
data  
sharing

Remember  
to think  
FAIR



# Help

- DMP Online

<https://dmponline.dcc.ac.uk/>

- Moore Library Online Learning Hub

<http://bit.ly/MooreRDM>

- Build a DMP

<http://bit.ly/BuildDMP>

A background image featuring several white LEGO Stormtrooper figures. One figure in the foreground is in sharp focus, while the others in the background are blurred.

# Questions?

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