

# Implementation of Open Access to Scientific Data – Status and Plans in Norway

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Roar Skålin, The Research Council of Norway

# Outline

- The first initiative in 2008
- Establishing and implementing a policy in 2013-2014
  - Survey involving 1500 researchers: Sharing and archiving of publicly funded research data.
  - Main elements of a policy for Open Access to research data.
  - Implementation of the policy.

## The first initiative in 2008

- Political goal to implement “OECD Principles and Guidelines for Access to Research Data from Public Funding”.
- Survey of status in academia and research organisations:
  - Large organisations have better routines for handling data than small organisations.
  - Research institutes have better routines for archiving data than universities.
  - Few organisations have routines for making data available.
- A national conference with politicians, directors and research administrators.

## Full stop ...

- Why?
- My assessment:
  - Lack of maturity – nationally and internationally
  - To much top-down approach?
    - Universities are decentralized and professional organisations.
    - Research institutes choose economically viable solutions.
    - University hospitals care about patients and do not have time for data.
  - Legal issues
- The task seemed overwhelming



# The new initiative in 2013-2014

- Vision
  - Increase quality and innovation in Norwegian research, society and business through open access to research data.
- Result goal
  - Establish and implement a policy for open access to research data generated through research funded by the Research Council.
- Effect goal
  - At the end of the project the scientists should know:
    - which data to make available;
    - how to make the data available; and
    - which infrastructure to use.



# Approach

- Establish a knowledge base
  - Literature study and participation in international efforts
  - Define taxonomy
  - Identify legal and ethical issues
  - Survey involving 1500 researchers: Sharing and archiving of publicly funded research data
- Policy-related work
  - Interaction with the society
  - Develop the policy
- Implementation
  - A pilot in one of our research programmes in 2014
  - Publish a guide for the researchers
  - Adapt our funding mechanisms
  - Promote incentives for sharing data – nationally and internationally

# Survey among researchers in Norway

- Carried out by DAMVAD on behalf of The Research Council of Norway.
- **Objective:** Gain understanding of researchers practices and position regarding archiving and sharing research data.
- **Scope:** Researchers within research institutes, universities, university colleges and Health trusts.
- **Participation:**
  - Total population: 18,863
  - Invites: 6,782
  - Responses: 1,474 (30.6 % response rate)
- News article and report available from <http://bit.ly/1zQjO9Y>



Illustration: Shutterstock

# Major findings of the survey

- Norwegian researchers:
  - Share data and wants to share data.
  - Are gatekeepers for their own data.
  - Generally agree on barriers, challenges and positions towards Open Access to data.
- Three main challenges for sharing data:
  1. Preparing takes up valuable time.
  2. Lack of infrastructure.
  3. Reduce possibilities of future scientific publications.
- The answers to these challenges are:
  1. Better infrastructure.
  2. Implement a system for citation.
  3. Implement guidelines, training and standards for sharing data.



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# *Proposed* policy for Open Access to data

- Open by default, exceptions for:
  - security and confidentiality obligations;
  - protection of personal data;
  - other legal requirements;
  - commercial use by companies, where this is part of the contract with RCN; and
  - data where the cost outperforms the value of open access
- Carrot rather than stick:
  - Principle and guidelines formulated as recommendations and best practices, not absolute requirements.
  - Partly due to lack of infrastructure, standards and system for citation.
  - Would like to strengthen the positive attitude.
- Costs relating to Open Access to data may be included in applications for funding
- Covers research data generated through research partially funded by The Research Council of Norway
- The policy will be reviewed



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# Elements from the guidelines

Research data should be:

- Archived at established data centres.
- Available on equal terms for all users, unless they are restricted by legal, ethical or security aspects.
- Available as early as possible, allowing an embargo period for publishing results.
- Equipped with metadata, based on international standards.
- Equipped with internationally recognised licenses, giving as few restrictions as possible for use, reuse and redistribution.
- Available at lowest possible cost, maximally the actual cost of dissemination.
- Equipped with a long-term plan for data curation.



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```
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    <title>Document Title</titl  
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    <link rev="start" href="./'  
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    @import "style/boas.css";
```

Photo: Shutterstock/Alexey V Smirnov



Illustration: Creative Commons

# Implementation of the policy

- Adapt our funding mechanisms
  - Guidelines for budgeting both costs of archiving/publishing data and buying data
  - Request a data management plan (DMP)
    - Short description in application, final DMP if project is funded?
    - DMP or short description included in peer-review?
    - Would like to increase awareness of data management at an early stage.
- Publish a guide on Open Access to research data
- Fund research infrastructure that:
  - Facilitates open access to publicly-funded research data.
  - Safeguards important Norwegian data series.
- Engage in efforts to establish rewards and incentives for data management, sharing and re-use
  - European Research Council: Workshop on Research Data Management and Sharing, Brussels 18-19 September 2014

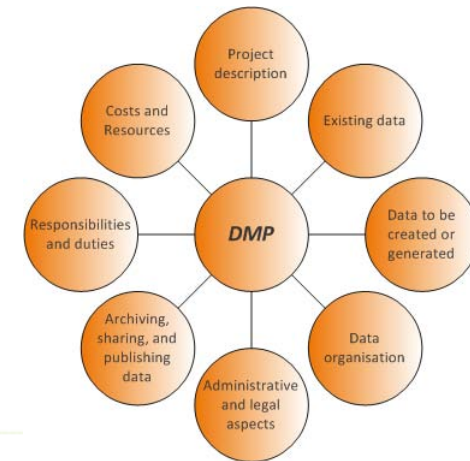


Illustration: Universität Bielefeld



Sage Publication



Photo: Shutterstock

# Ekstramateriale

# Population, invites and response rates

		Population	Invites	Response rate
Universities and university colleges	Humanities	2 360	876	22.9 %
	Agriculture and fishery	699	576	24.1 %
	Mathematics and natural science	1 599	599	31.1 %
	Medical science	3 779	716	28.2 %
	Social science	2 488	746	28.6 %
	Technology	1 767	557	28.7 %
Health trusts	Health	1 867	501	28.9 %
Research institutes	Humanities	101	83	38.6 %
	Agriculture and fishery	1 334	438	41.8 %
	Mathematics and natural science	555	407	33.9 %
	Medical science	588	411	37.2 %
	Social science	564	386	41.2 %
	Technology	1 162	486	34.4 %
Source: DAMVAD	<b>Total</b>	<b>18 863</b>	<b>6 782</b>	<b>30.6 %</b>

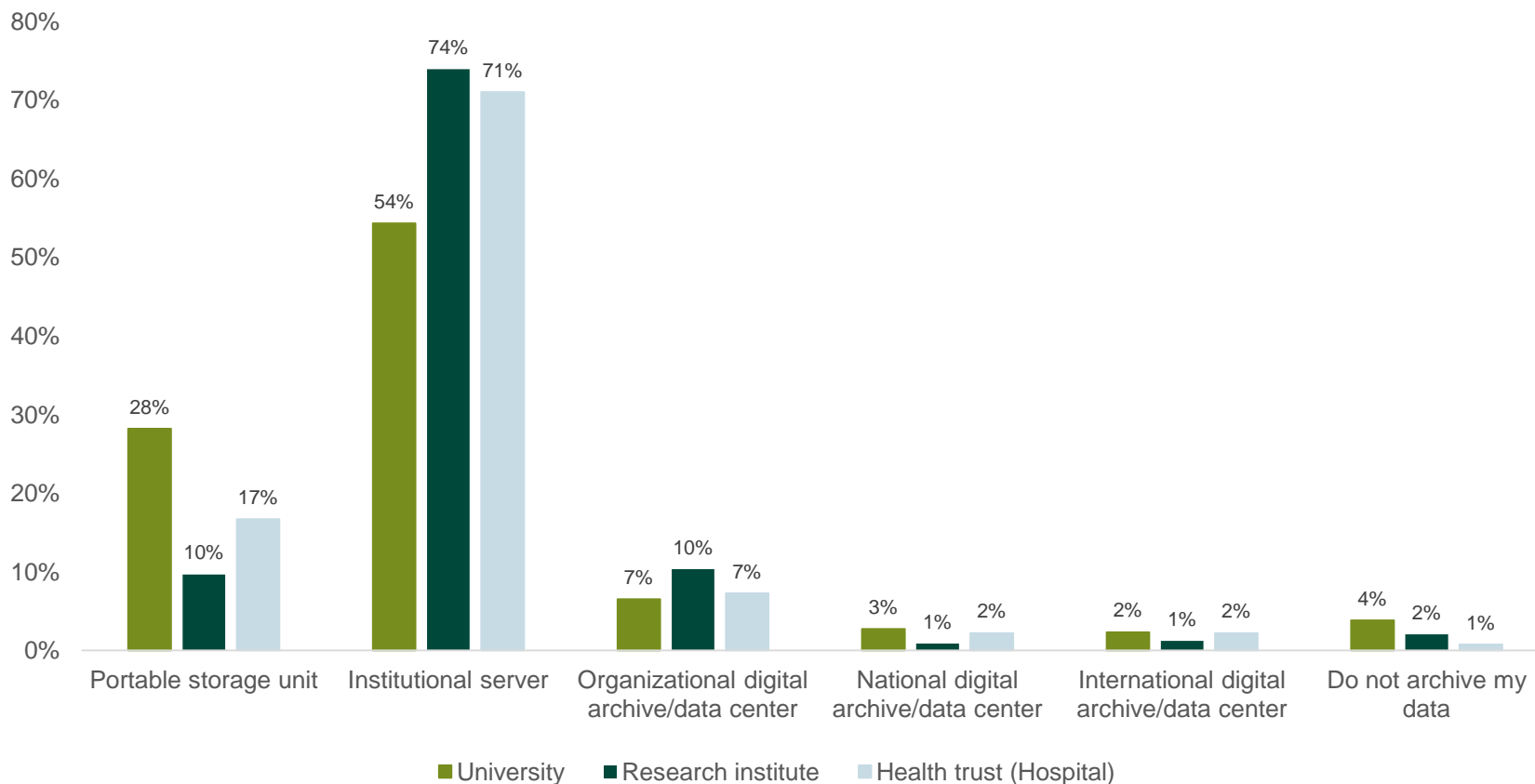
# Can we trust the results?

- The answers are representative for all sub-populations, except:
  - Humanities within the research institute sector.
  - The health trusts.
- However, a large number of invites *actively* chose not to participate:

■ Health trusts:	16,6 %
■ Research institutes:	14,6 %
■ University sector:	6,0 %

# Research data is rarely archived in data centers

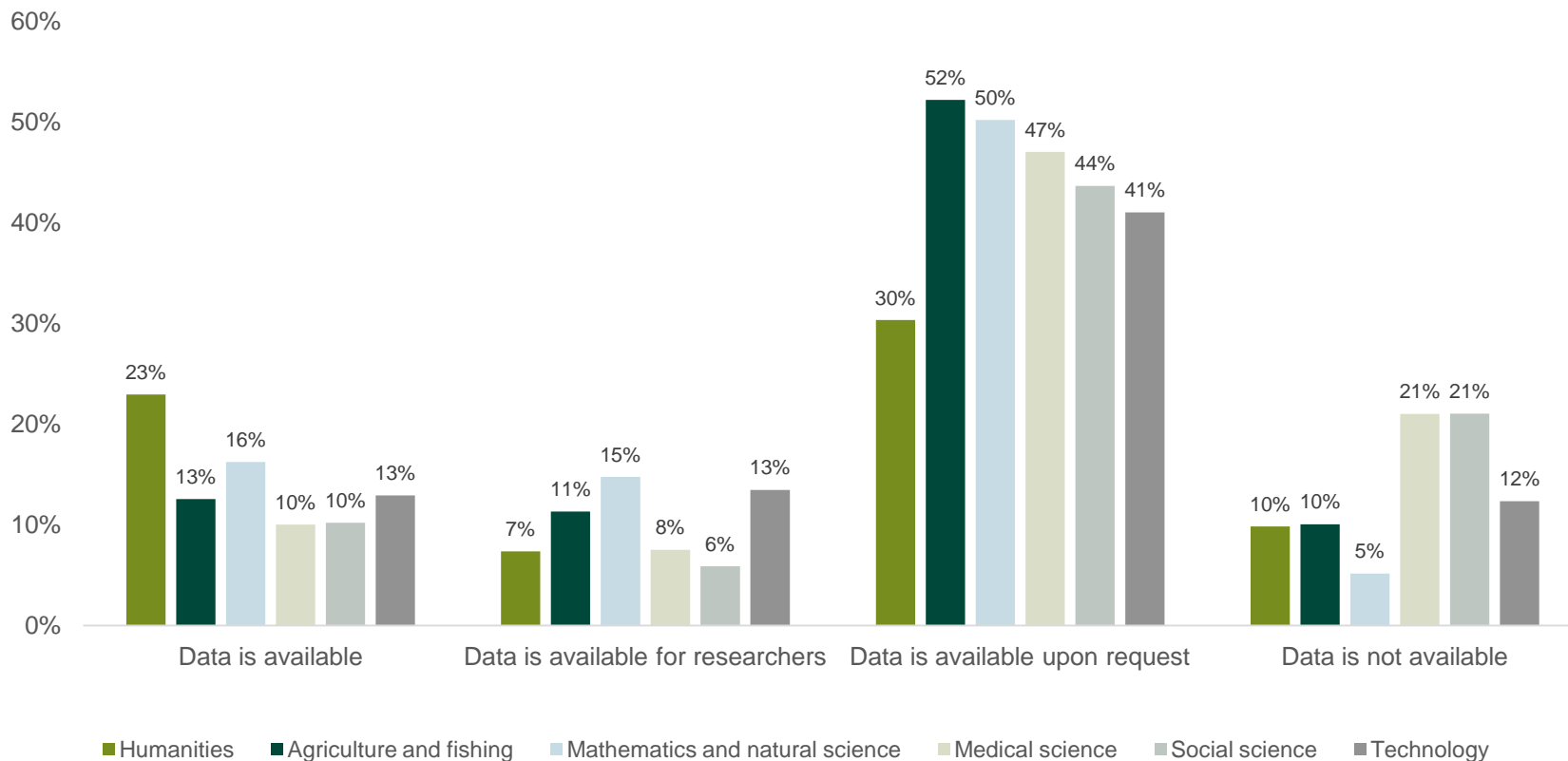
What is the most common way of archiving your research data after results are ready or beyond the life of a project?



Source: DAMVAD

# Data is available, but upon request

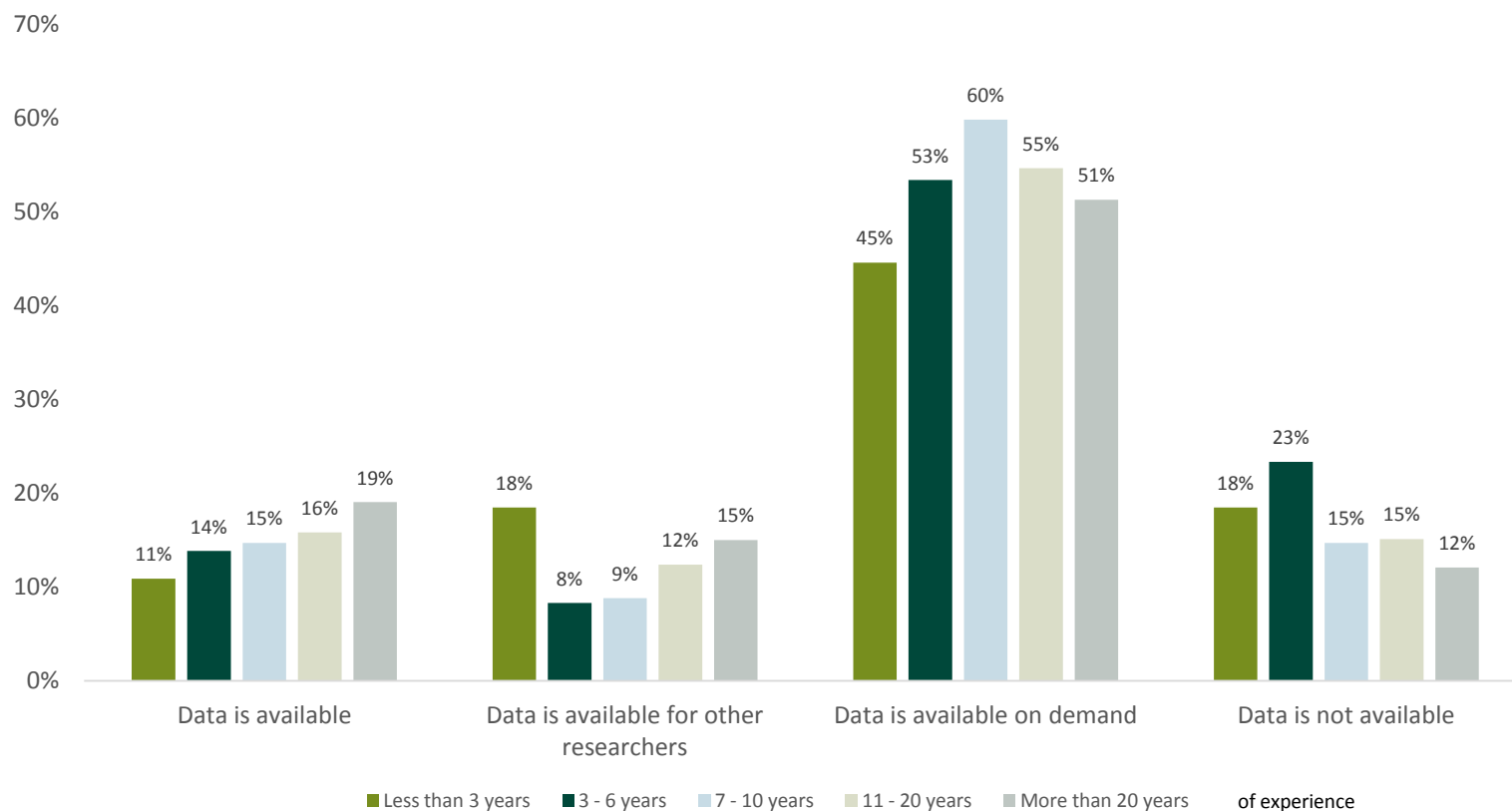
Which of the following applies to the accessibility of most of your research data?





# More openness among experienced researchers

Which of the following applies to the accessibility of most of your research data?



# Norwegian researchers are generally positive towards sharing data

Please indicate if you agree to the following statements related to open access to research data:	Agree	Undecided	Disagree
Enhance research	80.2 %	15.3 %	4.5 %
Stimulate more research collaborations	73.9 %	19.3 %	6.8 %
Make research less interesting	6.5 %	15.1 %	78.4 %
Facilitate education of students and new researchers	76.7 %	18.6 %	4.7 %
Publicly funded research data should not be public property	15.6 %	31.3 %	53.2 %
Lack of open access has restricted my ability to answer scientific questions	21.2 %	35.2 %	43.6 %
Research-ethical obligation to make data available	79.2 %	15.9 %	5.0 %

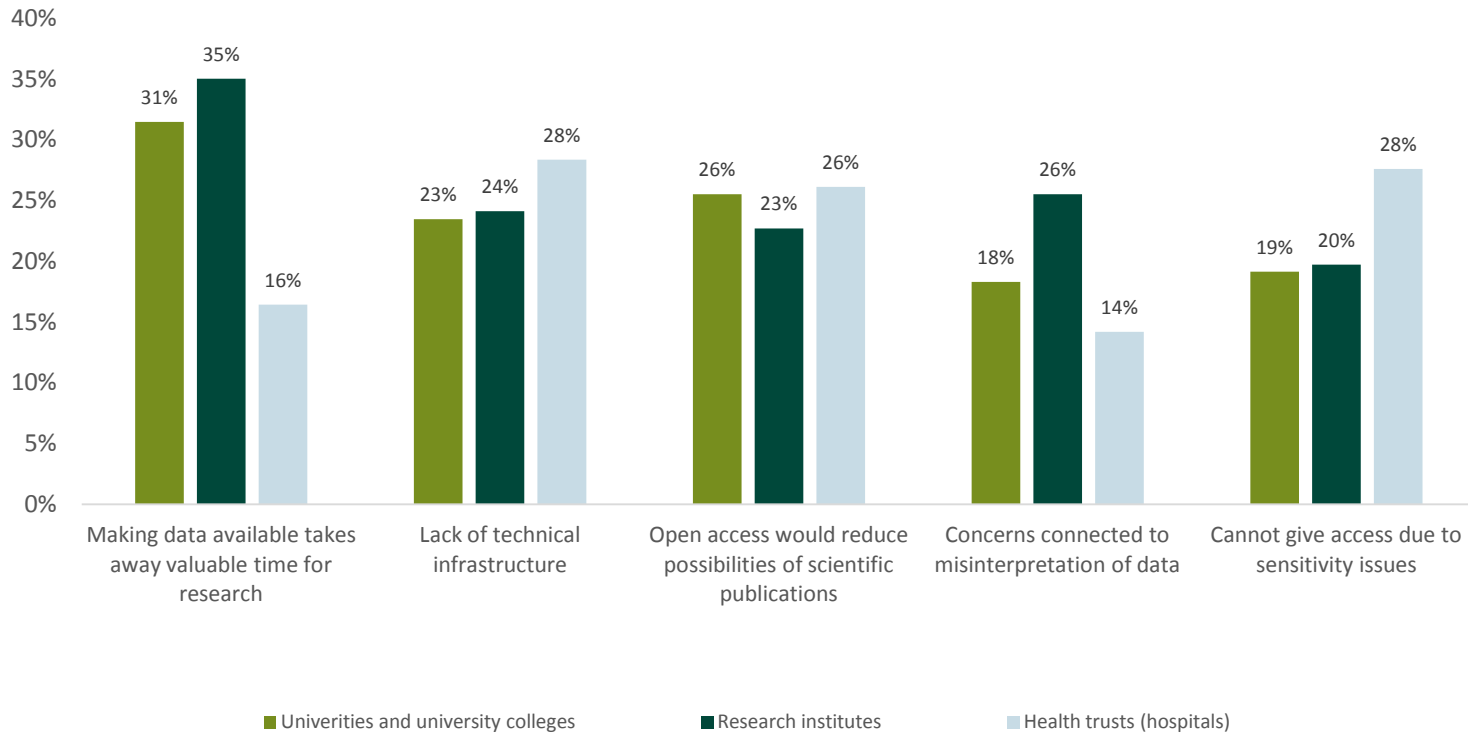
# Main barriers: Lack of time, infrastructure and incentives

Do you see any challenges in making more of your research data available for other researchers? (Maximum 3 answers)

Preparing data for open access takes away valuable research time	31.4 %
Lack of technical infrastructure	24.4 %
Reduce possibilities of future scientific publications	24.4 %
I am afraid other will not understand my data	21.0 %
I cannot give access due to sensitivity issues	20.2 %
I cannot give access due to shared ownership	17.2 %
I don't know	15.3 %
I am afraid data will be misused	11.9 %
I cannot give access due to intellectual property rights	11.0 %
Open access might have a negative economic impact for me and my institution	6.9 %
It will be unethical	6.7 %
I cannot give access due to commercial issues	6.5 %
I do not believe my research data is of interest to others	5.9 %
I do not believe data is secure at a data centre, journal site or alike	4.8 %
Other	4.3 %

# Small differences across sectors

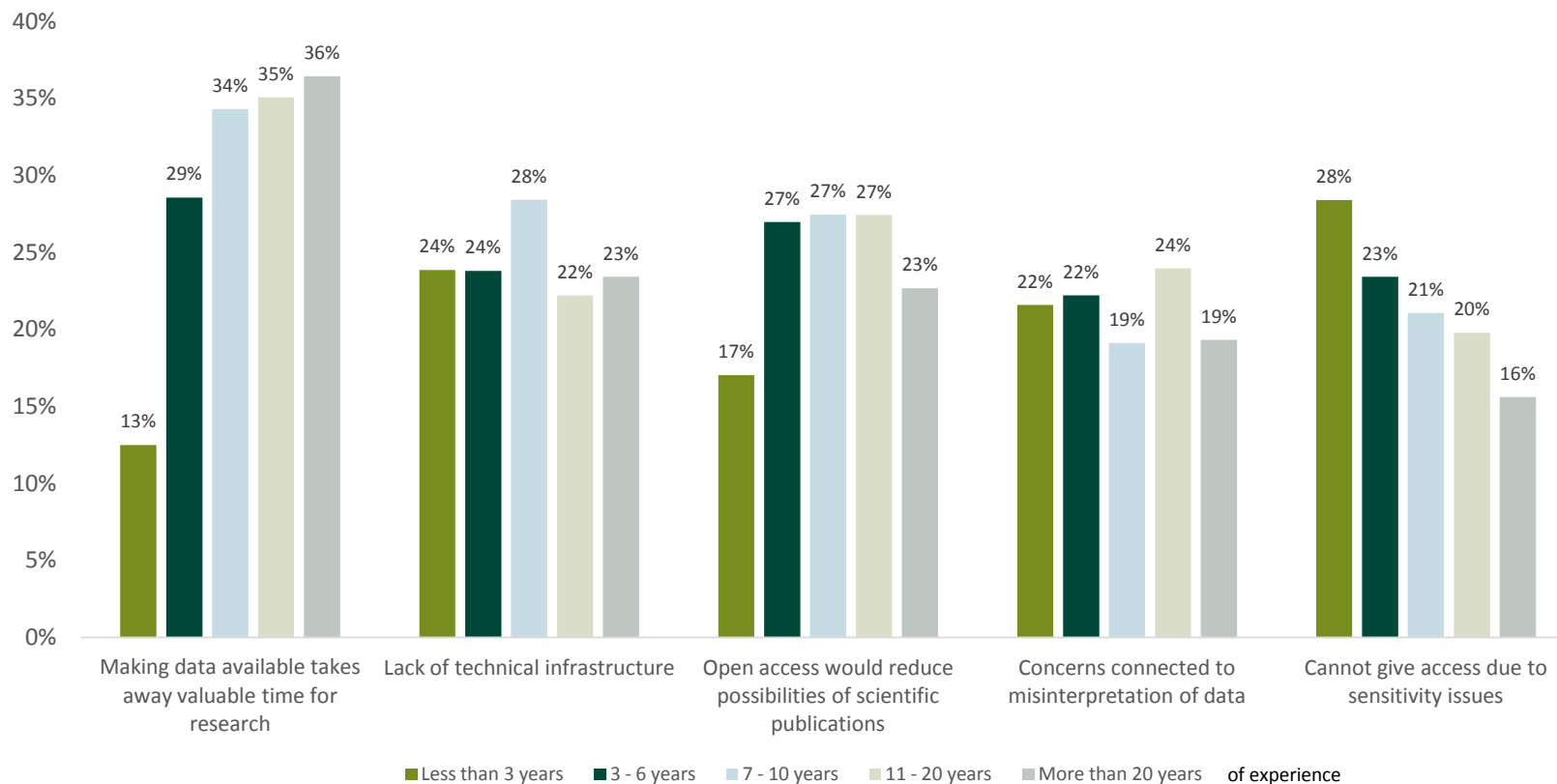
The five main barriers against increased sharing of data



Source: DAMVAD

# Younger scientists more concerned with sensitivity

The five main barriers against increased sharing of data



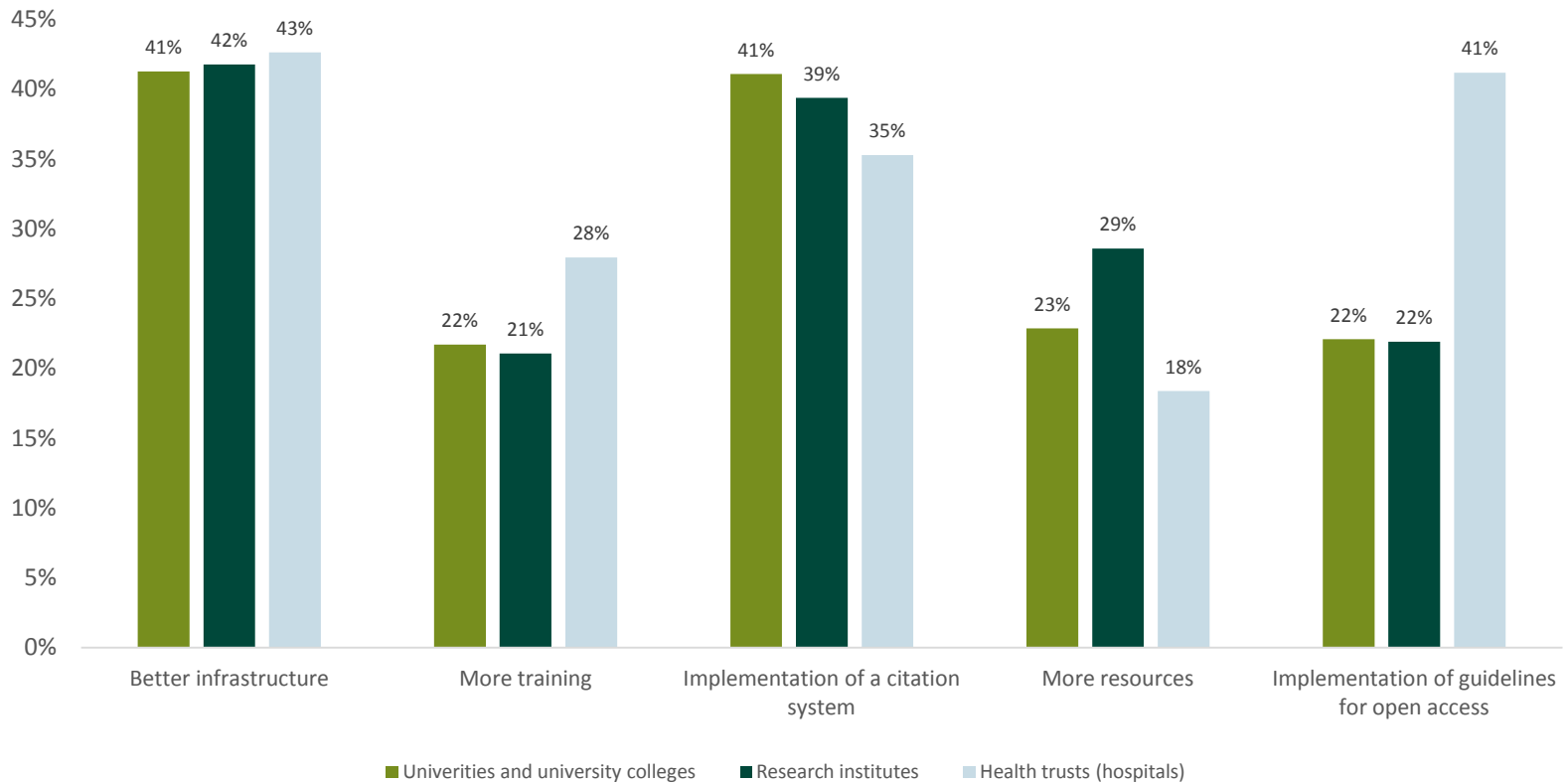
# Researchers call for better infrastructure, citation systems and guidelines

What efforts would make open access to research data to publicly funded research data more interesting for you? (Maximum 3 answers)

Better infrastructure for open access	41.7 %
Implementation of a system for citation	39.7 %
More resources allocated for open access activities	25.2 %
Implementation of guidelines	24.0 %
More training on open access	21.9 %
Implementation of standards	20.7 %
Don't know	16.2 %
Make open access an indicator in the funding scheme	12.3 %
Guidelines to how long I can attain ownership to data before sharing	10.9 %
Make it mandatory to explain how data will be made available	8.0 %
Not allowed to share anyway	6.1 %

# Few differences across sectors

The five main solutions to facilitate increased sharing of data



Source: DAMVAD

# Researchers welcome data sharing as a part of publishing

Do you welcome the trend of making data available as a part of scientific publications? (Multiple choice)

Yes, it could mean that my research could be more interesting for others to follow	50.8%
Yes, it is a sign that my research can be quality assured	53.7%
Yes, it could mean that my data and or my publications will be more cited	28.1%
No, I see no benefit for me	11.0%
I do not know	8.6%
Other	4.8%

Source: DAMVAD