

Imaging Data Management Survey and Proposed Training Curriculum



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BiolImagingUK Meeting, MMC 2025



Aim of the survey

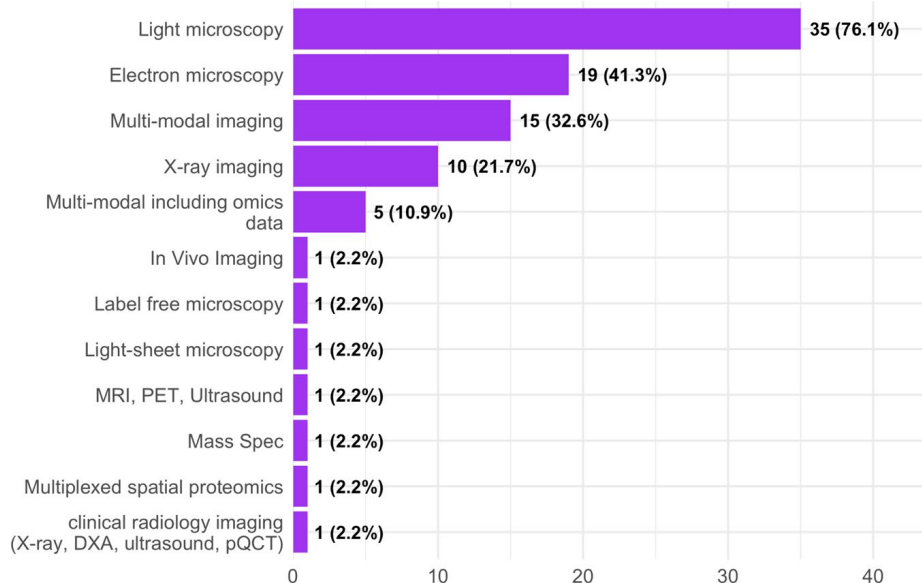
Find out the needs and challenges of the UK imaging community to help us develop targeted training resources

- Find out commonalities and shared challenges between different imaging facilities
- Identify critical skills gaps in imaging data management
- Start planning a training curriculum accordingly

Survey ran from April-May 2025. Received a total of 46 responses

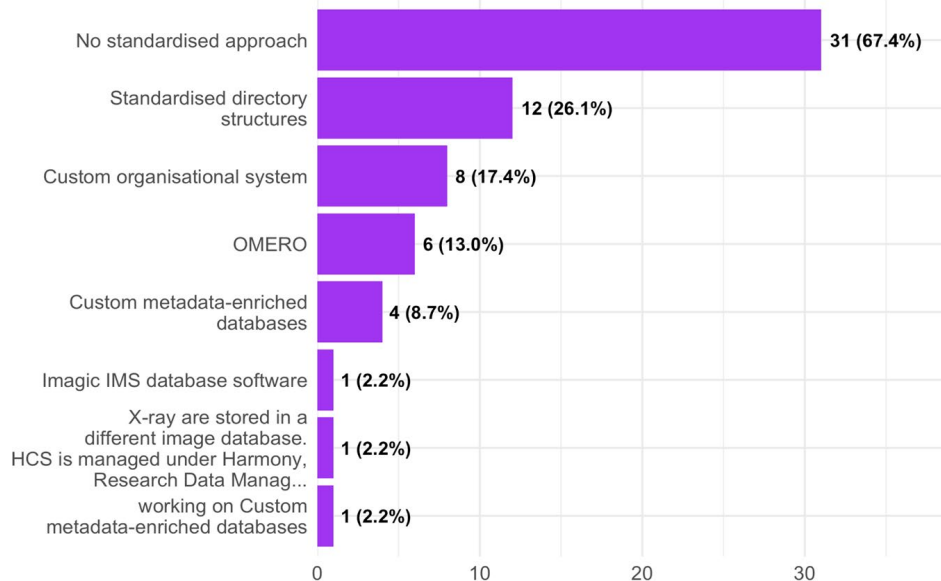
Summary of main findings

What imaging modalities does your facility have/use?



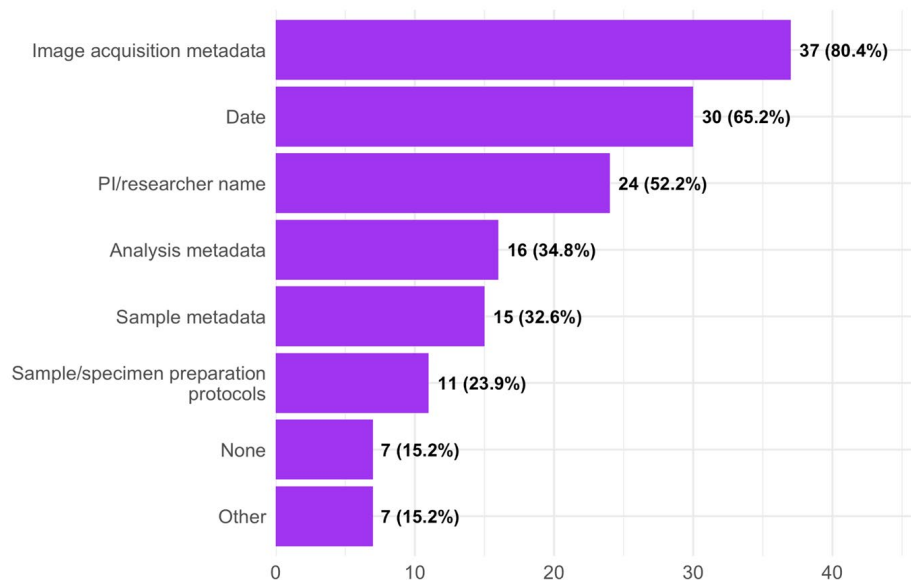
Summary of main findings

How is imaging data managed at your facility?



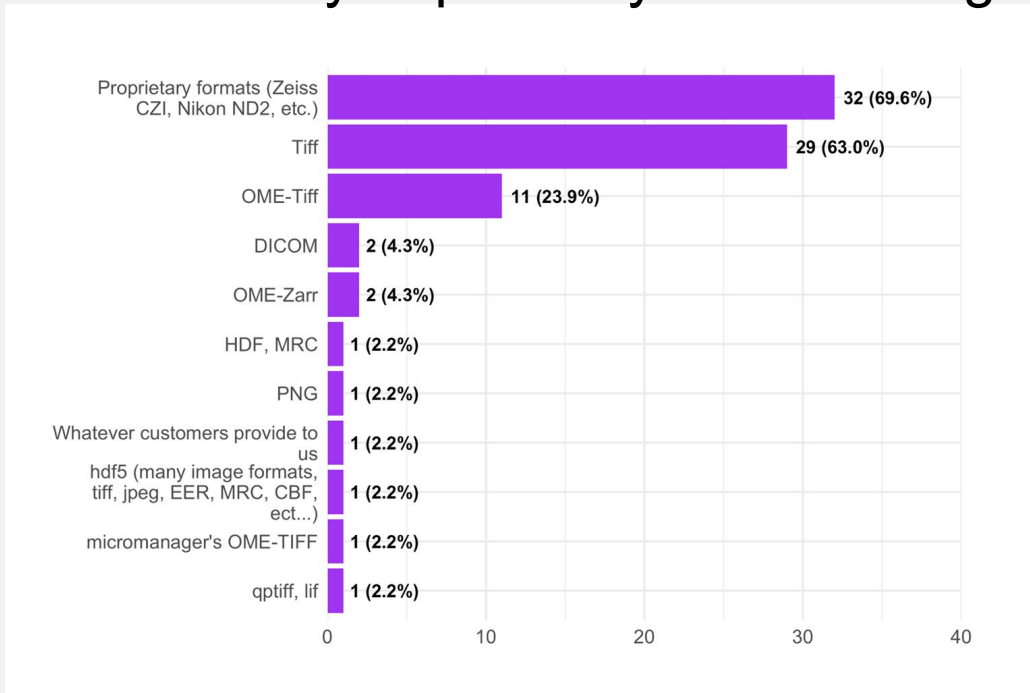
Summary of main findings

What metadata do you record at your facility?



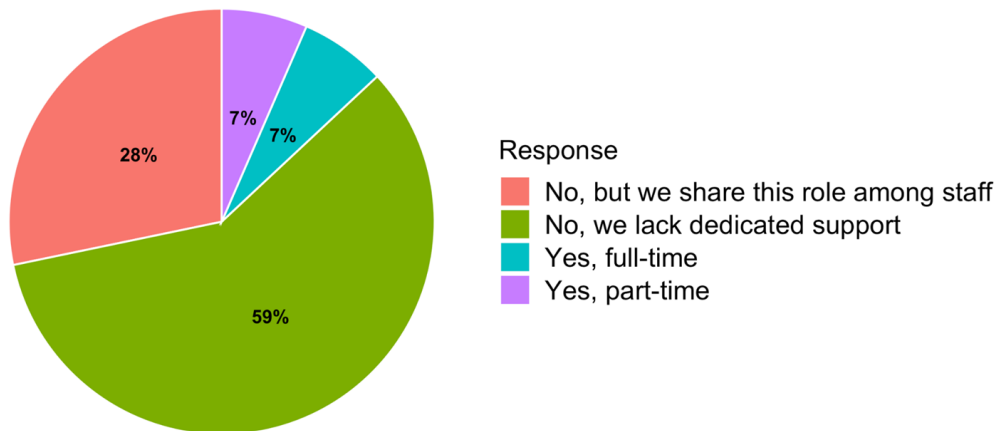
Summary of main findings

What files format do you primarily use for imaging data?



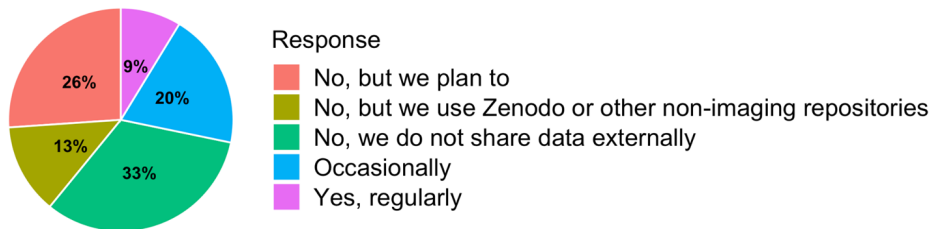
Summary of main findings

Does your facility have a dedicated data steward or data manager?



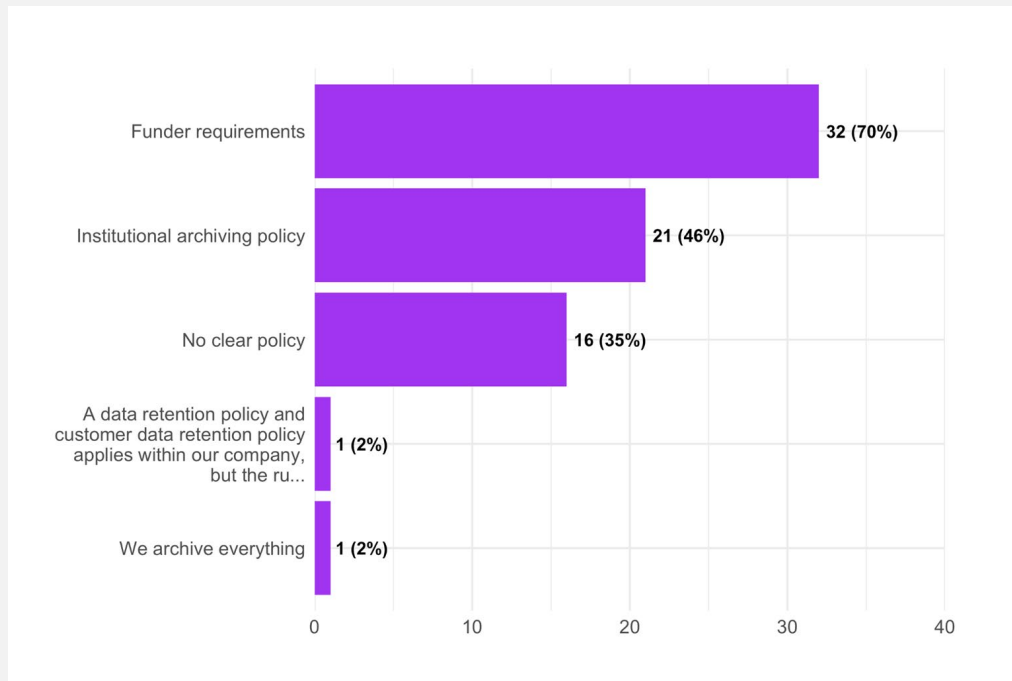
Summary of main findings

Does your facility deposit data in public repositories like the
BioImage Archive and IDR?



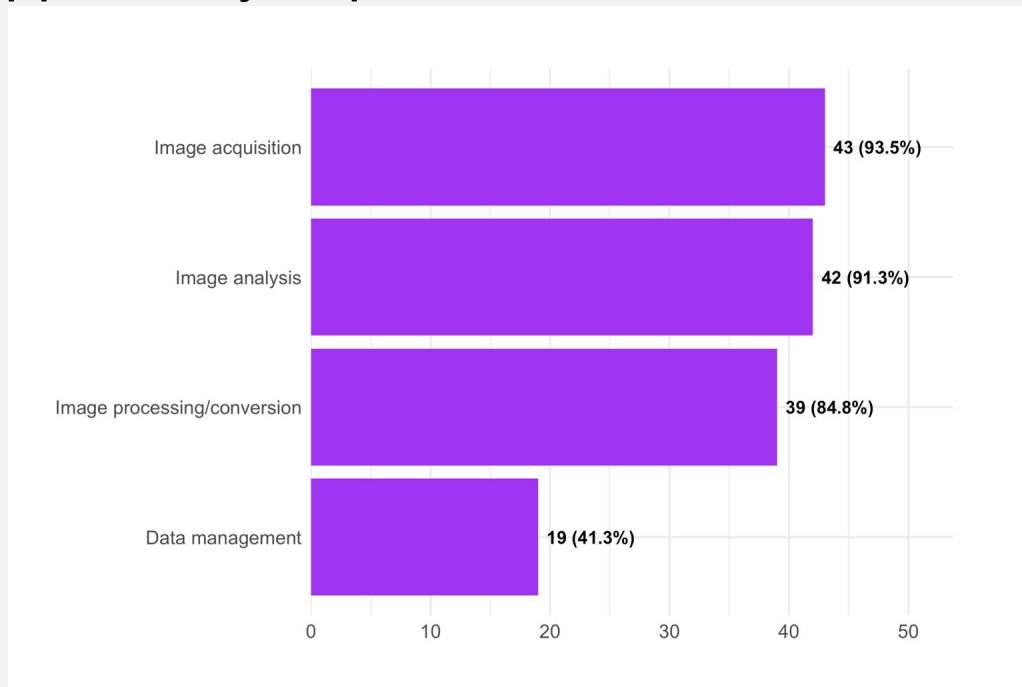
Summary of main findings

What sort of policies govern long-term storage at your facility?



Summary of main findings

What type of support do you provide?



Summary of main findings

Commonalities:

- Hardly any metadata schemas or ontologies are used
- Data is typically stored in institutional storage servers (80%), followed by local hard drives (46%), and cloud storage (22%)
- Main ways of sharing are via external hard drives (54%) and cloud (41%)

Summary of main findings

Shared challenges:

- Lack of a standardised approach and dedicated support for managing imaging data
- Lack of metadata and data flow management, affecting findability of data, data loss, data duplication
- Handling large volumes of data: data storage and transfer
- Data ownership policy (user, university, or facility)
- Different requirements between repositories and funders when depositing data and the time it takes to do it
- Limited staff and lack of recognition

Proposed next steps

Training modules

1. Imaging Data Management & Metadata in Imaging

- **Aim:** Improve the consistency and quality of imaging data management and support the adoption of metadata standards and FAIR principles

2. Imaging Data Storage, Transfer and Sharing

- **Aim:** Learn about standardised file formats and conversion strategies, storage and sharing options, and transfer tools like Aspera or Globus

3. Public Repository Submission and Data Re-use

- **Aim:** Convey the importance of FAIR sharing. Learn about submission process and guidelines, and opportunities for data re-use.

Training modules

4. Train-the-Trainer Programme

- **Aim:** Train facilities staff and anyone who is interested so they can communicate the benefits and know-how of data management and data sharing

Training modules

1. Imaging Data Management & Metadata in Imaging

- **Aim:** Improve the consistency and quality of imaging data management and support the adoption of metadata standards and FAIR principles
 - How, what and when to capture metadata
 - Standardised metadata: use of ontologies, and schemas like REMBI and MIFA
 - How to store, manage and share metadata
 - Best practices and tools (incl. OMERO) in image data management
 - Practical examples of FAIR

Training modules

2. Imaging Data Storage, Transfer and Sharing

- **Aim:** Learn about standardised file formats and conversion strategies, storage and sharing options, and transfer tools like Aspera or Globus
 - Data flow
 - Standardised data formats: open source cloud-friendly formats like OME-Zarr and conversion strategies
 - Tools
 - Infrastructure (involvement of IT department)
 - Remote visualisation and analysis of data

Training modules

3. Public Repository Submission and Data Re-use

- **Aim:** Convey the importance of FAIR sharing. Learn about submission process and guidelines, and opportunities for data re-use.
 - FAIR open data
 - Advantages of using public repositories, i.e. funder policies, long-term storage, increased recognition and collaboration
 - Thinking ahead: submission requirements
 - Submission tutorials
 - Success stories and data re-use examples

**Helpdesk email
&
GitHub repository**

- **Open for bioimage data management consultations**

datahelp_bioimaginguk@gmail.com

- **GitHub repository with training resources**



Feedback

- **Come and find us at Booth 530 and bring your ideas!**