



# Using an Electronic Lab Notebook System to Promote Data Management Plans

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# Indiana University School of Medicine

Academic medical center

**9** regional campuses

**1** medical library

**2,708** full time faculty



# The entire scope



Electronic Lab Notebook



Data Management Plans



Materials Management



Space Management



Lab Assets



Freezer & Fridge Management

**What came first...**

**electronic lab notebooks  
or  
data management plans?**

Photo by [Mai Moeslund](#) on [Unsplash](#)

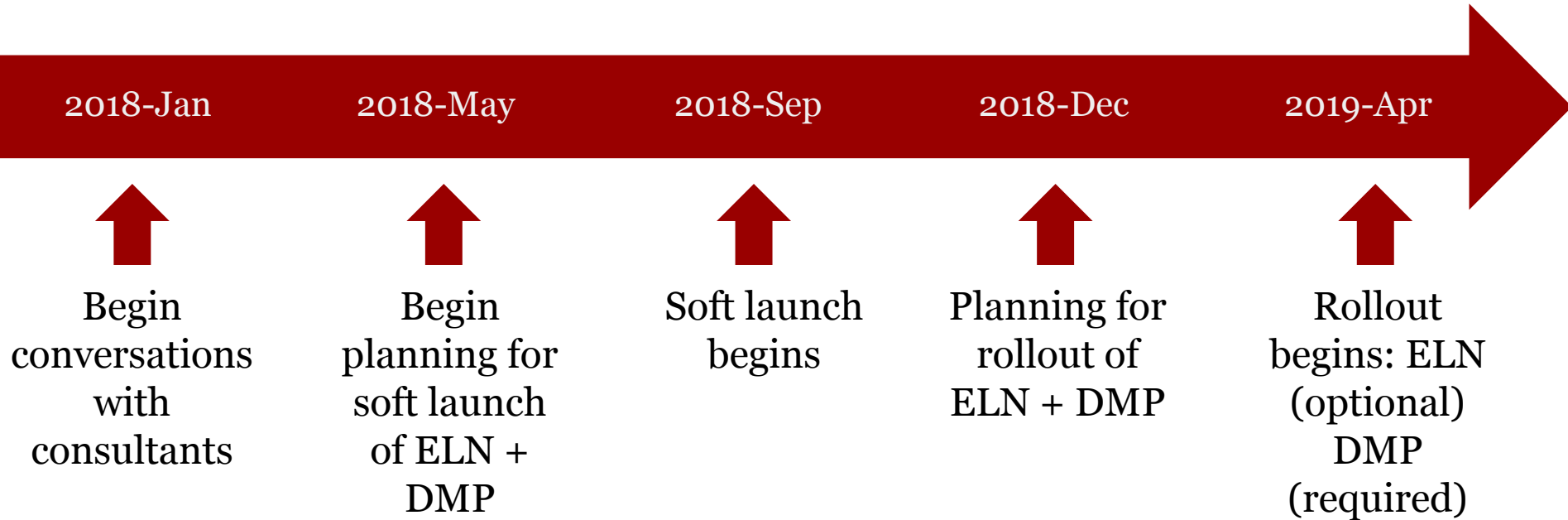


# Emphasis on risk management

From the School of Medicine's perspective, improving information/data management practices through use of ELN and the creation of DMPs were identified as preventative measures to:

- Prevent retractions
- Guard against research misconduct
- Prevent repayments to funders due to misconduct findings

# Project timeline



# Soft launch - goals

1. Develop training materials and process to inform 2019 rollout of electronic lab notebook (ELN) and data management plans (DMPs)
2. Test and refine the operational Data Management Plan template with early adopters
3. Gather information related to:
  - Baseline level of research data management practices related to storage, documentation, and personnel
  - Pain points & challenges of researchers to guide implementation plan
  - Support, resource, and infrastructure needs of IUSM researchers

# Early adopter approach



9 labs

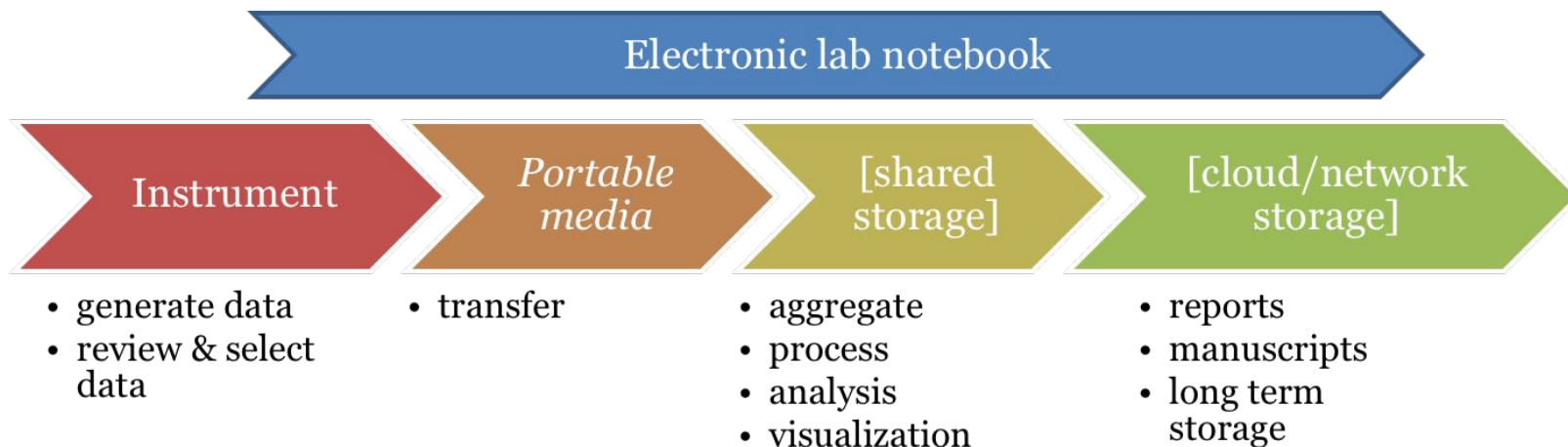


~67 individuals

- **Step 1** - gathered information about current practices, pain points, and cyberinfrastructure from each lab
- **Step 2** - identified priority areas where each lab could focus data management efforts
- **Step 3** - each lab completed ELN training
- **Step 4** - followed up with data management planning sessions to develop DMPs; distributed a survey assessing data maturity in lab



# How DMP integrates with ELN



Framed data management plans as (ideally) capturing all parts of research processes.  
ELN offers an opportunity to assess data management practices within a lab.

# Support for early adopters

- DMP interview - gather information about current practices, pain points, cyberinfrastructure, etc.
- RDM/DMP presentation on identified priority practices to address their specific needs
- ELN training
- Follow-up consultations as needed/requested by teams
- Follow-up surveys

# Soft launch - initial outcomes

## What worked?

- Developed recommended practices for ELN at IUSM
- Identified core elements of “operational” DMP:
  - Onboarding & exit procedures
  - Roles & responsibilities for all team members
  - Storage plan across file servers & ELN
  - Folder structure & file naming conventions
  - Specimen or tissue management

## What struggled?

- Folks still don't like surveys and/or filling out templates
- Variation in willingness/tolerance of PIs & Lab Managers to dictate specific practices to their teams
- Desire for templates/examples that are not typically available publicly

# Project challenges

**Project scope** - figuring out what research/what research teams are in scope (largely driven by university data classification and governance requirements)

**Access** - determining licensing and availability across campus/university

**Communication** - making sure library is at the table for all relevant conversations (e.g., website)

**Timing** - planning, coordination, and scheduling are hard on an accelerated schedule (6 months)

# Project opportunities



## Relationship building

- Position library within research division of School of Medicine
- Demonstrate the value of the librarian perspective and library relationships
- Help new leadership and consultants understand academic and IUSM institutional research context



## Resource development

- Develop locally relevant ELN training & recommended practices
- Build communities of practice by supporting template creation and sharing
- Develop a mechanism to gather DMP as an information source to inform RDM maturity assessment and data governance

# Moving forward - 2019 rollout

We are concurrently communicating to the IU School of Medicine community:

1. (free) availability of the electronic lab notebook system for research purposes
2. requirement that all externally funded groups have data management plans in place

# Thank you & find us

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