Apr 9th, 12:00 PM

Developing a Data Management Plan for a Corporate Laboratory: Using a Case Study Method for Teaching

Eric M. Kuzma
Simmons College

Follow this and additional works at: http://escholarship.umassmed.edu/escience_symposium

Part of the Scholarly Communication Commons

This work is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 License.

http://escholarship.umassmed.edu/escience_symposium/2015/posters/2

This material is brought to you by eScholarship@UMMS. It has been accepted for inclusion in University of Massachusetts and New England Area Librarian e-Science Symposium by an authorized administrator of eScholarship@UMMS. For more information, please contact Lisa.Palmer@umassmed.edu.
## Abstract

This poster looks at the importance of developing a Data Management Plan (DMP) in the biological sciences. Grant applications increasingly require applicants to attach a DMP to their research proposals to outline the creation, storage, and dissemination of research data and information. One way to understand and assess a corporation’s current DMP is to use the case study method, and this poster will walk through a DMP using this research method. This particular case study looks at the management of data during the research process. The scenario will contain an unresolved issue or a conflict. The case study is deliberately ambiguous in order to encourage questions and a lively classroom debate. The instructor should act as a moderator rather than lead the discussion.

### Data Life Cycle

1. Planning
   - **Research Question**: What data management plan is in place for the current project?
   - **Data Management Plan (DMP)** in the biological sciences.

2. Data Collection
   - **Data Collection**: How is data collected and recorded? Are there any issues with data accuracy?

3. Data Organization
   - **Data Organization**: How is data organized and stored? Are there any issues with data organization?

4. Data Storage and Backup
   - **Data Storage and Backup**: How is data stored and backed up? Are there any issues with data storage and backup?

5. Data Access and Security
   - **Data Access and Security**: How is data accessed and secured? Are there any issues with data access and security?

6. Data Sharing and Re-Use
   - **Data Sharing and Re-Use**: How is data shared and re-used? Are there any issues with data sharing and re-use?

7. Plans for Archiving and Preservation of Data
   - **Plan for Archiving and Preservation of Data**: How is data archived and preserved? Are there any issues with data archiving and preservation?

### Data Management Modules and Recommendations

#### Module 1: Overview
- **Overview of the DCC Curation Lifecycle Model**
- **Overview of Research Data Management**

#### Module 2: Types, Formats, and Stages of Data
- **Types of Data**
- **Formats of Data**
- **Stages of Data**

#### Module 3: Contextual Details
- **Contextual Details**
- **Costs and Benefits**
- **Legal and Ethical Issues**

### Conclusion

The use of lab notebooks continues to be the standard means of recording experimental data points. That information is then transferred to an Excel file and uploaded to the server. The Informatics Lead then reviews the documents and uploads it to its respective departmental subfolder according to month of the experiment. There are two issues here. There is no alternative backup to a paper lab notebook. Also, errors can be introduced when copying information from the lab notebook to the Excel file. Using an electronic lab notebook would eliminate that unnecessary step and reduce the chance of a transcription error. This electronic data can be backed up and secured. Test and non-test data should be kept in separate files. Naming conventions should be uniform across all departments.

## Complexities Surrounding Industrial Laboratories

The first layer of complexity is that companies are not required to share proprietary data. The issue becomes more complex when funding for a project comes from both grants and corporate sources. These issues can be resolved during the grant application process. For example, the NIH may recognize that there may be circumstances where the other funder requests that public data sharing be restricted. An approved proposal can work out the details between the two funding parties. One can also put in disclosure delays with the timeframe to be agreed upon by all parties.

### References


### Figures

- **Figure 1.** Managing data during the research process.
- **Figure 2.** Stages of curation and preservation of data.