Building Data Management & Repository Services: The IUPUI Approach

Heather Coates, IUPUI University Library Center for Digital Scholarship

NNLM MAR Research Data Management Symposium
April 28, 2014
Overview

1. Background
2. Lessons Learned
3. Successes
4. Ongoing Challenges & Future Directions
About Me

• Title: Digital Scholarship & Data Management Librarian, Liaison to the Fairbanks School of Public Health
• Part of the IUPUI University Library Center for Digital Scholarship
• Trained as a medical librarian, with focus on health informatics
  – Prior career as research coordinator in psychology
• Primary interests: identifying data management practices that support high quality data and promote research integrity, transparency, interoperability, and sharing
• ePortfolio: coateshl.wordpress.com
What is IUPUI anyway?

• Urban health sciences campus offering both Indiana University and Purdue University degrees, managed by IU
• ~30,000 students (18K undergrad, 12K grad + prof)
• Four libraries on our campus
  – 3 embedded within Schools of Medicine, Law, Dentistry
  – University Library serves all other schools – Science, Engineering & Technology, Liberal Arts, Social Work, Nursing, Public Health, etc.
• No other libraries offering data services at this time
Data Services @ IUPUI

• Digital Scholarship & Data Management Librarian (~60% of my time)

• Support from Operations Team (Library IT)
  – Mark Wood (dSpace committer)
  – Andy Smith (Drupal guru)

• [2014] 2 liaisons affiliated with the Center interested in data management & curation

• Leverage existing institutional, campus, & library resources
Research Support @ IUPUI

• Office of the Vice Chancellor for Research (OVCR)
  – Proposal Development
  – Promotion of research @ IUPUI

• Office of Research Administration (ORA)
  – Contracts & Grants
  – Compliance: IRB, IACUC, Chemical Safety, etc.
  – Research Ethics, Education, & Policy (REEP)

• University Information Technology Services (UITS)
  – Research Technologies Center (services)
  – Pervasive Technology Institute (services & research)

• IN Clinical Translational Sciences Institute (CTSI)

• University Library (UL)
Success Ln

Failure Dr
Building new relationships

• OVCR
  – Co-sponsor & promote funder workshops
• ORA REEP
  – Participate in RCR panel series
• University IT Services *(still in progress)*
• Indiana CTSI Data Management Team
  – Support for developing data management lab
• Academic Affairs
  – Workshops on use of impact metrics in P&T dossiers
• Subject/Liaison Librarians *(still in progress)*
  – Data bootcamp *(this summer)*
IUPUI DataWorks

• Established in 2012, separate from publication repository (IUPUI ScholarWorks)
  – Anticipate migrating to platform better suited to data in the next 3-5 years
• dSpace 3.2
  – Google Analytics to capture download metrics, author level profiles
• Dublin Core & LCSH used currently
• 3 data sets deposited, all by librarians
• In progress
  – EZID implementation for minting DOI
  – CAS authentication
  – Migration to 4.0
Data Management Lab

• Literature review of strategies for managing data
  – Statistics, computer science, library and information science, ecology, clinical research

• Linked strategies to the DataONE Data Life Cycle
  – Researcher-oriented representation of the process
  – Examples and real-world scenarios
  – Mixed use of case study and attendee research

• Aligned with current issues in research: responsible conduct of research, retractions, reproducibility crisis
Data Services @ IUPUI

Fall 2011
- Joined UL
- Met with OVCR
- Environmental scan

2011 2012 2013 2014

2011
- NSF DMP workshops
- NSF DMP consults
- Developed guidance doc
- IU Data Working Group
- Established IUPUI DataWorks
- Build relationships with ORA REEP & OVCR

2012
- OSTP memo presentation to CAD
- DMPTool support
- Develop data management curriculum
- EZID membership
- NSF DMP tutorial
- Build relationship with CTSI Data Management Team
- IUPUI DataWorks Google Analytics project

2013
- IUPUI DataWorks Google Analytics project

2014
- Data Management Lab Pilot
- Data Management Lab 2.0
- NIH Data Sharing workshop
- Systematic outreach
- Data reference tools
- Data boot camp
- Text mining cultural heritage collections
LOOKING BACK...
LESSONS LEARNED
Know Your Environment

- Formal processes & units
  - Academic research process
  - Library expertise and resources
  - Research Administration
  - University IT
  - Associate Deans for Research

- Local culture
  - Institutional/campus/departmental culture
  - Institutional/campus initiatives, priorities, strengths, weaknesses, etc.
The Problems

• Academic research is complex, time consuming, expensive, and unevenly regulated

• Increasing burden on researchers over the past two decades
  – 42% of funded research time spent on administrative tasks related to research (Rockwell, 2009)

• Most researchers were not trained to use many of the tools available today
Researcher Priorities

• What do researchers want? care about?
  – To make a difference/Fulfill their curiosity
  – To do good research
  – To get funding
  – To share results with colleagues
  – Recognition
  – Security

• What are the reward mechanisms at your institution?
Doing research in a digital age

Proposal process

Data life cycle

Research life cycle
Research Life Cycle

Generate ideas

Find partners

Develop funding proposals

Conduct research

Dissemination

Open access & e-Publishing

Data citation

Project documentation & metadata

Implementing data management plans

Rights advisors

Locating data

Building research networks

Data management planning & plans

altmetrics
Proposal development process

1. Initiate study
2. Proposal development
3. Submission (internal)
4. Review (internal)
5. Revisions/adjustments (internal)
6. Submission (external)
7. External review
8. Budget committee review
9. Award notification
10. Contract & grants negotiations
11. Compliance with institutional data policies & feasibility of DMP?
12. Compliance office(s) approval
13. Implementing data management plans
14. Project documentation & metadata

- Data management planning & plans
Data life cycle

- Data management planning & plans
- Documentation
- Implementing data management plans
- Data collection
- Data processing
- Data dissemination
- Data analysis
- Data discovery & re-use
- Data citation
- Metadata creation & training
- Curation
- Preservation
- Data repositories
- Persistent identifiers
- Rights advisors
For what it’s worth, my $.02

• You can’t do it all, so identify gaps and needs, then choose a few things you can do well.

• Leverage existing resources
  – Infrastructure
  – Expertise & interests
  – Relationships

• Start with something familiar
  – Offer workshops or consultations
  – Mediated deposit into subject repository
  – Creating metadata

• Build on existing relationships, where they exist
It’s all about the relationships
Manage Relationships to...

• Build awareness
  – Word of mouth is powerful
  – People tend to tap into social networks before turning to librarians

• Demonstrate relevance to institutional and professional priorities
  – This conversation differs for every person

• Understand researcher needs
  – Use a standardized tool (e.g., Data Curation Profile) to gather information systematically
Things I’d like to do better...

• Raise awareness about the many options for sharing research data, even sensitive data
• Have powerful elevator speeches for data management, sharing, and curation
• Develop a strategy to identify key relationships to establish and maintain them
• Gather a group of advisors to inform library-based data services
• Foster a campus-wide conversation about research data management and sharing
A culture of success

- Strong liaison/subject librarian relationships with research faculty, staff, students, as well as programs and departments
- Trust in the library and librarians to preserve and curate their data
- Flexibility within the library to pursue new activities
- Possibility of failure accepted
- Recognized value of library as partner
- Library’s mission and goals need to be well-defined and relevant to institutional mission and goals
Recap

1. Background
2. Lessons Learned
3. Successes
4. Ongoing Challenges & Future Directions
References

5. Ter Haar, Kate. (2013). Isn't it funny how day by day nothing changes, but when we look back everything's different? [digital image]. Retrieved April 21 from Flickr: https://www.flickr.com/photos/katerha/8380451137
Questions?

Heather Coates
Digital Scholarship & Data Management Librarian
hcoates@iupui.edu
317-278-7125
http://www.ulib.iupui.edu/digitalscholarship/coates

Data Services Program
IUPUI University Library Center for Digital Scholarship
http://ulib.iupui.edu/digitalscholarship/dataservices