L4RD-to-date on one slide in a font that is probably too small

- Co-chairs: Andi Ogier, Birgit Schmidt, Michael Witt
- 337 subscribed
- Examples of L4RD engagement and outputs: 2-volume *IFLA Journal* special editions, 23 Things Libraries for Research Data, RDA Sloan DataShare fellows, white papers, engagement with other library organizations and conferences, joint meetings with other RDA groups, etc.
- Wiki: [https://www.rd-alliance.org/node/1633/all-wiki-index-by-group](https://www.rd-alliance.org/node/1633/all-wiki-index-by-group)
- RDA P2 Washington: First meeting as a BOF
- RDA P3 Dublin: Research Data Skills in Libraries
- RDA P4 Amsterdam: Research Data Solutions in Libraries
- RDA P5 San Diego: Organizational Models for Data Services
- RDA P6 Paris: Developing and Adapting to Research Data Policies
- RDA P7 Tokyo: Applying Global Information-sharing and collaboration to Local Practice
- RDA P8 Denver: International Data Week
- RDA P9 Barcelona: Bringing Research Data Management into the Library Mainstream
- RDA P10 Montreal: Realities and Assessment of Library Data Services
The Reality and Assessment of Library Data Services

• The Realities of Research Data Management – Lorcan Dempsey

• Mapping the Maturity of Research Data Services – Liz Lyon

• RISE: A Lightweight Approach to Self-assessing Your Institution’s Research Data Service Capabilities – Angus Whyte

• Self Assessment of Research Data Services and 4TU.Centre for Research Data Services with RISE - Wilma van Wezenbeek

• Discussion

• Library Carpentry – John Chadocki, Juliane Schneider, Tim Dennis
The Realities of Research Data Management

RDA 10th Plenary Meeting
IG Libraries for Research Data
Montréal, Canada
19-21 September 2017

Lorcan Dempsey
VP Membership & Research
OCLC

@LorcanD

PART ONE

A Tour of the Research Data Management (RDM) Service Space

Rebecca Bryant, Brian Lavoie and Constance Malpas

Based on the report by Bryant, Lavoie, Malpas.
The Evolving Scholarly Record

Research data management

Outcomes

- Discussion
- Revision
- Re-use
The Realities of Research Data Management

• How **universities** build or acquire RDM capacity
• Key decision points
• Case studies:
Four Reports

Scoping the RDM Service Bundle

RDM Service Space

Sourcing & Scaling Choices

Incentives to Acquire RDM Capacity


Sept. ‘17

Nov. ‘17 (tentative)

Jan. ‘18 (tentative)
The RDM Service Space

Research Data Management
Service Categories

**EDUCATION**
Raise awareness of RDM’s importance, encourage RDM skill-building, and disseminate RDM tools and resources

**EXPERTISE**
Decision support for, and customized solutions to, specific research data management problems

**CURATION**
Technical infrastructure and related services that support data management throughout the research cycle

Figure 1. RDM Service Categories. From A Tour of the Research Data Management (RDM) Service Space: The Realities of Research Data Management, Part 1. (CC BY 4.0)
Four RDM Service Bundles
Scoping the RDM Service Bundle

“... RDM is not a monolithic set of services duplicated across universities ...”

“... it is a customized solution ...”

“... shaped by a range of internal and external factors ...”

⚠️ Scoping an RDM service bundle does not necessarily mean implementing the full range of services within the RDM service space.
Scoping the RDM Service Bundle: Other Findings

An RDM service bundle includes not just what is built and deployed locally, but the full range of services that the institution manages, or to which it brokers access.

Many research institutions choose to offer RDM Curation services in parallel with, rather than subsumed in, the institutional repository.

Ongoing fluidity and uncertainty in the RDM service space remains a challenge in scoping RDM service bundles.

Local RDM curatorial services don’t need to be positioned as a first choice solution for local researchers.

No RDM service bundle is an island—all are connected, to a greater or lesser degree, to the broader, external RDM service ecosystem.
Preview: Incentives to acquire RDM capacity (report #3)

External Compliance

Key driver

University RDM Service Bundle

INternal

Demand Signals

EXTERNAL

Evolving Scholarly Norms

Institutional Priorities

OCLC
Preview: Sourcing & Scaling Choices (report #4)

Four different universities, four different approaches to sourcing and scaling. The point where each university locates itself determined by local & external context.
Thank you

@LorcanD

Scoping the RDM Service Bundle

Sourcing & Scaling Choices

Incentives to Acquire RDM Capacity

RDM Service Space


Sept. ’17

Nov. ’17 (tentative)

Jan. ’18 (tentative)
Mapping the Maturity of Research Data Services

Professor Liz Lyon
School of Computing and Information,
University of Pittsburgh, USA
RDAPlenary10, Montreal Canada, September 2017
International RDS Study

• Aim to build on prior studies: Corrall, Cox, DCC
• JASIST (2016) Cox, Kennan, Lyon & Pinfield
• Online survey Sep 8 – Dec 4, 2014
• Invitations to academic library directors
• 7 countries: Australia, Canada, Germany, Ireland, Netherlands, NZ, UK
• US not included: ongoing work Carol Tenopir
• Respondents n=170
• Advisory/advocacy vs technical services
• Service maturity: none, basic, developing, extensive
Current Research Data Services

• **Advisory services**
  – Web resource/guide *most common service, well-developed / extensive*
  – Training / data literacy *positioned as a growing service ie basic / well-developed*

Cox, Kennan, Lyon & Pinfield (2016) JASIST
Current Research Data Services

- **Advisory services**
  - Web resource/guide *“most common service, well-developed / extensive”*
  - Training / data literacy *“positioned as a growing service ie basic / well-developed”*

- **Technical services**
  - Data repository *“best considered as basic”*
  - Curation of active data *“predominantly no service”*
  - Create/transform metadata *“predominantly no service”*
  - Prepare data for deposit *“predominantly no service”*
  - Long term preservation of research data *“predominantly no service”*
### Future Priorities?

- **Engage with research projects/project participation**
- **Data analysis**

> uniformly considered to be low priority services for future development”.

<table>
<thead>
<tr>
<th>UK</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Future top priority</strong></td>
<td><strong>Future top priority</strong></td>
</tr>
<tr>
<td>Offer research data management training and/or data literacy instruction</td>
<td>Run a data repository/archive/store</td>
</tr>
<tr>
<td>Maintaining a web resource/guide of local advice and useful resources for RDM</td>
<td>Offer a research data management advisory service to researchers</td>
</tr>
<tr>
<td>Offer research data management advisory service to researchers</td>
<td>Offer a service creating or transforming metadata for data or datasets</td>
</tr>
<tr>
<td>Offer advice on copyright and/or intellectual and/or licensing property rights relating to data and data management</td>
<td>Offer advice on copyright and/or intellectual and/or licensing property rights relating to data and data management</td>
</tr>
<tr>
<td>Provide a data catalogue including your institution’s research data</td>
<td>Offer research data management training and/or data literacy instruction</td>
</tr>
<tr>
<td>Run a data repository/archive/store</td>
<td>Maintaining a web resource/guide of local advice and useful resources for RDM</td>
</tr>
<tr>
<td>Provide access to tools to support research data management</td>
<td>Provide a data catalogue including your institution’s research data</td>
</tr>
<tr>
<td>Offer data publication advisory services</td>
<td>Offer data citation advisory services</td>
</tr>
<tr>
<td>Provide advisory services on the curation of active data</td>
<td>Offer data publication advisory services</td>
</tr>
<tr>
<td>Offer data citation advisory services</td>
<td>Provide access to tools to support research data management</td>
</tr>
<tr>
<td>Promote awareness of reusable data sources, such as data archives</td>
<td>Provide advisory services on the curation of active data</td>
</tr>
<tr>
<td>Offer data storage advisory services</td>
<td>Selecting, assessing and/or de-selecting and de-accessinging data sets for deposit in a repository</td>
</tr>
<tr>
<td>Carrying out long term preservation of research data</td>
<td>Preparing data/data sets for deposit in a repository</td>
</tr>
<tr>
<td>Offer a service creating or transforming metadata for data or datasets</td>
<td>Offer data storage advisory services</td>
</tr>
<tr>
<td>Provide advisory services on the technical aspects of long term data preservation</td>
<td>Promote awareness of reusable data sources, such as data archives</td>
</tr>
<tr>
<td>Selecting, assessing and/or de-selecting and de-accessinging data sets for deposit in a repository</td>
<td>Carrying out long term preservation of research data</td>
</tr>
<tr>
<td>Preparing data/data sets for deposit in a repository</td>
<td>Carrying out the curation of active data</td>
</tr>
<tr>
<td>Provide support for search and retrieval of external data sources</td>
<td>Directly participate with researchers on a research project (as a team member)</td>
</tr>
<tr>
<td>Carrying out the curation of active data</td>
<td>Provide support for search and retrieval of external data sources</td>
</tr>
<tr>
<td>Offer an advisory service on data analysis/mining/visualization</td>
<td>Offer an advisory service on data analysis/mining/visualization</td>
</tr>
<tr>
<td>Directly participate with researchers on a research project (as a team member)</td>
<td></td>
</tr>
</tbody>
</table>
1. Transactional delivery model

- In the physical Library
- Remote
- Access & Reference
- RDM Advocacy
- RDM LibGuides


https://www.flickr.com/photos/smiling-gardener
2. Hybrid delivery model

- Assigned to Faculty / Department
- Liaison
- Consultancy
- DMP
- RDM training

3. **Immersive delivery model** – Librarians in the Lab

- In laboratory or clinical setting
- Fully integrated
- Collaborative team science
- Data description & curation
- Data analysis & visualisation

*Photo Credits: Flickr NASA HQ*
• Looking beyond 2017....
• New Research Data Services?
• Next Generation Data Roles?
• RDAP10 Poster #33
Acknowledgements

RDS Survey team:
Andrew Cox, Stephen Pinfield, University of Sheffield, UK
Mary Anne Kennan, Charles Sturt University, Australia

School of Computing & Information,
University of Pittsburgh, USA

Thank you....

elyon@pitt.edu
Research Infrastructure Self-Evaluation (RISE): A Lightweight Approach to Self-assessing your Institution’s Research Data Service Capabilities

Angus Whyte, Digital Curation Centre
University of Edinburgh
Libraries 4 Research Data IG RDA Plenary 10 Montreal 1
9 September 2017
Why a capability model?

Help those responsible for developing research data support at institution level to conduct service review and development.

Facilitate stakeholders’ input to gap analysis.
Background

- Released 2017, initially intended for UK Higher Education Institutions
- Represents our understanding of policy landscape, relevant standards and norms
- Draws on DCC experience 2010-15, lessons learned from earlier CARDIO model
- Draft version community review workshop 2016 (x 12 institutions)
- DCC facilitated use in 4 institutions - Independent use in another 4 this year
Institutions diverse in capabilities they need

Income range percentiles - split into 3 groups across all 161 HEIs

Research income % of total

- 77%
- 20%
- 3%
Capabilities x 10
Capabilities comprise 1-3 elements (22 in all)

- Scalability and synchronisation
- Collaboration support
- Security management
### Tabular format

#### Business plans and sustainability
This area of activity focuses on the institution's approach to securing the sustainability of RDM services. Facets to consider:

- making the business case for the service, considering its value proportion to service customers
- committee processes and timelines for securing resources for improved technical and human infrastructures
- costs and benefits associated with RDM support provision
- cost recovery models and research funder rules that govern what direct or indirect costs may be charged to research grants

#### Staff Investment

<table>
<thead>
<tr>
<th>Level One</th>
<th>Level Two</th>
<th>Level Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDM service is delivered by dividing responsibilities among existing staff.</td>
<td>RDM service is delivered through significant redesign of staff roles including investment in staff development.</td>
<td>The RDM service is delivered by major redesign of staff roles, consistent with the establishment of an RDM service.</td>
</tr>
</tbody>
</table>

#### Technology Investment

<table>
<thead>
<tr>
<th>Level One</th>
<th>Level Two</th>
<th>Level Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>A base level of investment in technical infrastructure, with commitment to supporting recurring costs, ensures that researchers can make their data findable and accessible in the long-term.</td>
<td>The institution coordinates investment in the central technical services it deems a strategic priority for research data life-cycle support.</td>
<td>The institution invests in technical infrastructure for all aspects of the research data life cycle, interoperating with tools and workflows at research group level.</td>
</tr>
</tbody>
</table>

#### Cost modelling

<table>
<thead>
<tr>
<th>Level One</th>
<th>Level Two</th>
<th>Level Three</th>
</tr>
</thead>
<tbody>
<tr>
<td>All RDM service costs are covered by overheads on grants.</td>
<td>Standard RDM services are funded through grant overheads. Where support exceeds the norm mechanisms allow for direct charging of grants.</td>
<td>Cost modelling enables specialist, stand-alone RDM services to be offered alongside standard support provision (e.g. statistical modelling service or data visualisation service).</td>
</tr>
</tbody>
</table>
Levels of capability

<table>
<thead>
<tr>
<th>Security management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level One</strong></td>
</tr>
<tr>
<td>The service provides authenticated access to storage that is protected from unauthorised data access, and researchers are made aware of procedures for data protection and de-identification.</td>
</tr>
<tr>
<td>Level 0</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>No action</td>
</tr>
</tbody>
</table>
Using RISE

• Consider each service element individually
• Assess your current capability
• Define your target capability
• Identify barriers and opportunities

• OUTPUTS
  o Reassurance that compliance has been achieved
  o Gap analysis
  o Service development prioritisation
  o Fostering links between support departments
  o Scoping data publishing platform requirements
Using RISE, the Research Infrastructure Self Evaluation Framework

The DCC's capability model for research data management support services

By Jonathan Rans and Angus Whyte, Published: 27 January 2017


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The RISE framework, including this introduction, is available to download here (PDF)
Future applications

Linking to competence framework for data stewardship skills development

EOSCpilot

Are assessments comparable?

Comments very welcome

Thanks for listening
Wilma van Wezenbeek
University of Technology Delft
Library

Research Data Alliance - Tenth Plenary Meeting
19 to 21 September 2017
175 years of TU Delft

- Delft University of Technology (TU Delft) currently celebrates its 175th year of existence

- Comprehensive focus on engineering and technical subjects, high research intensity
175 years of TU Delft

• The modern university library unites library-services with research and education support services
Research Data @ TU Delft

• Research Data Services (RDS) contributes to the research data management support, including

• Hosts 4TU.Centre for Research Data, as central archive of the federation of technological Universities in the Netherlands
RISE

• Research Infrastructure Self-Evaluation Framework (RISE)

• Help Higher Education (HE) to identify future focus areas
Evaluated Services

• Research Data Services (RDS) as part of TU Delft Library

• 4TU.Centre for Research Data (4TU) as data archive in institutional context

• 4 team-members of RDS formed evaluation team
Evaluation Scope

• Applying the standard set of categories provided by RISE, focussing on the current state of services and infrastructure

• Level 1/2/3 = basic compliance / tailored services provided / sector leading services provided
2017 Self Assessment of Research Data Services and 4TU.Centre for Research Data Services with RISE

The Research Infrastructure Self-Evaluation Framework, (RISE), was published at the beginning of 2017 by the Digital Curation Centre (DCC). It is a way of determining how mature your institutional Research Data Services may be.

Version 1.1 provides a self-assessment framework with 10 categories covering, amongst others, RDM policies, business plans, advisory services, and training.

Full Results published on our Open Working Blog
1 RDM Policy and Strategy

- Policy Development Level 0
- Awareness Raising and Stakeholder Engagement Level 3
- RDM Implementation Roadmap Level 3
1 RDM Policy and Strategy

Policy Development

Level 0

- Open Science is strong at TU Delft
- Open Access Publishing Policy for scientific publication is in place

- but ...Data Stewardship Policy Framework in progress and not yet finalised
1 RDM Policy and Strategy

Awareness Raising and Stakeholder Engagement  Level 3

• Data Stewardship project
  – 3 faculties currently have data stewards
  – 5 more stewards in 2018
• Specific training includes research Data ‘Making an Impact with Open Science’
1 RDM Policy and Strategy

RDM Implementation Roadmap

• RDM implementation roadmap is clear and in realization
  – Open Science Roadshows - new series in 2018
  – Faculties will develop tailored policies in 2018
7 Appraisal and Risk Assessment

- Data and Metadata Collection Policy - Level 3
- Security, Legal and Ethical Risk Assessment
  - closer work with legal services and ethics committee of the university enables coherent control of private data
Impressions about RISE V1

• Difficulty in separating out Research Data Services from 4TU.Centre from work of library as a whole
• RISE talks about policies - but services can be work well without the need of a policy
• RISE offers good selection of state-of-the-art services to compare against
• But does not provide metrics that track researchers’ changing behaviour
Library Carpentry

Library Carpentry and Assessment
Tools and Strategies
SOFTWARE CARPENTRY
DATA CARPENTRY
THE CARPENTRIES

**DRAFT Responsibilities of the Carpentries**
- Coordinate with partners and grant agencies
- Manage and report on finances
- Prioritize staff time for lesson organizations
- Instructor training
- Develop consistent cross-Carpentries policies
- Promote synergy between lesson organizations
- Reduce redundancies between lesson organizations
- Workshop organization and administration
- Develop shared infrastructure
- Community development and communication
- Develop and maintain technical resources
- On-board new lesson organizations

**DRAFT Responsibilities of Lesson Organizations**
- Maintain communication with the Carpentries
- Follow policies outlined by the Carpentries
- Regularly report on activities
- Develop and maintain curricula
- Teach workshops
- Have an Advisory Committee

@LibCarpentry
Library Carpentry is made by librarians, for librarians.

Helps librarians to:
- automate repetitive, boring, error-prone tasks
- create, maintain and analyse sustainable and reusable data
- work effectively with IT and systems colleagues
- better understand the use of software in research
  - and much more...

Library Carpentry introduces you to the fundamentals of computing and provides you with a platform for further self-directed learning.
LIBRARY CARPENTRY
SOFTWARE & DATA TRAINING FOR LIBRARIANS

- For librarians, by librarians
- Relies heavily on the courses, structures, norms of the Carpentries
- Comforting environment of skills training
- Comforting environment for building new training modules
- Low barrier to entry for librarians (relatively)
- Low barrier to entry for their institutions (relatively)
- Offers way to build a common skills development program with researchers
LIBRARY CARPENTRY
SOFTWARE & DATA TRAINING FOR LIBRARIANS

- Current obstacles
  - Number of librarians certified as Software Carpentry and Data Carpentry instructors, especially in North America
  - Number of modules customized for Library Carpentry
  - Direct coordination of activities in North America
  - Formal assessment of Library Carpentry
LIBRARY CARPENTRY
SOFTWARE & DATA TRAINING FOR LIBRARIANS

- Current work: new instructors certified as Software Carpentry and Data Carpentry instructors
LIBRARY CARPENTRY
SOFTWARE & DATA TRAINING FOR LIBRARIANS

- Current work: new modules customized for Library Carpentry
Continued obstacle: Assessment of Library Carpentry courses

Current Assessment

- Pre-Assessment Survey
  - During Workshop
    - Written feedback on stickies
    - Positive/Negative exercise
  - Post-Assessment Survey
Samples of Current Pre-Assessment Questions

LIBRARY CARPENTRY
SOFTWARE & DATA TRAINING FOR LIBRARIANS

How would you characterise your knowledge of Regular Expressions? *

1 2 3 4 5
I have never heard of it [ ] I know lots and lots [ ]

How would you characterise your knowledge of the command line (Unix shell/bash)? *

1 2 3 4 5
I have never heard of it [ ] I know lots and lots [ ]

How would you characterise your knowledge of working with messy data in a spreadsheet? *

1 2 3 4 5
I'm not sure what 'messy data' refer to [ ] I know lots and lots [ ]
Samples of Current Pre-Assessment Questions

How would you characterise your knowledge of Regular Expressions? *

<table>
<thead>
<tr>
<th>I have never heard of it</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>I know lots and lots</th>
</tr>
</thead>
</table>

How would you characterise your knowledge of the command line (Unix shell/bash)? *

<table>
<thead>
<tr>
<th>I have never heard of it</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>I know lots and lots</th>
</tr>
</thead>
</table>

How would you characterise your knowledge of working with messy data in a spreadsheet? *

<table>
<thead>
<tr>
<th>I'm not sure what 'messy data' refer to</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>I know lots and lots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>Rating 1</td>
<td>Rating 2</td>
<td>Rating 3</td>
<td>Rating 4</td>
<td>Rating 5</td>
<td>Rating</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
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<tr>
<td>How useful was the OpenRefine lesson?</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Not Useful</td>
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<tr>
<td>Extremely Useful</td>
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<tr>
<td>How effective was the instructor for the OpenRefine lesson?</td>
<td></td>
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<tr>
<td>Not effective</td>
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<tr>
<td>Very effective</td>
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<tr>
<td>Rate the amount of time spent on OpenRefine</td>
<td></td>
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<tr>
<td>Too long</td>
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<tr>
<td>Too short</td>
<td></td>
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<tr>
<td>Will you use the skills learned in OpenRefine after the workshop?</td>
<td></td>
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</tr>
</tbody>
</table>
LIBRARY CARPENTRY
SOFTWARE & DATA TRAINING FOR LIBRARIANS

Late Sept-Early Oct. 2017  **Draft** pre- and post-assessment survey instruments (mostly done)

Oct. 2017  **Crowdsource** via the Library Carpentry Community for comments/additions

Nov. 2017  Work with Dr. Kari Jordan to **make survey results as comparable with other carpentries as possible with the goal of inter-carpentry analysis**

Dec. 2017  **Create new LC surveys** in survey monkey, aligned with the other Carpentries

Jan. 2018  **Design and implement workflows for workshop request, survey delivery, and analysis with Carpentries** via new Library Carpentry coordinator.

@LibCarpentry
LIBRARY CARPENTRY
SOFTWARE & DATA TRAINING FOR LIBRARIANS

Summary:
- Support of Data Carpentry & Software Carpentry and community
- Low barrier to entry and high value for everyone involved
- Working to build a plan to coordinate US efforts so it can grow effectively, equitably, and assess impact
- Implement assessment process for LC courses
Discussion

As data services in libraries are beginning to mature, how are their effectiveness being measured in practice? Who is measuring what, and how? How are libraries and their organizations setting goals and accounting for gaps and successes?