U.S. National Library of Medicine
National Network of Libraries of Medicine
Pacific Northwest Region

Spring 2017 Research Data Management Needs Assessment Survey Results

Ann Glusker PhD MPH MLIS
Annie Madhavan MSLIS

Spring 2017 RDM Needs Assessment Survey Results

Summary and Recommendations

The National Network of Libraries of Medicine's Pacific Northwest Region (PNR) conducted a needs assessment in April/May 2017, focusing on respondents' responses to questions about which types of assistance and programs related to data would be the most useful. There were 44 useable responses, split nearly evenly between academic and hospital settings. Thirteen respondents included their email addresses and indicated willingness to be contacted with follow-up questions.

About two in three respondents have never taken a data science course (with the proportion being higher in hospital settings), and at the same time the most-selected training topics are data literacy and helping patrons with data. Academic setting respondents also want training in open data, whereas hospital setting respondents want training in data in the news/fake news. Combined with the fact that respondents in both settings prioritized training as the way the PNR could be most helpful to them (with academic setting respondents adding funding and hospital setting respondents adding resource referral as priorities), the main takeaway is clear: the PNR can assist its users by providing training in data literacy and how to help patrons/users with data.

The survey focused specifically on respondents in settings offering research data services. They mentioned collaboration as a highly-regarded method for keeping up with the data librarianship field, so it may be that the PNR's support for collaborative efforts, whether through funding or another mechanism, may make an important contribution. These respondents also noted that besides subject-specific liaison work, they were very likely to work with their university's sponsored research and/or IRB offices. If the PNR can offer suggestions for developing and sustaining these relationships, that may also be helpful.

Some of the most interesting suggestions for training and resources were offered in the open-ended questions. Academic setting respondents were interested in assistance in creating assessments with data, learning to analyze data (especially regarding statistical literacy, and analysis of textual and other non-quantitative data), and learning to assist researchers with building improved workflows into their current practices (and, teaching early-career researchers some of these methods as well). Hospital librarians suggested training in the broad informatics arena, including UMLS, Semantic Medline and Ontologic Data Structures. There was also a suggestion to create templates that users could employ in either creating assessments themselves, or helping others to create assessments or generally manage their data. It would be important to test the waters before diving deeply in to creating training on the more esoteric of these topics, but it could be helpful even just to gather a collection of resources for further learning (MOOCs, etc.)

Background

In November, 2016, the National Network of Libraries of Medicine's Pacific Northwest Region (PNR), tasked with outreach to Alaska, Idaho, Montana, Oregon and Washington, hired two "Research & Data Coordinators", a position new to the NNLM and the region. Their role is to target and address the data-related needs of public, hospital, and academic librarians in the region through a variety of outreach activities, including providing training, exhibiting at conferences, disseminating information through various communication avenues and social media, and performing site visits. In order to better target the needs of Network members and others, the two coordinators, Ann Madhavan and Ann Glusker, decided to develop and administer a survey to solicit feedback and inform outreach and programming decisions.

Survey Development, Administration and Analysis

A pilot survey instrument was created. The two coordinators are part of a national group of librarians in similar data-related positions in other regional offices; this group created an environmental scan survey instrument around data awareness and activities which informed the pilot survey in the PNR. The coordinators also consulted the authors and web site of the "Data Services at New England Region Resource Libraries" instrument (Goldman et al., 2015), and reviewed the RISE (Research Infrastructure Self-Evaluation Framework) tool (Rans & Whyte, 2017). The PNR pilot survey instrument was then developed with input from librarians in a variety of settings and geographies.

"Pilot and study data were collected and managed using REDCap electronic data capture tools hosted at The Institute for Translational Health Sciences (Harris, et al., 2009). REDCap (Research Electronic Data Capture) is a secure, web-based application designed to support data capture for research studies, providing 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources." REDCap conveniently includes branching logic allowing use of a single URL to survey respondents from academic, hospital, public and other library settings.

Again, a group of librarians from a variety of settings and geographies tested the pilot survey as it would be experienced by users. Adjustments and enhancements were made. The final survey instrument was prepared and a marketing strategy outlined.

Due to the variety of sources through which librarians and others in our region receive their news, and due to the informality of the survey, no attempt was made to create a sampling frame, so response rate cannot be calculated. In addition, respondents were encouraged to forward the survey to other appropriate staff in their organization. Requests for participation were distributed via announcements on the HLIB-NW listserv (Pacific Northwest librarians with interests in health), the PNR's Dragonfly blog and Facebook page, and via email and the PNR Weekly Digest to all Network members.

The survey was made available for a two-week period (the second half of April, 2017), and at the end of that period, the deadline was extended for a week, with notices in all communication avenues except by email to all members.

Participants were offered a "fabulous prize"—a National Library of Medicine tape measure. Thirteen respondents included their email addresses and were duly sent prizes!

Data were analyzed in Microsoft Excel.

Figure 1: Screenshot of Email

Dear NNLM-PNR Member,

Greetings! Have you heard that two data coordinators have just started working at the Regional Medical Library? We are Annie Madhavan and A
indexing, public health, allied health, and public librarianship. Mostly we are passionate about data—learning about it, sharing it, teaching others

We want to direct our programs and services to what you need and want, and so we're writing to ask you to fill out a **BRIEF** (less than 10 minute)
work, and what is the most useful support and training we can offer you.

Here is the link (for those of you interested, the survey software is REDCap): **https://is.gd/NNLM_PNRdataneeds**

The survey deadline is April 30, but if you need more time to fill it out, let us know. We'll be sharing the results (in aggregate form only) sometim

And, if you feel that you aren't the best person in your organization to answer the survey, feel free to forward this email to the person who is—
organization, but don't want to lose the chance for more feedback either!

Last but not least, if you fill out this survey (and list your email at the end), you will be entered to win a fabulous prize—10 lucky winners will rece

Let us know if you have any questions! And, seriously, thank you for your help with this important work—we couldn't do any of it without you,

All the best,
Ann Glusker and Annie Madhavan

Research and Data Coordinators
National Network of Libraries of Medicine, Pacific NW Region
University of Washington Health Sciences Library
Box 357155, Seattle, WA 98195-7155| http://nnlm.gov/pnr
glusker@uw.edu| albm@uw.edu | Phone: 206-543-8262

Response

The survey drew over 60 respondents (30 academic, 24 hospital, 6 public, 2 other). Of these, there were 44 useable (completed) responses (19 academic, 20 hospital, 5 public and other), and of the 19 academic settings, 13 offer research data services. Thirteen respondents included their email addresses and indicated willingness to be contacted with follow-up questions.

Job Titles

In the academic setting, job titles of respondents included:

> Health Sciences Librarian; University Librarian; Library director; Subject Librarian; Head of Library Research and Instruction; Dean; Data Management Librarian; Reference/Instruction Librarian; Dir., Library Services; Library Technician - Interlibrary loan; Associate Director; Information Systems Librarian; RDM Librarian/Basic Science Liaison; Research Scientist; Data Services Specialist; Principal Research Librarian

In the hospital setting, job titles of respondents included:

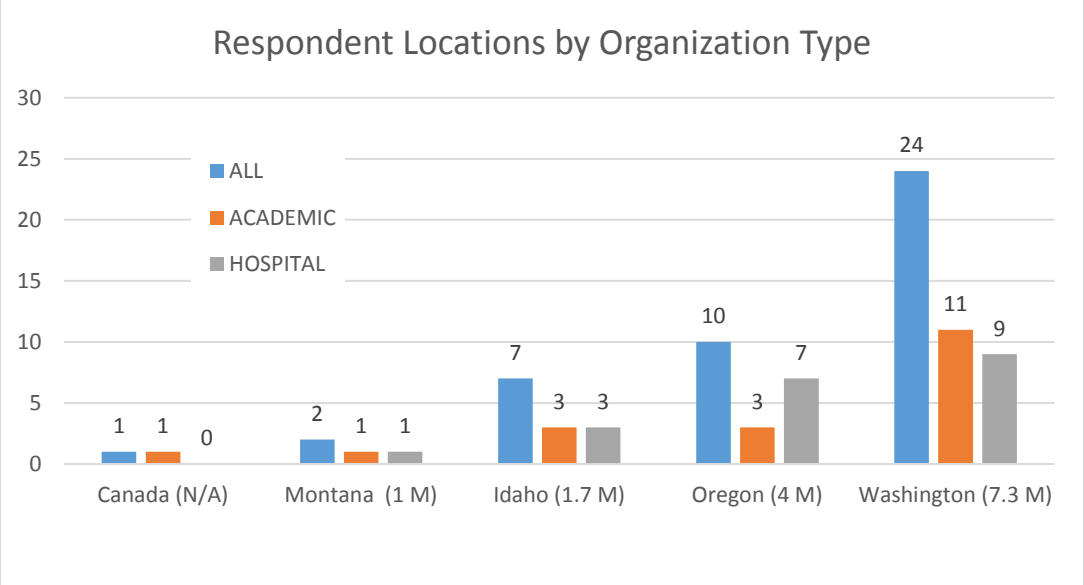
> Librarian (4); Medical Librarian (5); Library Program Manager; Digital Projects Librarian; Library coordinator; Health Sciences Librarian; Lead Medical Librarian; Senior Medical Librarian; Member Services Coordinator; Technical Services Coordinator; Library Services Manager; Health System Librarian: Education Coordinator

In other settings, job titles of respondents included:

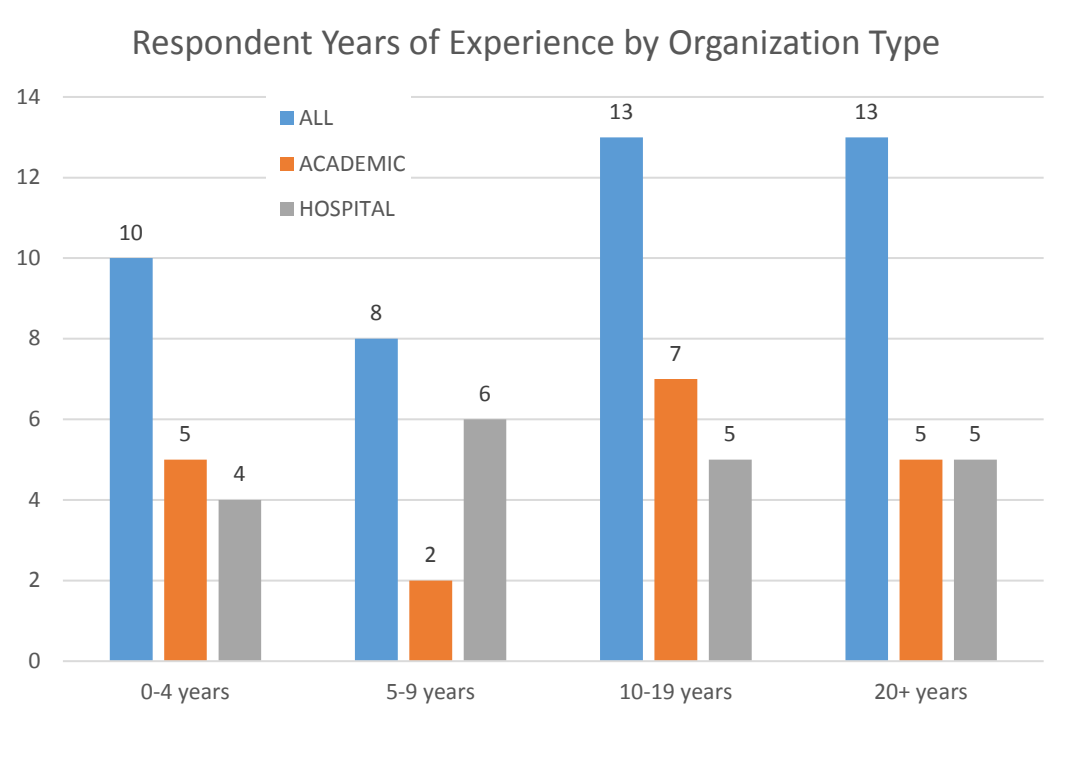
> Adult Services Librarian; Children's Librarian; Epidemiologist; President

Location and Experience

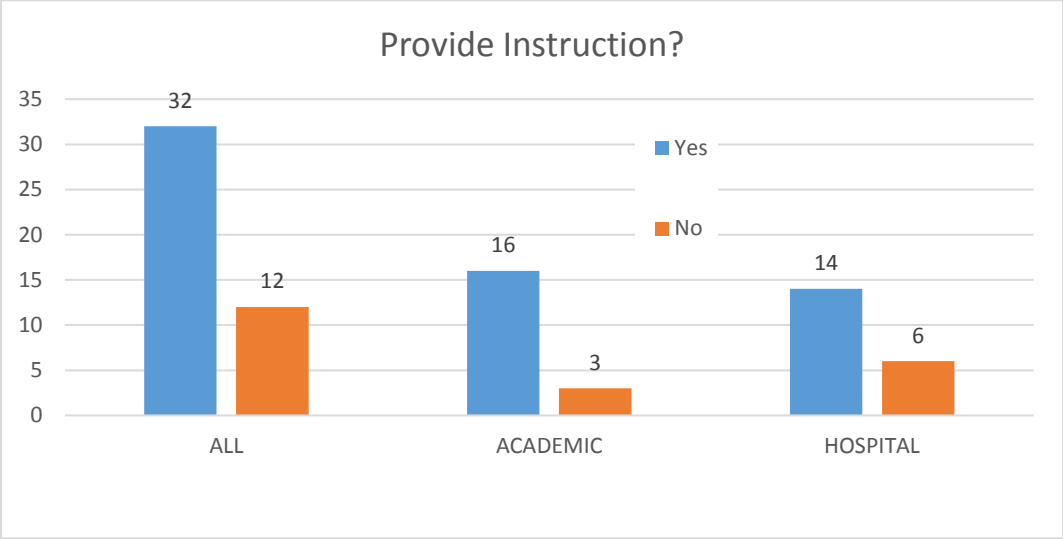
Washington and Oregon accounted for the bulk of the respondents, which aligns with their relative population sizes. There were no respondents from Alaska.



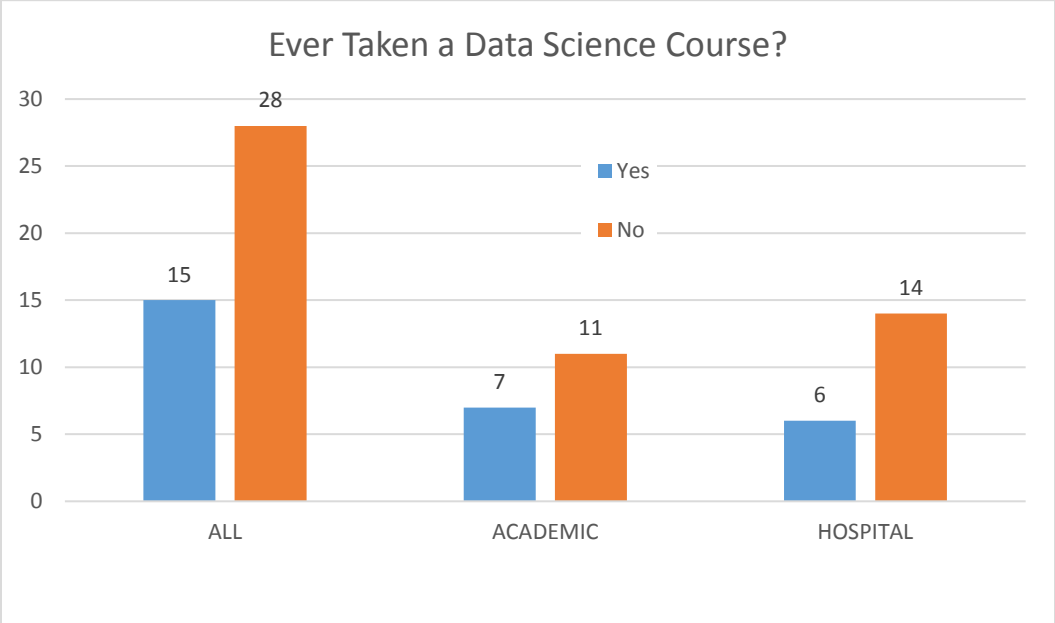
Approximately 3 in 5 of the respondents had 10 or more years in the library and information science field.



Approximately 3 in 4 of the respondents offer instruction to their users, with respondents in academic settings being more likely to do so.



Approximately 2 in 3 of the respondents have not taken a data science course, with respondents in hospital settings being less likely to have done so.



Academics Settings

Respondents in academic settings were asked how the NNLM could assist with data-related activities, selecting three ranked choices from a list provided. The weighted responses, in order, showed that the main interest is in the NNLM's core activities, providing training and offering funding.

Assistance with Data-Related Activities	Number of Respondents
Providing training (in person and online)	29
Funding (technical, training, workshops, collaborative projects, etc.)	16
Consultation on data-related program and training development (such as how to use open data)	15
Networking and assistance with identifying collaborative projects	13
Referrals to resources and resource organizations	9
Consultation on using data to design and develop programs/trainings (such as using circulation data to target programs)	8
Assistance with resource development	3

Among respondents (N=13) whose settings offer research data services, there was more interest in networking (which was tied for second place), although the numbers are small.

Assistance with Data-Related Activities Among Respondents (N=13)	Number of Respondents
Providing training (in person and online)	20
Funding (technical, training, workshops, collaborative projects, etc.)	13
Networking and assistance with identifying collaborative projects	13
Consultation on data-related program and training development (such as how to use open data)	9
Referrals to resources and resource organizations	6
Assistance with resource development	3
Consultation on using data to design and develop programs/trainings (such as using circulation data to target programs)	2

Respondents in academic settings were also asked what trainings would be most useful to them, selecting as many options as they'd like from a list provided. Open data, how to help patrons with data and data literacy were top three most requested topics.

Training Topics	Number of Respondents
Open Data	13
Helping patrons with data	12
Data literacy	11
Research Data Management (RDM Basics and Tools)	9

Training Topics	Number of Respondents
ClinicalTrials.gov reporting requirements and updates	9
Data in the Headlines/Fake News	8
GIS/Geospatial data/Data visualization	7
Big Data	6
Precision Medicine	3
Journal and book clubs	2
Other (please specify in the comments section below)	2

Among respondents (N=13) whose settings offer research data services; the top three most requested training topics were the same.

Training Topics Among Respondents (N=13)	Number of Respondents
Helping patrons with data	9
Open Data	8
Data literacy	8
Research Data Management (RDM Basics and Tools)	6
ClinicalTrials.gov reporting requirements and updates	6
Data in the Headlines/Fake News	5
Big Data	4
GIS/Geospatial data/Data visualization	4
Precision Medicine	2
Other (please specify in the comments section below)	1
Journal and book clubs	0

As to how the NNLM can assist them, respondents noted:

"I'm in Canada so what I'd find most valuable is online training and resources. I'm guessing our Library wouldn't be able to take advantage of any consultation services since we're outside the US. It would be great to have more collaboration between NLM and the major Canadian players like CARL Portage."

"My background is basic science research so from my POV library and information science-trained professionals are looking for avenues to become more comfortable/confident with these topics, so training."

As to training topics, respondents in academic settings noted:

"I most need help gaining skill around designing assessments that generate useful data, and then proper analysis of data generated. For example, methods of interpreting open-ended survey question results."

"Some basic statistics training (more literacy in how data are analyzed)."

Research Data Services in Academic Settings

Respondents whose settings offer research data services were asked some additional questions. In each case, they could pick as many options as they liked, from a list provided.

To the question on research data services offered, finding existing data sources and identifying appropriate repositories were the two most-selected services.

Research Data Services Offered	Number of Respondents
Finding existing data sources	11
Identifying appropriate repositories, internal or external	8
Data management plan creation/metadata consulting	4
Data visualization	4
Dataset purchase/acquisition/subscription	3
Qualitative/textual analysis/digital humanities	3
GIS/Geospatial data management and analysis	2
Data preparation	2
Data analysis assistance	2
Other (please specify in the comments section below)	2
Data mining	1
Statistical software and programming assistance	1
Web scraping	0

To the question on data-related content they had created, LibGuides/web sites, and presentations/ training sessions/instruction were the two most comment types of content selected.

Data-Related Content Created	Number of Respondents
LibGuide or similar resource	6
Presentation (conference, classroom)	6
Web site	5
Workshop/training session/class series (in-person/online)	5
None created (so far!)	4
Other (please specify in the comments section below)	3
Templates	2
Checklists	1
Online applications	0

For keeping up with the field of data librarianship/information services, listservs, colleagues, training sessions and conferences were the most-selected options.

Keeping Up with The Data Librarianship/Information Services	Number of Respondents
Listservs	10
Collaboration with colleagues	9
Training sessions (in-person/online)	9
Conferences/forums/seminars	8
Social Media	5
Books/Journals	5
Open access courses (Lynda.com, MOOCs such as Coursera and EdX, etc.)	4
Mentoring relationship	1
Does not apply	1
Other (please specify in the comments section below)	0

Respondents were most likely to collaborate with academic departments hosting researchers, and with university research/IRB offices.

Most Likely to Collaborate With	Number of Respondents
Academic departments that host researchers	10
University research office/IRB office	9
IT/systems department	7
Scholarly communication/publication offices	6
Information/Library science academic departments	4
University education/professional development offices	4
Data digitization/curation groups	2
University administrative offices	2
E-Science/Data science centers and initiatives	1
Other (please specify in the comments section below)	0

Considering the small numerical differences, the biggest challenges respondents selected as data librarian/information services professionals were staffing levels and skills development/training.

Biggest Challenges as Data Librarian/Informational Services Professionals	Number of Respondents
Staffing	6
Skills development/training	6
Relationship-building	5
Lack of funding	4
Lack of time	4
Marketing of services	4
Keeping up with the data services field	3
Partnership opportunities	2
Other (please specify in the comments section below)	2

Respondents were more unified in their answer to what they think or are told by researchers are the biggest challenges faced by researchers. Lack of time was the clear top selection.

Biggest Challenges Faced by Researchers	Number of Respondents
Lack of time	10
Staffing/research coordination	6
Publication demands/timelines	6
Lack of institutional support	6
Transitions of team members (for example, graduate students)	5
Research funding	4
Choosing a repository for data	3
Regulations/compliance/IRB application	2
Preparing data for sharing	2
Lack of appropriate tools to assist with planning and data sharing	2
Other (please specify in the comments section below)	2
Creating a Data Management Plan	1

There were also some open-ended responses with useful information, among respondents in academic settings offering research data services.

Respondents noted, about their biggest challenges:

> "Understanding what patrons want"
>
> "I've taken various training but there doesn't seem to be much demand for the services yet, so the things I learn fade. I do think this is changing as researchers become more aware what data management is."

Surrounding researchers' biggest challenges, respondents stated:

> "Actually, I'm unsure about the clinicaltrials.gov being a factor - maybe? - but privacy of health data and ethics compliance is often cited as a barrier to sharing. There is also some resistance to share before results."
>
> "Workflows! A good number of researchers are interested in being more efficient and more reproducible but not sure how to build this into current practices/change the culture (for junior researchers)."

Hospital Settings

Respondents in hospital settings were asked how the NNLM could assist with data-related activities, selecting three ranked choices from a list provided. The weighted responses, in order, showed that the main interests are, equally, referrals to resources and resource organizations, and providing training (in person and online).

In comparison, respondents from academic settings selected training and funding as their top priorities for assistance.

Assistance for Respondents in Academic Setting	Number of Respondents
Referrals to resources and resource organizations	33
Providing training (in person and online)	33
Funding (technical, training, workshops, collaborative projects, etc.)	13
Networking and assistance with identifying collaborative projects	9
Consultation on using data to design and develop programs/trainings (such as using circulation data to target programs)	8
Assistance with resource development	7
Consultation on data-related program and training development (such as how to use open data)	3

Respondents in hospital settings were also asked what trainings would be most useful to them, selecting as many options as they'd like from a list provided. Data literacy, data in the headlines/fake news, and helping patrons with data were the three most-selected training topics. In comparison, in academic settings, open data, how to help patrons with data and data literacy (in that order) as the top three most requested training topics.

Training Topics for Respondents in Hospital Setting	Number of Respondents
Data literacy	14
Data in the Headlines/Fake News	10
Helping patrons with data	9
Precision Medicine	8
Research Data Management (RDM Basics and Tools)	7
Open Data	6
Journal and book clubs	5
ClinicalTrials.gov reporting requirements and updates	5
Big Data	3
Other (please specify in the comments section below)	2
GIS/Geospatial data/Data visualization	1

To the question on data-related content they had created, about half said that they had not yet created any content (compared with about 1 in 5 of academic setting respondents). The numbers responding to the types of content were too small to differentiate what were the most common kinds of content that had been created.

Data-Related Content Created	Number of Respondents
None created (so far!)	11

Data-Related Content Created	Number of Respondents
Web site	4
Presentation (conference, classroom	4
LibGuide or similar resource	3
Workshop/training session/class series (in-person/online	3
Checklists	2
Online applications	2
Templates	1
Other (please specify in the comments section below)	0

For keeping up with the field of data librarianship/information services, listservs, colleagues, training sessions and conferences were the most-selected options. Respondents in settings offering research data services also chose the training sessions and conferences but added collaboration with colleagues as opposed to formal conferences as their preferred mechanisms.

Keeping Up with The Field of Data Librarianship/Information Services	Number of Respondents
Listservs	19
Training sessions (in-person/online)	15
Conferences/forums/seminars	14
Books/Journals	10
Collaboration with colleagues	10
Open access courses (Lynda.com, MOOCs such as Coursera and EdX, etc.)	8
Social Media	7
Mentoring relationship	2
Other (please specify in the comments section below)	0
Does not apply	0

There were also some open-ended responses with useful information, among respondents in hospital settings.

As to how the NNLM can assist them, respondents noted:

> "Consultation or Manuals on using search-related data to expand existing services (such as augmenting expert search services with sematic/visual deliverables...i.e., presenting search strategy and results with Semantic Medline)."
>
> "Create templates so that we can just plug in numbers."

One respondent suggested the training topic "Ontologic data structures, i.e. UMLS."

Respondents in hospital settings prove to be an engaged audience for NNLM training sessions, judging by their response to the question on which training sessions they'd participated in within the past year:

> "Augmented Reality, Virtual Reality, & Health; Flexing Your Powerhouse Librarian Muscles: The Foundations of Effective Project Management; Updated and Enhanced Online Disaster Health Information Training Classes; Moodle Class: Big Data in Healthcare: Exploring Emerging Roles; NNLM Resource Picks"
>
> "Yes, mostly online Consumer Health resources (Rural, Public Health, etc.) plus, the Outreach Evaluation course at the regional PNC/MLA program."
>
> "Yes - Assessment on the Fly (Teaching Topic); PubMed Update; Systematic Reviews (Pieces); ToxNet"
>
> "Yes - PubMed for Librarians; Nursing on the Net; Grey Literature"
>
> "Yes, several consumer health information courses."

Others said they'd attended the PNR Rendezvous and various webinars (including ToxNET), another had attended the ACRL Research Data Management workshop (funded by NNLM-PNR), and yet another mentioned a webinar on overdiagnosis. In addition, two people noted they hadn't attended any classes, while two others said they'd attended "too many to list!"

Other Settings

Since there were only 5 respondents in non-academic and non-hospital settings, numbers are not reported. These respondents were asked only a limited range of questions. None reported having created data products. The top two ways they selected that the NNLM could assist them were referrals to resources and resource organizations and providing training (in person and online). Their most-selected topics of interest were: Data in the Headlines/Fake News; helping patrons with data; and data literacy.

References

Goldman, Julie, Donna Kafel, and Elaine R. Martin. 2015. "Assessment of Data Management Services at New England Region Resource Libraries." *Journal of eScience Librarianship* 4(1): e1068. http://dx.doi.org/10.7191/jeslib.2015.1068

Paul A. Harris, Robert Taylor, Robert Thielke, Jonathon Payne, Nathaniel Gonzalez, Jose G. Conde, Research electronic data capture (REDCap) – A metadata-driven methodology and workflow process for providing translational research informatics support, J Biomed Inform. 2009 Apr;42(2):377-81.

Rans, J and Whyte, A. (2017). 'Using RISE, the Research Infrastructure Self-Evaluation Framework' v.1.1 Edinburgh: Digital Curation Centre. Available online: www.dcc.ac.uk/resources/how-guides

Data Needs Assessment

Thank you for agreeing to take part in the NNLM's data services survey! We are hoping to find out what data-related activities are already taking place in our region, as well as your experiences in learning about and supporting others around data. Your participation will help us do a better job of serving the Pacific Northwest as we develop resources and outreach activities.

This survey should take 10 minutes or less to complete, and your individual answers will be kept strictly confidential (we may report them in aggregate with all identifying information removed). The survey will close on May 10th, 2017.

A list of links that may help with terminology is available here: https://tinyurl.com/l9696ws

If you have any questions about this survey, we welcome you to contact us: Ann Madhavan (206-616-7283, albm@uw.edu) and Ann Glusker (206-543-5112, glusker@uw.edu), Research & Data Coordinators, National Network of Libraries of Medicine- Pacific Northwest Region.

We really appreciate your input!

NOTE: When proceeding through the survey, please use the "previous page" or "next page" buttons rather than your browser's back button.

Please choose the setting that most closely matches the one in which you work.

- Academic/University/Research Center
- Hospital/Health Care Facility
- Public Library/other organization directly serving the public

What is your job title?

How many years have you worked as a librarian, or in your current field?

- 0-4
- 5-9
- 10-19
- 20+

Do you teach and/or provide instruction?

- Yes
- No

Have you completed any coursework in data science or related topics?

- Yes
- No

What is your work zip code?

Academic/University/Research Center

In this survey, we define data as all or any of the following:

- original research data, of all kinds, qualitative or quantitative, from any discipline
- secondary research data, already collected by another entity (such as census data, weather data, etc.)
- administrative data within an organizational setting
- assessment, evaluation, or other data being collected for reporting but not necessarily for research
- smaller data sets for localized projects such as student papers

However, these definitions are not meant to be limiting; feel free to answer the questions below using your own personal definitions as well!

Does your organization offer research data services?

- Yes
- No
- I don't know
- Other (please specify in the comments section below)

What services do you provide as part of your organization's research data support? (check all that apply)

- Identifying appropriate repositories, internal or external
- Finding existing data sources
- Data mining Web scraping
- GIS/Geospatial data management and analysis Dataset purchase/acquisition/subscription
- Data management plan creation/metadata consulting Qualitative/textual analysis/digital humanities
- Data preparation
- Data analysis assistance
- Statistical software and programming assistance Data visualization
- Other (please specify in the comments section below)

Comments

If you answered no to the above question, how do researchers get data support?

Are the research data services offered by your library or department?

- Yes
- No
- I don't know

If you answered no to the above question, which department offers them?

What is the name, title, email and URL of your organization's best contact person to discuss data services, if you are comfortable sharing it?

If you'd rather not share their information, we'd appreciate it if you could forward our contact information and the survey URL to that person/department!

What content have you created related to data? (check all that apply) Please include the URL in the comments at the end of the survey if you are comfortable doing so.

- Web site
- LibGuide or similar resource
- Workshop/training session/class series (in-person/online)
- Presentation (conference, classroom)
- Checklists
- Templates
- Online applications
- None created (so far!)
- Other (please specify in the comments section below)

Comments

How do you keep up with the field of data librarianship/information services? (check all that apply)

- Listservs
- Open access courses (Lynda.com, MOOCs such as Coursera and EdX, etc.)
- Conferences/forums/seminars
- Social Media
- Books/Journals
- Collaboration with colleagues
- Mentoring relationship
- Training sessions (in-person/online)
- Other (please specify in the comments section below)
- Does not apply

If you responded yes to "training" above, have you attended any NLM/NNLM training in the past year? If yes, which training(s) did you attend?

Comments

What departments/offices do you collaborate with? (check all that apply)

- Academic departments that host researchers
- Information/Library science academic departments
- IT/systems department
- E-Science/Data science centers and initiatives
- Data digitization/curation groups
- University administrative offices
- University research office/IRB office
- University education/professional development offices
- Scholarly communication/publication offices
- Other (please specify in the comments section below)

Comments

What are the biggest challenges you face as a data librarian/information services professional? (check all that apply)

- Staffing
- Lack of funding
- Lack of time
- Skills development/training
- Keeping up with the data services field
- Partnership opportunities
- Marketing of services
- Relationship-building
- Other (please specify in the comments section below)

Comments

What do you perceive or what do your researchers say are the biggest challenges they are facing? (check all that apply)

- Lack of time
- Staffing/research coordination
- Research funding
- Transitions of team members (for example, graduate students)
- Publication demands/timelines
- Regulations/compliance/IRB application
- Choosing a repository for data
- Preparing data for sharing
- Creating a Data Management Plan
- Lack of appropriate tools to assist with planning and data sharing
- Lack of institutional support
- Other (please specify in the comments section below)

If you checked "Regulations/compliance/IRB application" above, are your researchers concerned about complying with the recent expansion of ClinicalTrials.gov reporting requirements?

- Yes
- No

Comments

Hospital/Health Care Facility

In this survey, we define data as all or any of the following:

--information or statistics you use to answer clinicians' questions about patient care, demography, etc.
--data collected by clinical researchers, and/or collected in support of clinical research studies
--administrative information such as costs, coding, care usage patterns, health care quality, etc.
--assessment, evaluation, or other data being collected for reporting, including aggregated patient data from the EHR
--smaller data sets for localized projects

However, these definitions are not meant to be limiting; feel free to answer the questions below using your own personal definitions as well!

What content or training have you created related to data? (check all that apply) Please include the URL at the end of the survey if you are comfortable doing so.

- Web site
- LibGuide
- Workshop/training session/class series (in-person/online)
- Presentation (conference, classroom)
- Checklists
- Templates
- Online tools
- None created (so far!)
- Other (please specify in the comments section below)

Comments

How do you keep up with the field of librarianship/information services? (check all that apply)

- Listservs
- Open access courses (Lynda.com, MOOCs such as Coursera and EdX, etc.)
- Conferences/forums/seminars
- Social Media
- Books/Journals
- Collaboration with colleagues
- Mentoring relationship
- Training sessions (in-person/online)
- Other (please specify in the comments section below)
- Does not apply

If you responded yes to "training" above, have you attended any NLM/NNLM training in the past year? If yes, which training(s) did you attend?

Comments

Public library/other organization directly serving the public

In this survey, we define data as all or any of the following:

- quantitative, aggregated information that is required to answer patron questions
- research and other secondary data, already collected by another entity (such as census data or weather data)
- administrative data about organizations, government entities, etc. (library statistics in particular)
- assessment, evaluation, or other data being collected for reporting but not necessarily for research
- smaller data sets for localized projects such as student papers

However, these definitions are not meant to be limiting; feel free to answer the questions below using your own personal definitions as well!

What content or training have you created related to data? (check all that apply) Please include the URL at the end of the survey if you are comfortable doing so)

- Web site
- LibGuide
- Workshop/training session/class series (in-person/online)
- Presentation (conference, classroom) Checklists
- Templates Online tools
- None created (so far!)
- Other (please specify in the comments section below)

Comments

How can the NNLM assist you with your data-related activities? Please rank your top three choices from the seven below, where one is your highest rated choice and three is your third-rated choice.

Referrals to resources and resource organizations

- 1
- 2
- 3

Funding (technical, training, workshops, collaborative projects, etc.)

- 1
- 2
- 3

Consultation on data-related program and training development (such as how to use open data)

- 1
- 2
- 3

Consultation on using data to design and develop programs/trainings (such as using circulation data to target programs)

- 1
- 2
- 3

Assistance with resource development

- 1
- 2
- 3

Networking and assistance with identifying collaborative projects

- 1
- 2
- 3

Providing training (in person and online)

- 1
- 2
- 3

Are there any other ways that the NNLM can assist you with your data-related activities?

What training topics would be most useful to you? (check all that apply)

- Precision Medicine
- Data in the Headlines/Fake News
- Open Data
- Helping patrons with data
- Data literacy
- Big Data
- Research Data Management (RDM) Basics and Tools
- Journal and bookclubs
- ClinicalTrials.gov reporting requirements and updates
- GIS/Geospatial data/Data visualization
- Other (please specify in the comments section below)

Comments

We plan on using the results of this survey to help NNLM PNR design better education and outreach tools around the topic of data. Would you be willing to be contacted to discuss your answers with NNLM PNR? If so, please provide your email address. Thank you!