

## INTRODUCTION

Scientific research is increasingly data-intensive, bringing with it new challenges related to the collection, analysis, storage, preservation, accessibility and communication of data. Federal funders, seeking to increase transparency, reproducibility, and impact of scientific research, have implemented requirements for data management and sharing, requirements that libraries are ideally situated to support. The National Library of Medicine's 2017-2027 Strategic Plan underscored the importance of libraries in supporting these mandates with the inclusion of a goal of building a workforce for data-driven research and health, including 'upskilling' librarians to better support data services.

The extent to which Health Sciences Libraries have successfully created services and resources to support data-intensive research is unclear. The purpose of this poster is to study the extent to which AAHSL member libraries have pivoted to provide data services, either broadly speaking or more specifically, through provision of data visualization ("data viz") services or data management services, for their respective constituencies.

## METHODS

The websites of all U.S.-based AAHSL member libraries were surveyed to determine the level and types of data-related support available. Site specific searches were carried out for the following:

- Data visualization or "data viz"
- Data services
- Data management

Example search in Google:  
 data visualization site:<https://hsl.ecu.edu>

Additionally, for libraries with LibGuides, we looked for LibGuides providing information on data visualization, data services, or data management.

The broader university or organization's website was also examined to determine if data visualization or other data support was available outside of the library.

The Carnegie Classification Code for each member library was also collected in order to assess the relationship between Carnegie Classification and level of data support provided by a health sciences library.

Following data collection, data was cleaned and subsequently loaded into SPSS for analysis.

Frequencies were run for variables recording the presence or absence of data support elements. Chi-Square tests were run to determine the relationship between clustered Carnegie classifications (Doctoral/Research Institutions and Special Focus Institutions) and the presence or absence of specific elements of data support in Health Sciences Libraries.

## RESULTS

Table 1

*Data-Related Services in U.S.-Based Health Sciences Libraries*

Elements of Data-Related Support among 156 Health Sciences Libraries	Present n (%)	Absent n (%)
<b>Data-Related Support Services</b>		
Explicitly described data services	55 (35.2)	101 (64.7)
Data Visualization Centers	31 (19.8)	125 (80.1)
<b>Informational Resources Related to Data, namely LibGuides</b>		
Information about Data Resources and Services	57 (36.5)	99 (63.5)
Data Management Guidance and Tools	62 (39.7)	94 (60.3)
Data Visualization Guidance and Tools	42 (26.9)	114 (73.1)

Table 2

*Depth of Data-Related Support in Health Sciences Libraries*

Count of combined data services by type	Frequency	Percent
<b>Number of Data Services</b>		
0	98	62.8
1	30	19.2
2	28	17.9
<b>Number of LibGuides</b>		
0	79	50.6
1	25	16.0
2	20	12.8
3	32	20.5

Table 3

*Data Support Available Outside of the Health Sciences Library*

Services Found on University/Organization's Site	Yes n (%)	No n (%)
Formally Described Data Services	87 (56.1)	68 (43.9)
Data Visualization Centers and Services	93 (60.0)	62 (40.0)

Table 4

*Health Sciences Library Data Support by Clustered Carnegie Classification<sup>a</sup>*

Service Element	Yes n (%)	No n (%)
<b>Does the Library Provide Data Services?</b>		
Doctoral/Research Institutions	47 (47.47)	52 (52.53)
Special Focus Institutions	7 (17.95)	32 (82.05) ( $X^2(1) = 10.240, p < .001$ )
<b>Does the Library Have a Data Viz Center/Services</b>		
Doctoral/Research Institutions	26 (26.26)	73 (73.74)
Special Focus Institutions	4 (17.95)	35 (82.05) ( $X^2(1) = 4.213, p = .05$ )
<b>Does the Library Provide a Data Services Informational Guide?</b>		
Doctoral/Research Institutions	48 (48.48)	51 (51.52)
Special Focus Institutions	7 (17.95)	32 (82.05) ( $X^2(1) = 10.883, p < .001$ )
<b>Does the HSL Provide a Research Data Management Guide?</b>		
Doctoral/Research Institutions	53 (53.54)	46 (46.46)
Special Focus Institutions	8 (20.51)	31 (79.49) ( $X^2(1) = 12.370, p < .000$ )
<b>Does the HSL Provide a Data Viz Guide?</b>		
Doctoral/Research Institutions	33 (33.33)	66 (66.67)
Special Focus Institutions	7 (17.95)	32 (82.05) ( $X^2(1) = 3.217, p > .07$ )

<sup>a</sup> Carnegie classifications were clustered as follows: 2018 Carnegie Basic Classification labels 15, 16, and 17 were recoded as 'Doctoral/Research Universities', Carnegie labels 25 and 26 were recoded as 'Special Focus Institutions'

## DISCUSSION

- Data viz centers are more commonly found in main academic libraries rather than health sciences libraries. It is unclear if the existence of data viz centers at main libraries hinders the engagement of health sciences libraries in supporting data viz.
- The majority of LibGuides that discuss either "data viz" or RDM (Research Data Management) serve primarily as pathfinders for major software products or textbooks, rather than providing basic information about data viz or research data management. This may hinder the library's ability to provide evidence of its expertise or roles in supporting data viz or RDM.
- Even among Health Sciences Libraries with a dedicated Data Librarian position, little to no information about the role of the Data Services Librarian was provided.
- For most elements of data-related support, there was a significant correlation between the presence of data-related support and having a Carnegie Classification of 'Doctoral Institution'. The one exception was the presence of an informational guide on Data Viz ( $p=0.073$ ), which was not significant.
- Data services external to Health Sciences Libraries are often housed in Research 'Cores' or 'Clusters', although they may also consist of research consultation services in Biostatistics departments. These services address appropriate design of research, conduct of analysis, and reporting of results. The services almost never mentioned either Research Data Management support or Data Visualization support.
- 43.9% of AAHSL members were part of institutions that had no formally described data support services beyond the library. The authors suggest this indicates an unmet need that Health Sciences Libraries are well-suited to fulfill.

## REFERENCES

- Association of Academic Health Sciences Libraries. (2020). Association of Academic Health Sciences Libraries, Member Institutions. <https://www.aahsl.org/member-institutions#/>. <https://www.aahsl.org/member-institutions#/>
- US National Library of Medicine (NLM). (2017). A Platform for Biomedical Discovery and Data-Powered Health, National Library of Medicine Strategic Plan 2017–2027, Report of the NLM Board of Regents. (). [https://www.nlm.nih.gov/pubs/plan/lrp17/NLM\\_StrategicReport2017\\_2027.pdf](https://www.nlm.nih.gov/pubs/plan/lrp17/NLM_StrategicReport2017_2027.pdf)