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Mapping research impact services in health sciences and medical libraries: an observational study

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Abstract

Introduction. Research impact service is an emerging area of library practice responding to rising demand from funding agencies and institutional administration. This study examines the scope of this service in medical and health sciences libraries and informs practice for developing or expanding such initiatives.

Method. An observational content analysis was conducted on publicly accessible webpages of member libraries of the Association of Academic Health Sciences Libraries (AAHSL). Libraries were categorized into four service levels, from basic guides (Level 1) to dedicated teams (Level 4). Data were manually collected and descriptively analyzed for service scope, staffing models, tools, metrics, frameworks, and deliverables.

Results. Of 189 libraries (174 U.S., 5 Canada, 10 elsewhere), 140 offer research impact services: 49 at Level 1, 61 at Level 2, 16 at Level 3, and 13 at Level 4. Scopus and Web of Science were most frequently used. The San Francisco Declaration on Research Assessment (DORA) and the Leiden Manifesto were most referenced.

Conclusion(s). While most libraries offer research impact services, fewer than 20% provide advanced support (Levels 3–4), highlighting the need to strengthen workforce capacity in this area.

Introduction

As an integral part of the academic research enterprise, Research Impact Assessment (RIA) examines the influence, reach, and benefits of research output across academic domains and beyond, including its effects on science, economy, society, culture, public policy, and quality of life (Penfield et al., 2014). RIA demonstrates the value of research to governments, stakeholders, and the public, and supports accountability, funding, and strategic planning (Yu et al., 2020, 2023). Although research administrators have traditionally led RIA efforts, libraries, especially medical and health sciences libraries, have emerged as key partners (Brosz, 2020). Librarians have increasingly applied their expertise in systematic search and bibliometrics to help researchers and institutions assess influence and collaborations. In response, the role of '*Research Impact Librarian*' has emerged over the past decade, though position titles may vary among institutions (Bryant, 2021; Palmer, Bredahl, & Weaver, 2025).

Several studies explored this role and its associated resources, such as research impact indicators, metrics, and tools (Suiter & Moulaison, 2015; Miles, Konkiel, & Sutton, 2018; Bakker et al., 2020), as well as online library guides related to bibliometrics and research impact service (Palmer, Bredahl, & Weaver, 2025). These studies primarily employed survey or content analysis of academic library websites in the U.S. and Canada. For example, Gutzman et al (2018) reviewed research evaluation support services in seven biomedical libraries in North America, reporting varied service models from embedded librarian consultations to dedicated evaluation support programs. This study provided a useful framework for categorising service type, scale, and commonly used tools, but its scope was limited to only seven libraries.

Given the rapid growth of this field, an updated and broader investigation is needed. Therefore, this study examines how North American medical and health sciences libraries (MHSL) provide research impact services regarding service scope, staffing, skills, tools, and key metrics. We focus on MHSLs due to their essential role in highly funded research domains with high-impact evaluation demand (Gutzman et al, 2018). The findings will provide insights into current practices and guide libraries developing or expanding such initiatives. Specifically, this study addresses the following questions:

1. What's the current state of RIA services across MHSLs in North America?
2. What types of RIA services are available to their research communities?
3. How are librarians and informationists involved in RIA services?
4. Which major databases, tools, and metrics frameworks are promoted or used?
5. What are typical RIA service deliverables (e.g., reports, dashboards, visualisations)?

Method

Building on the methodologies from previous studies (Suiter & Moulaison, 2015; Yoon & Schultz, 2017; Bakker et al., 2020), this observational study conducted web content analysis by manually reviewing MHSL websites, extracting RIA service information, and then applying descriptive analysis to summarise the findings.

Sample selection

The primary sample comprised MHSLs in North America. A member list of the Association of Academic Health Sciences Libraries (AAHSL) was obtained from its online official directory in August 2024, which provides a comprehensive list of academic medical and health sciences libraries in the United States and Canada, including their website URLs. Although the AAHSL directory includes a small number of MHSLs outside North America, this study exclusively focused on North American institutions because library services and resources are largely shaped by culture, economic, political, and organisational contexts.

Data collection

From August to October 2024, the first author systematically visited each included library's website using standard web browsers. Navigation began from the homepage, proceeding to sections like '*research support*,' '*scholarly metrics*,' or '*citation metrics*,' with internal site searches using keywords like '*research impact*,' '*h-index*' and '*bibliometrics*.'

All retrieved content, including linked resources and service descriptions, was coded in a spreadsheet guided by two similar studies (Palmer et al., 2025; Gutzman et al., 2018). Predefined fields captured six key areas (detailed below), using qualitative notes documenting specific details. We iteratively discussed codes before recording them in the master data spreadsheet.

1. Service scope: Libraries were categorised into one of four progressive tiers based on their resources, in-house expertise, and service levels:
    a. **Level 1 (LibGuides only)**: Libraries providing instructional online guides (e.g., LibGuides, webpages) explaining core metrics and tools. These guides aim to increase the understanding of research impact metrics and resources (Palmer et al., 2025) for self-directed learning.

    b. **Level 2 (Consulting/advisory)**: Libraries extending to interactive but non-collaborative support, including workshops, webinars, or one-on-one consultations. Services focus on advisory roles (Gutzman et al, 2018).

    c. **Level 3 (Custom analytics)**: Libraries offering on-demand, tailored analytical services and deliverables, such as bibliometric reports, author impact analyses, or visualisations of collaboration networks (Gutzman et al, 2018).

    d. **Level 4 (Dedicated units/specialists)**: Libraries housing full-time roles (e.g., research impact librarians, bibliometricians, or embedded informationists) or specialised teams dedicated to RIA services (Gutzman et al, 2018).

    If a library provided services spanning multiple levels, it was classified only once according to the highest level of service offered (e.g., Levels 1–4 counted as Level 4).

2. Staffing models: Number and roles of dedicated librarians/staff (Gutzman et al, 2018).

3. Bibliographic databases and analytical tools: Identification of resources for RIA services, such as subscription databases and visualisation software (Suiter & Moulaison, 2015; Gutzman et al, 2018; Palmer et al., 2025).

4. Metrics and indicators: Traditional (e.g., citation counts, h-index) and alternative metrics (e.g., altmetrics like social media mentions) (Suiter & Moulaison, 2015; Gutzman et al, 2018; Palmer et al., 2025).

5. Guiding frameworks: Use of responsible metrics principles, such as the Declaration on Research Assessment (DORA), Leiden Manifesto for Research Metrics, or Metric Tide report (Suiter & Moulaison, 2015; Palmer et al., 2025).

6. Service deliverables: RIA outputs offered, such as customised impact reports, dashboards, and collaboration network maps (Gutzman et al, 2018).

Data analysis

Descriptive statistics and visualisations were generated using Tableau and Microsoft Excel. Analyses included frequency counts, percentage distributions, and cross-tabulations examining geographic service distribution, service level prevalence, database, and tool usage, staffing models, metrics referenced, and deliverable formats.

Results

Service scope and geographic distribution

A total of 189 libraries were included in the analysis. Figure 1 shows 179 out of 189 libraries were in North America (174 U.S., 5 Canada), with the largest U.S. concentrations in New York (15), Texas (13), and California (12). The remaining 10 libraries were globally distributed across Syria, India, Taiwan, Lebanon, Zimbabwe, Ireland, Bosnia and Herzegovina, Brazil, and Qatar.

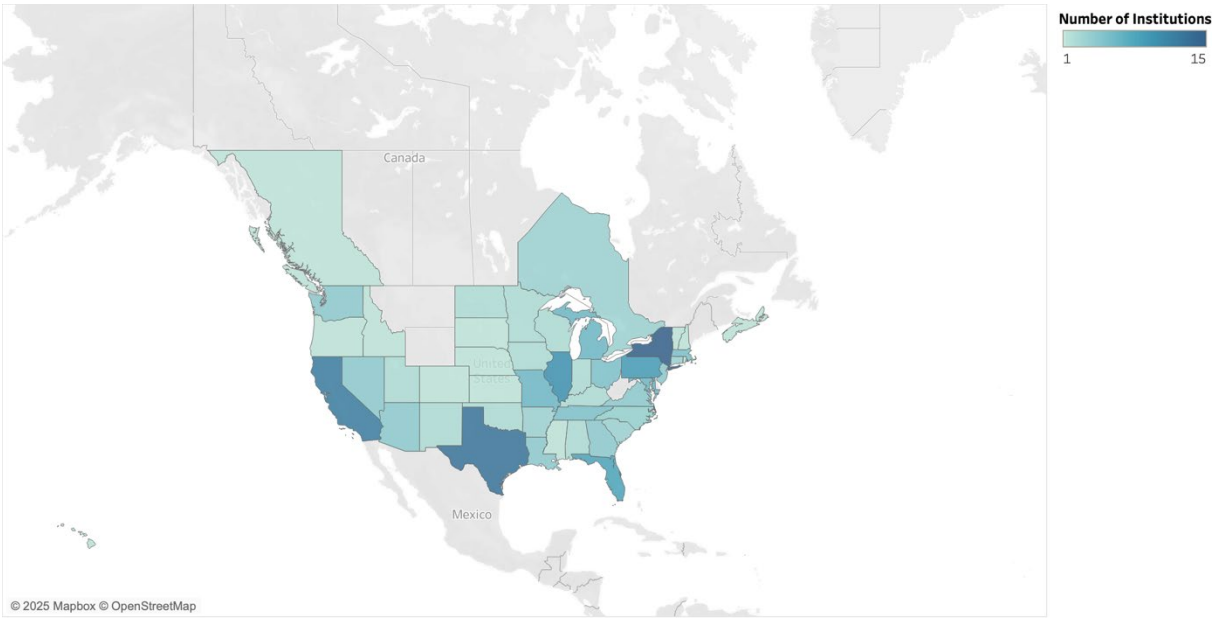

Figure 1. Geographic distribution of AAHSL member institutions in North America

Of the 189 AAHSL member institutions examined worldwide, 140 (74.1%) offered some form of research impact guide or service. Figure 2 shows the geographic distribution of research impact service categories among North American AAHSL institutions. Figure 3 illustrates the number of North American AAHSL members in each service category: 49 provided Level 1 services, 61 offered Level 2, 16 provided Level 3, and 14 delivered Level 4 services.

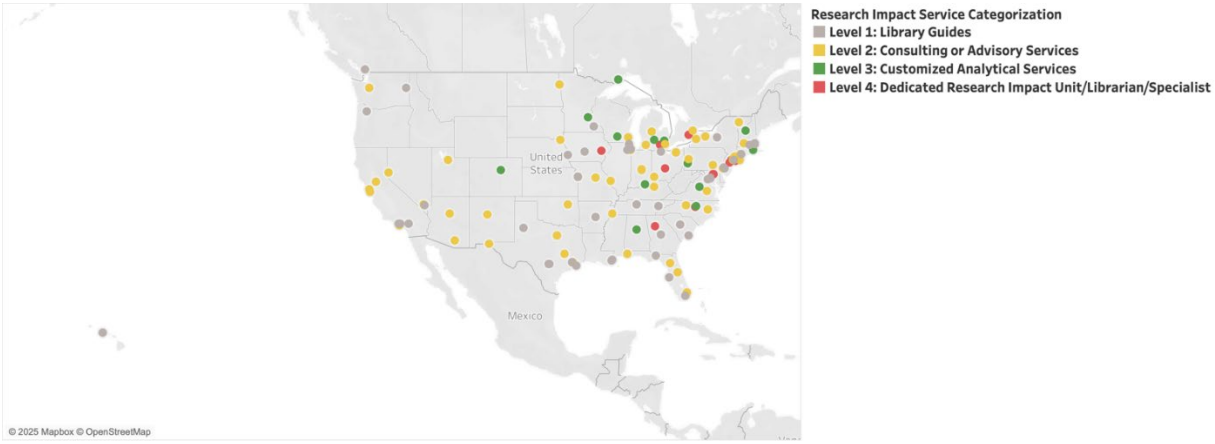

Figure 2. Geographic distribution of research impact service levels (N=140 libraries)

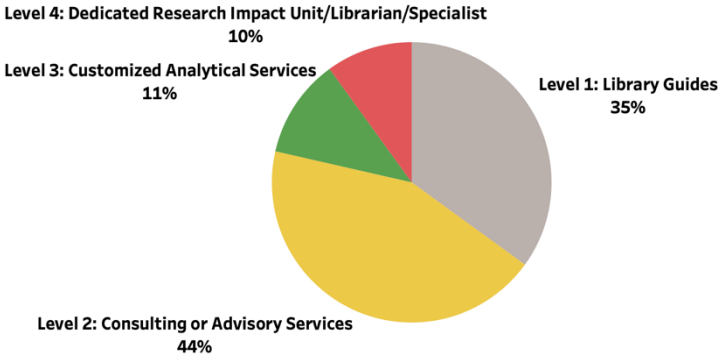

Figure 3. Percentage distribution of research impact service levels (N= 140 libraries)

Bibliometric services and deliverables

Of the 30 North American AAHSL member institutions providing Level 3 and 4 services, 29 indicated the bibliometric services offerings on their library webpages, including researcher-level metrics (h-index, citation counts) and journal-level metrics (impact factor). While only seven libraries explicitly described offering visualisation services (e.g., co-authorship networks, collaboration networks, or research topics or subject maps), more incorporated visualisations into deliverables. Among 22 libraries specifying deliverable formats, impact reports (n=18) and visualisations (n=16) were most common.

Web of Science and Scopus were the two most frequently listed databases for collecting publication data and metrics, each cited by 25 libraries. Emerging tools included Dimensions, a newer research database, and Altmetric, which tracks digital and societal impact, adopted by 7 and 6 libraries, respectively.

Responsible metrics frameworks

Regarding responsible metrics, 11 of the 30 libraries with Level 3 and Level 4 services mentioned their use in research impact guides. The most frequently cited frameworks were the San Francisco Declaration on Research Assessment (DORA) (n= 10), and the Leiden Manifesto (n=8).

Staffing models for level 4 services

Among the 14 libraries offering Level 4 services, 8 have established dedicated units or teams listed in Table 1. Examples include the *Impact Measurement and Visualisation* team at the University of North Carolina at Chapel Hill, the *Welch Research Metrics Service Core* at Johns Hopkins University, the *Metrics & Impact Core* at Northwestern University Feinberg School of Medicine, the *Scholarly Impact Department* at University of Iowa, the *Research Impact & Emory First* at Emory University, and the *Taubman Health Sciences Library Impact Core* at University of Michigan.

Two institutions have designated research impact specialists: The Health Science Library at the Ohio State University has a dedicated *Research Impact Librarian*, while the Health Science Library at the Zucker School of Medicine at Hofstra/Northwell and Northwell Health has a *Data Services and Research Impact Librarian*. The remaining 4 institutions provide dedicated named contacts for their research impact services without listing formal units or positions.

Institution	Library Name	Dedicated Research Impact Unit/Librarian/Specialist
Emory University	Woodruff Health Sciences Center Library	Research Impact & Emory First
Johns Hopkins University	William H. Welch Medical Library	Welch Research Metrics Service Core
McMaster University	Health Sciences Library	Dedicated Research Impact Contact - impact@mcmaster.ca
Northwestern University Feinberg School of Medicine	Galter Health Sciences Library & Learning Center	Metrics & Impact Core
NYU Grossman Long Island School of Medicine	William C. Hollis Health Sciences Library	Research Metrics team
NYU Langone Health	NYU Health Sciences Library	Research Metrics team
Ohio State University	Health Sciences Library	Research Impact Librarian
Rutgers University	Biomedical and Health Sciences Libraries	Dedicated Research Impact Contact - scholarlyimpact@libraries.rutgers.edu
Rutgers, The State University of New Jersey - New Brunswick	Robert Wood Johnson Library of the Health Sciences	Dedicated Research Impact Contact - scholarlyimpact@libraries.rutgers.edu
University of Iowa	Hardin Library for the Health Sciences	Scholarly Impact Department
University of Maryland Baltimore	Health Sciences and Human Services Library	Dedicated Research Impact Contact - research-impact@hshsl.umaryland.edu
University of Michigan	Taubman Health Sciences Library	Taubman Health Sciences Library Impact Core
Zucker School of Medicine at Hofstra/Northwell and Northwell Health	Health Sciences Library	Data Services and Research Impact Librarian
University of North Carolina at Chapel Hill	Health Science Library	Impact Measurement & Visualisation Team

Table 1. A list of level 4 research impact services institutions

Discussion

This study provided an updated survey of RIA services offered by AAHSL member institutions in North America. The findings show that most libraries remain at basic levels, with 49 libraries providing Level 1 (library guides) support and 61 providing Level 2 (consultation) support. Only 30 libraries offer Level 3 (custom analytics) and Level 4 (dedicated units/specialists) services. This pattern aligns with Palmer et al. (2025), who found that most Canadian academic librarians provide bibliometric and research impact instruction through online library guides. Further, the clustering of advanced services (Levels 3 and 4) within certain geographic regions and Carnegie-classified R1 institutions likely reflects funding disparities and institutional priorities that affect advanced library services development. These findings also echo Gutzman et al. (2018), who identified staffing, expertise, and technological infrastructure as key challenges in developing robust research evaluation services. Therefore, these results disclose an urgent need to strengthen workforce capacity in RIA service through strategic approaches by iSchools, Librarian professional

communities, and funding agencies. For example, incorporating bibliometrics and research impact analytics into Library and Information Science (LIS) curricula, offering targeted webinars and training programs, and expanding professional development opportunities to equip the current and future workforce to meet the rapidly growing demand for RIA skills and expertise.

Web of Science and Scopus remain the major bibliographic resources, each cited by 25 institutions, reaffirming their status as core tools for citation tracking and impact analysis (Meho & Yang, 2007). However, adoption of emerging new tools like Dimensions (cited by 7 libraries) and Altmetric (cited by 6) suggests a broadening approach to RIA. Compared with Scopus and Web of Science, Dimensions offers integrated datasets on publications, grants, patents, and clinical trials for research analytics (Hook et al., 2018), increasingly adopted by libraries that seek data-driven approach to research assessments. Both developed by Digital Science, Dimensions connects with Altmetric, enabling a combined analysis of scholarly and digital impact. The use of Altmetric indicates growing recognition of alternative metrics, as institutions gradually move beyond solely academic impact to broader digital engagement and societal influence (Thelwall, 2020).

Bibliometric services remain central to advanced research impact support. Of the 30 North American institutions providing Level 3 and 4 services, 29 explicitly listed the bibliometric services, suggesting the centrality of bibliometric support. This aligns with Konkiel and Sutton (2018), who reported citation counts as one of the most widely used RIA metrics for librarians. Visualisation services are also gaining traction. While only seven libraries explicitly advertised visualisation as a service (e.g., co-authorship networks, collaboration networks, or topic maps), a larger number incorporated visualisations into their deliverables, with 16 institutions specifying them as outputs alongside impact reports. This suggests visualisations are often embedded within broader reporting services rather than standalone offerings. Furthermore, the prevalence of RIA reports and data dashboards as main deliverables (specified by 22 of 30 Level 3 and 4 libraries) further emphasises the need for clear and shareable RIA output and communications to stakeholders.

Responsible metrics frameworks were referenced by more than half of the advanced Level 3 and Level 4 libraries (11 out of 30), including the San Francisco Declaration on Research Assessment (DORA) and the Leiden Manifesto as the two most frequently referenced. This suggests that institutions are becoming aware of or shifting toward more context-sensitive and ethical evaluation practices, moving beyond over-reliance on single metrics, such as the Journal Impact Factor. This finding is consistent with the call from Palmer et al. (2025) for responsible metrics within research impact instructional content.

Staffing models for Level 4 services (N=14 libraries) demonstrate two distinct patterns: Eight have established dedicated units or teams, while the remaining six indicate individual designated specialists or dedicated contact points. This mirrors broader bibliometric service models, where institutions either centralise expertise in functional units or embed support in individual specialist positions (Corrall et al., 2013). The choice is likely influenced by factors such as institutional size, funding, organisational structures, and the scope of services envisioned. As Corrall et al. (2013) further noted, libraries adapt different organisational structures for specialised services based on local context and resources, a process that often involves iterative development and strategic planning.

Limitations and future research

This study relied solely on publicly available website content. While libraries typically promote services online, any RIA services not publicly described online may have been missed. Additionally, the sample was limited to AAHSL members, excluding non-member libraries that may also provide similar services.

Nevertheless, the study provides a quantified snapshot of current RIA services in North American MHSLs. Regarding this emerging area of practice, future research should systematically capture and map librarians' and informationists' roles and best practices in research impact endeavours, particularly highlighting the contributions of librarians to the research enterprise and academic communities they serve (Carlson, et al, 2025). Additionally, Future studies should consider expanding the scope to include international libraries for broader perspectives on service development across different cultural, socio-economic, and organisational contexts.

Conclusion

This study is the first observational analysis to systematically examine the web content of research impact services in medical and health sciences libraries across North America. Our findings disclose that, while most libraries providing RIA services remain at the basic library guide level, a small group of institutions has developed advanced services. We also mapped the resources, tools, and staffing models, offering insights to guide libraries in expanding their initiatives. We call for strategic, context-based approaches to RIA services, which may include building library workforce capacity by developing relevant skills and in-house expertise, adopting collaborative service models, or offering self-service tools and platforms aligned with institutional needs and resources.

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