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Chapter 1

The Landscapes of Health Science Libraries

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All leaders must understand the context of the environment in which they work. Health sciences libraries straddle a varied universe of systems that care about organizational efficiencies, maximizing health care dollars, running educational programs, facilitating excellent patient care, contributing to research life cycles, and moving the needle towards positive health outcomes. Academic and hospital libraries in these spaces have overlapping and sometimes unique challenges in meeting the organizational expectations of these competing systems and goals. To succeed, the health sciences library leader must understand the missions and day-to-day services the library supports and be comfortable navigating between the organizational and power structures that support their health care environment.

Organizational Structures

Within health sciences libraries, a common distinguishing factor between libraries is the hierarchical reporting structure of the organization. Typically, these structures fall into two main categories: hospital/health care system and academic. While these organizations have overlapping missions, where the library sits within the reporting structure impacts the broader focus and view of the library.

Hospital/Health Care System Libraries

The hospital library or health care system library is the most prolific of health sciences libraries. While there is no singular, formulaic reporting structure for libraries within health care

systems, they typically report through the business or education operations within the hospital system. The hospital library owns a unique space within the organization. They do not treat a patient in the most routine definition of billable procedures or medications. Yet they play a critical role in helping clinicians keep up with the latest medical knowledge by providing information resources and contributing to evidence-based decision-making. Depending on where the library reports, some library workers have taken on roles in continuing education, consumer health education, or cost-effectiveness support services such as evidence-based practice improvement.

While budgets for other hospital departments include revenue, the library's budget does not; hence the library may be seen as a recurring cost with limited return on investment. Librarians need to use the research (e.g., [Vital Pathways](#)) and other tools available to them (e.g., [Values Toolkit](#)) to connect the library's work to key performance indicators and outcomes (e.g., reduction in length of stay, readmittance).

Several hospital libraries have seen changes to their structures in recent years (Harrow et al. 2019). The trend of consolidating providers and hospitals within larger healthcare management organizations has reduced the number of hospital libraries and librarians in North America. Consolidating information resource contracts and deduplicating resources across a system are expected to achieve economies of scale as consolidation of health care systems continues. As a result of these changes, advocacy may then shift from local relationship building with financial officers and educators to a regional or statewide reporting structure for information professionals. As documented in the case studies of Harrow et al., it is a challenging time for hospital libraries with the future containing a mix of hopefulness and uncertainty.

Academic Libraries

Academic health sciences libraries come in many flavors. Some academic health sciences libraries serve several health sciences programs (e.g., dentistry, medicine, nursing, pharmacy, public health), while other are more specialized to a particular branch of health care (e.g., vision sciences, veterinary medicine). Two reporting structures are common for academic health sciences libraries: reporting to the larger educational institution's library system or to the healthcare professional school administrative structure. For simplification, let's call these two options the University Library System model and the Dean's model.

The University Library System Model

In this model, the health sciences library reports through the larger administrative structure governing libraries at the university. The head of the health sciences library may be a director or department head reporting to a senior manager within library administration, such as a dean or associate dean. Hiring practices, budgets, and departmental structures typically align with the structure of the university library system. In some cases, librarians have dual reporting or matrixed reporting relationships for functional roles (e.g., education, research, collection development) duplicated in other campus libraries. For example, all education services librarians in the health sciences libraries might report through the education services department regardless of the subject-specific focus of their work.

This model offers both benefits and challenges. At larger universities, there are often other librarians serving professional schools (e.g., business, law) who have similarly intense academic and research agendas, and these colleagues can be sources of support for health science librarians. Health sciences librarians can also observe and address connections between undergraduate preparation in information literacy and graduate careers in health sciences. For

example, training and tutorials in data or statistical literacy designed for undergraduates in the sciences can help health sciences graduate students whose undergraduate information literacy curriculums were less robust. Additional advantages include being part of a larger community of academic librarians with whom to collaborate and learn and the economies of scale gained through shared budgets, staffing, and service models such as combined technical services units, shared reference services, or instructional design units. For library directors, reporting up through a library dean makes conversations regarding professional shifts and budget challenges easier, as there is usually not the additional layer of educating about principles of librarianship and library operations. There may be a layer of complexity when advocating to the library dean for the need of the health sciences community within the larger library structure and advocating to health science librarian colleagues the counter-balancing needs of the larger university library system. Still, being part of a larger university library system provides the ability to advocate for health sciences community needs during larger, cross disciplinary discussions about core services (e.g., collection development, library policy and procedures, etc.).

Challenges in this model occur when administrators in the larger organization do not understand the unique needs and obligations of health sciences libraries and the constituents they serve. Professional school libraries are dwarfed in size by the number of librarians dedicated to the undergraduate and graduate teaching and research missions of the university. Services and resources for healthcare settings are often more time consuming (e.g., expert search support) or expensive (e.g., clinical care tools) than non-healthcare equivalents. The ratios of librarians to students and librarians to faculty are extremely different when serving health sciences programs and healthcare centers than when serving social sciences or humanities disciplines. I have observed several institutions which had one librarian for medicine (the school and almost all

specialties in the healthcare system), while most academic libraries would not consider having

one librarian for all of the social sciences or humanities. Similarly, services expected by health

sciences constituents, e.g., serving on systematic review or other research teams or rounding with

clinical care teams, are often not well understood by colleagues in a general academic library.

These differences commonly lead to misunderstandings between health sciences and non-health

sciences librarians about how the library is supported (or not) by research overhead dollars, how

workloads between subject librarians are different, how to interpret gathered library statistics,

and how to evaluate collection usage. As a result, health sciences librarians must clearly and

routinely advocate for the service expectations, values, and needs of health sciences communities

with library colleagues and leaders in the university library system.

This advocacy can be challenging when different areas of the library system are

competing for scarce resources. In those situations, I have used the following approaches:

- Acknowledge the values of the institution where I work and explicitly connect the

  larger common goals of education, research, and service in the collective disciplines

  of the university.

- Reaffirm how we depend on each other for the total valuing of health – physical,

  mental, and emotional—which is enriched and made more meaningful by the

  inclusion of arts, humanities, applied sciences, and social sciences. In other words,

  all our work and our disciplines contribute to health and bring value to support the

  institution.

While common goals will eventually translate to pragmatic decisions about library budgets,

resources and services, if we can collectively agree on the missions and goals of our institution,

we can transparently advocate and clearly explain the decisions made for the benefit of our health science libraries.

The Dean's Model

Another common academic reporting structure is for the library to reportto a dean of the School of Medicine or other health sciences academic program. In this model, the head of the health sciences library may have an appointment as an assistant or associate dean. Budgeting and human resources support come through the dean's office structure. A common though not exclusive benefit in this situation is proximity to the health care academic community and to its financial outlook. While library funding is rarely a simplistic "ask and you shall receive" relationship, reporting through a dean's office usually puts library materials costs in perspective in comparison to similar healthcare information systems and academic sunk costs. Advocacy directly to administrators can result in more funding for the library, as can strong relationships with faculty opinion leaders. Librarians in this model have more direct access to faculty through serving on school or departmental committees. Together these two pieces, connection to faculty and direct access to administration for advocacy, can be powerful opportunities for building library champions.

In the Dean's Model, librarians do not usually have a reporting line to other parts of the university library system, though our patrons usually have access to library resources licensed by main campus libraries. While library staff associations may facilitate culture building, few opportunities outside of tenure/promotion processes are available to encourage collaboration across departments or libraries. Librarians in this model may have less contact with peers in other parts of the academic system outside of their school and have less say in the larger collection development decisions of campus. Health science libraries in this situation can

become more insulated from the larger library vision and as well as the larger mission of their parent institution. Health sciences librarians in the Dean's Model must routinely seek out librarian colleagues and build campuswide relationships.

Other Organizational Influences on Health Sciences Libraries

First on the mind, after institutional reporting lines, are the external organizations that influence health sciences librarianship and our parent organizations. Professional associations and accreditation standards of hospital and education spaces can be leveraged to support the case of libraries. It is crucial for the health sciences library leader to understand where their parent organizations look for emerging ideas and benchmarking standards.

Accreditation Standards

There are many different accrediting organizations in health care and education settings. The Joint Commission standards and measurements for healthcare setting accreditation are common benchmarks in hospitals. In 2004 (Paradise 2004), the Joint Commission standards eliminated the specific mention of libraries, though they continue to include standards about management of information to support clinical care. Many hospital libraries closed in the years after this change (Thibodeau and Funk 2009), and librarians have taken steps to advocate for the importance and vitality of the hospital library profession. The Medical Library Association's Vital Pathways project (Holst et al. 2009) speak to the librarian's unique contributions to information access and management in support of evidenced-based clinical care. More recently, the MLA Hospital Library Caucus developed the Values 2 Toolkit (Clark and Brown 2015), which provides supporting literature on the value of librarians in meeting healthcare institutional challenges and includes sections on advocacy ("Dazzling Administration"), skill building ("Best

Librarian Possible"), and designing hospital library spaces ("Library as Place"). Mentioned in both are the continually evolving areas of growth in expert searching/evidence synthesis services and the evolution of programs such as the Magnet Recognition Program, that focus on improved patient outcomes through evidence-based nursing practices. Hospital librarians can leverage these tools to advocate for resources and for the value of the services they provide.

Standards for the education of clinicians also set forth requirements related to libraries. Graduate medical education and continuing education standards from national organizations such as the American Council on Graduate Medical Education (ACGME) and the Commission on Collegiate Nursing Education (CCNE) influence our organizations. ACGME's Common Program Requirements (2022) section IV.B.1.d, ACGME's Milestones 2.0 (2018) and CCNE's Standards for Accreditation of Nurse Practitioner Fellowship/Residency Programs (Commision on Collegiate Nursing Education 2020) section III-C all discuss practice-based learning improvement as an essential component to their programs and to the life-long learning needed as a clinician. These guiding documents provide opportunities for hospital and academic librarians to enter the clinician education space.

Moving further back in the education pipeline, education leaders in healthcare settings look to educational standards from professional organizations as foundations of the education process--standards from organizations such the Licensing Committee on Medical Education (LCME), the American Osteopathic Association (AOA), and the American Dental Education Association (ADEA). Health sciences librarians in hospital and academic settings can leverage these standards and ranking systems to effectively champion librarians and library services as essential components of health care.

Federal Agencies: CMS, CDC, NIH, NLM, and NNLM

The alphabet soup of federal agencies play an influential role in all healthcare organizations and scientific research enterprises. Most federal healthcare resources and agencies report up through the Secretary for Health and Human Services. While political parties may attempt to politicize the work of these agencies, their common, overarching goal is the improved health of the United States population. To that end, these agencies provide direct patient care, fund research, collect and analyze data, and educate healthcare professionals and the public. Healthcare, education, and research administrators pay close attention to the announcements and agendas of these agencies. For example, the Centers for Medicare & Medicaid Services (CMS) plays a significant role in funding and capping the number of residents in hospitals' graduate medical education programs. The public health work of the Centers for Disease Control (CDC) and the National Institutes of Health (NIH) has been front of mind for the last several years during the COVID-19 pandemic. And the National Library of Medicine, as an institute within NIH, has its own research and development agenda respected by clinical and information technology leaders of our organizations. Librarians and library leaders often refer to these federal agencies when considering sources for data or authoritative information on emerging trends. Furthermore, the day-to-day work of these agencies greatly affects the operations of our organizations. To that end, the Network of the National Library of Medicine (NNLM) is an essential partner for the health sciences library leader.

NNLM started in 1965 as the Regional Medical Library (RML) program. While its history and evolution is more completely chronicled by other authors (Bunting 1987; Speaker 2018), its current iteration continues to invest in improving public health by disseminating biomedical information to healthcare professionals and the public through partnership with

libraries and information centers. Health sciences librarians depend on their RML colleagues for communication about research and healthcare directional shifts, grants to support new areas of work or program development, and skill building opportunities in emerging roles of librarianship. The health sciences library leader should forge relationships with members of their local RML and the NNLM national office.

Emerging Roles in Health Sciences Librarianship

Health sciences librarianship is a growing and changing profession. Over the last two decades several new roles have emerged in areas that draw on information management skills and move us deeper into the research life cycle. While traditionally we have been concerned with scholarly outputs (collections, peer review processes, etc.), with expanding roles in data science and evidence synthesis services, we become members of the research team at the point of idea generation, data collection, and analysis. The health sciences library leader must keep abreast of opportunities and skills necessary to expand services and programs in these areas.

Data science and data management.

Several professional development programs in data science (e.g., Simmons University Research Data Management Librarian Academy, NNLM training series on Data Science/Data Management) launched in the last decade and focus on training an emerging workforce or retraining librarians with existing skills. Similar to how the NIH Public Access policy gave librarians new opportunities for outreach to research teams about the library's role in the publication life cycle, the implementation in January 2023 of the NIH Data Management and Sharing policy provides an opportunity for libraries to partner with campus research offices on data management support services. Some libraries have been providing data analysis and data

management support for over a decade by leveraging traditional library skillsets (teaching, outreach, acquisition, reference, etc.) and collaborating with research data analysis colleagues to build out services to support the data life cycle and open science (Federer 2014; Li, Chen, and Clintworth 2013; Surkis and Read 2015). Not every health sciences library can support the vast array of possible research data services, but there is space to educate colleagues on understanding new policies and investigating possible solutions to comply with federal mandates (Giustini et al. 2021). The role of the librarian cannot replace that of other research team members such as biostatisticians or grants officer, but the librarian's skills in information and data literacy and their deep understanding of interconnected phases of the scholarly life cycles can enable significant contributions throughout the life cycle of the project and its data.

Expert search services

Another area of significant contribution is that of expert search services. Expert search services use librarians' deep knowledge of metadata, indexing structures, search strategy development, and information management to support research teams doing a variety of literature reviews, including evidence synthesis projects such as systematic reviews, scoping reviews, and metanalyses. While this expertise has become a standard expectation within the health sciences librarian community, the services are expanding beyond health sciences librarianship (Kocher and Riegelman 2020), and future health sciences librarians will need to develop these skills.

Interprofessional education

In the education setting, health sciences librarians have expanded their involvement in interprofessional education. Similar to standards in practice-based improvement, several accrediting organizations have standards related to how their profession works in the context of the larger health care team(Zorek and Raehl 2013). Developing curriculum in this area requires bringing together educators from different disciplines (nursing, medicine, dentistry, pharmacy, etc.), all with unique ideas about what should be emphasized and how concepts should be taught. Librarians work at the intersection of these disciplines in their day-to-day activities and have created roles as educational partners in addition to their roles as clinical rounding team members (Hinrichs et al. 2020). For example, during the pandemic, librarians worked with interprofessional teams of clinicians to create updated bibliographies of COVID-19 to support patient care (Sullo and Brody 2021; Charney, Spencer, and Tao 2021). Partnerships between clinical educators and librarians will continue to be growth opportunities for librarians as library leaders learn from their stakeholders how best to serve the continually evolving missions of their organizations.

Final Thoughts

While most of this chapter focuses on formal structures and roles to understand the environment in which health sciences libraries operate, I would be remiss if I did not pause before concluding to consider the invisible or unwritten organizational chart, the map to accomplishing work in any organization. Specified reporting relationships within an organization do not tell the complete story of how work gets done. Therefore, it is essential for library leaders to observe the spaces within which they work, who is present for discussions, whose voice is given more weight, and how the key opinion leaders and decision makers operate within the

organization. Leaders must analyze relationships and be able to speak to those stakeholders in the language they best understand. To this end, hospital and academic library leaders must continue to develop communication and business knowledge, skills and abilities that address the larger concerns of these stakeholders that move the organization.

Not all avenues mentioned in this chapter will work in your library setting, and I have almost certainly failed to mention some opportunities that are right for your organizational context. But overall, there is a sense of hope as health sciences libraries, academic and hospital, are in a time of renewed possibilities. Our work over the last twenty years is being replicated outside of our libraries in other parts of the research life cycle and by our colleagues in other specialty libraries. With careful attention to the context of your own institution, its organizational influences, and its written and unwritten organizational charts, you will be best situated to lead into your own, unique future.

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