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SCHOOL OF MEDICINE

About the Strategic Plan

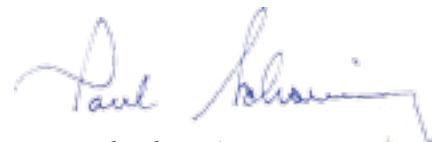
As science and technology continue to evolve, so too will the research and health care landscapes, and the library's role in supporting the medical center community. We have developed the guiding principles for our future contained in this document based on analysis of environmental factors and analysis of our own strengths and opportunities for improvement.

We have sought feedback from associate deans, the Executive Committee of the Faculty Council, and various individual faculty members through extensive conversations about current and potential library resources and services.

In summary, as much as it is impossible to know the future – especially where science, research and innovation are concerned – we feel we have created the solid foundation of understanding that is needed to know what it will mean for the library to continue providing first-rate resources and services to our patrons in the coming years.

We invite you to be part of our constant effort to improve. It is input from patrons like you that will help us help you navigate the constantly evolving environment in which we all operate. Join the conversation by contacting any member of our library staff with your feedback or ideas, or feel free to contact me directly at (314) 362-3119 or paschoening@wustl.edu.

Yours in information services,



Paul Schoening
Associate Dean and Director
Bernard Becker Medical Library



Established in 1911, Bernard Becker Medical Library is one of the oldest and most comprehensive medical libraries west of the Mississippi.

The library serves as an information resource and services hub for the Washington University Medical Center and the global health sciences community.

Becker Medical Library's mission is to provide a haven for study and scholarly reflection along with the resources, information and expertise to deliver innovative support for advancing discovery, lifelong learning and improving human health.

In the pursuit of its mission, Becker Library:

- Commits to personal, timely and professional service
- Ensures that it maintains a world-class collection of information resources, accessible anytime and anywhere
- Engages faculty, students and staff to ensure that library resources and services keep up with their changing needs
- Aligns the library's strategic initiatives in support of school priorities
- Adopts technology solutions to extend access to and maximize the impact of library resources and services
- Strives to demonstrate the value of medical libraries and define their future role within academic health sciences centers

Becker Library fulfills its mission in many ways. It provides access to a truly world-class collection of scholarly journals, special collections, databases and clinical information resources. It also provides space and services to enrich the learning, research and patient care activities of the school.

Becker Library connects people to the resources – experts, core facilities, training, journals, search strategies, databases, etc. – that they need to be successful. Through these activities, Becker Library fosters collaboration and builds communities around common interests.

The library serves the School of Medicine with high-quality resources and services, adapting continuously to the changing landscape of information needs. Periodically, however, it is important to step back and consider the broader landscape of change, reevaluate the library's programs, and establish priorities for the upcoming years through a strategic planning process.

This document lays the foundation for Becker Library's next several years and is the culmination of a careful environmental scan as well as input from administration, faculty, staff and students. The strategies identified through this process will fortify Becker Library's vital role as a catalyst for learning and discovery.

Modern libraries strive to make knowledge easily and widely available. In this era of overwhelming amounts of information, highly specialized research fields, paradigm-changing technologies, and global communities, Becker Library and its experienced information professionals can have a profound influence on the success of faculty and students, and will continue to evolve to best meet their needs in a rapidly changing era.





Summary of Library Strategies for 2018 and Beyond

1. Securing the Future with a Strong Collection

Providing an extensive collection remains central to the library's mission and remains a key strategic objective going forward. We will build upon the strength of our collections, both current and historical, and implement new discovery platforms, rapid-delivery models, and resource-sharing partnerships to broaden access and reduce barriers.

2. Reducing the Burden on Researchers

Helping researchers focus more on their research and less on administrative tasks is core to Becker Library's mission. We will continue to enhance library services to assist research scientists during key phases of the research and dissemination process, including discovery, the pursuit of funding, publication and communication of results, and evaluation of impact.

3. Introducing Researchers to Informatics: Building an Informatics On-ramp

In close collaboration with the Institute for Informatics and WUIT, Becker Library will introduce investigators to informatics concepts and tools that are rapidly becoming essential to all areas of research.

4. Bringing Better Evidence to Clinical Decision Making

Timely access to high-quality information is crucial for patient care decisions. Becker Library will ensure that the best information is available to the healthcare team where and when it is needed.

5. Imparting Skills for Lifelong Learning

In collaboration with the university's academic programs, the library will provide opportunities and methods to develop students' lifelong learning skills in the areas of information seeking and critical appraisal.

6. Teaching the Importance of Clear and Understandable Messages

Becker Library will improve existing programs and services for addressing health literacy, health communication and population health.

Securing the Future with a Strong Collection

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As the products of scholarship and its historical legacy, library collections are of fundamental value to research and teaching. Despite the changing nature of how information is accessed and distributed, and the expanded role of libraries as information service centers, the informed and timely provision of information across all disciplines is and will remain an essential library service.

Becker Library has an exceptional collection that is consistent with an institution of the size and standing of Washington University School of Medicine. Becker Library's collection includes 6,648 full-text e-journals; 20 specialized databases; 58,136 e-books; 79,932 circulating print books; 17,290 rare medical books; and 4,256 linear feet of archives. The library's digital repository, Digital Commons@Becker, houses 53 distinct collections with a total of 11,103 works.

Becker Library's collection is well used, with more than 2 million e-journal article accesses per year. Clinicians, researchers and students have come to expect Becker Library to provide easy access to the scholarly literature to support them on their journeys of learning and discovery.

Areas of Focus

Implement a solution that allows searching all university collections from one interface

Becker Library uses a stand-alone integrated library system and does not share the data about what is in its collection with other Washington University libraries. This creates an unnecessary barrier for the community when they are searching for university resources. Becker Library will work with Washington University Libraries to implement a common integrated library system that will let patrons search all university resources at once.



Adopt technologies to provide cost-effective and rapid retrieval of items not currently held

Although Becker Library's collection is extensive, it is not exhaustive. Articles or books not owned or subscribed to by Becker Library are typically acquired on behalf of patrons from other libraries through a process known as inter-library loan, often taking several days before the patron receives the material. Becker Library has been evaluating a solution that significantly reduces the average time to retrieve journal articles with the hope that it can supplement the inter-library loan process at a reasonable cost.

Advocate for open-access publishing and encourage authors to ensure their published work is freely available to everyone

Becker Library will assist authors who wish to publish in open-access journals by providing information and advice about the quality of open-access publishers and journals, and the various methods that authors can use to ensure their published articles have the broadest access rights possible.

Becker Library will continue to add open-access articles by Washington University School of Medicine authors to its Digital Commons site. To date, more than 330,000 articles have been downloaded in more than 220 countries from Becker Library's Digital Commons WUSM Open Access Publications collection.

Seek opportunities to improve campus-wide access and better control collection expenses through University Libraries partnerships, consortium purchasing and license renegotiation

Becker Library and Washington University Libraries have historically licensed their digital resources independently, resulting in access restrictions based on campus affiliation. Recently, Becker Library and Washington University Libraries committed to adopting university-wide license agreements whenever possible and have made significant progress breaking down barriers to access across the university. Becker Library will seek to renegotiate license agreements to permit university-wide access whenever financially feasible, in partnership with Washington University Libraries and University Purchasing.

More effectively promote special collections and develop a closer partnership with University Libraries special collections groups

Becker Library has exceptional special collections in both rare books and archives. Washington University Libraries on the Danforth Campus also has exceptional special collections. Although there is a collegial relationship, the groups do not have a formal method of coordinating activities or promoting each other's collections.

A committee comprising faculty members from both campuses and special collections staff members will be formed to identify opportunities to work more closely together and encourage the use of their collections more broadly in educational programs throughout the university.

Improve the identification and collection of born-digital institutional records

Becker Library houses the archives for Washington University School of Medicine, Barnes-Jewish Hospital and St. Louis Children's Hospital. The archives consist largely of printed material that is contributed by various institutional groups voluntarily or at the request of Becker Library's archivist. Many of the most valuable collections consist of the papers and correspondence of notable and influential faculty members.

In this era of email and digital documents, there is a danger that the historical record of these institutions will be lost. Becker Library's archivist will be contacting departments and administrative offices to identify born-digital records that should be submitted to the archives and will be working on a system to simplify submission of born-digital documents.

Reducing the Burden on Researchers

Helping researchers focus more on their research and less on administrative tasks is core to Becker Library's mission. We will continue to enhance library services to assist research scientists during key phases of the research and dissemination process, including discovery, the pursuit of funding, publication and communication of results, and evaluation of impact.

The sheer volume of digital information along with the number of tools available for its manipulation and analysis are changing the relationship between researchers and the library. Through programs such as site licensing for scientific software tools, training and assistance with online tools for NIH grant applications, and a wide variety of author support services, the library has established a strong reputation as a resource for the university research community.

Library staff devote their time and energy to assisting with these vital but ancillary components of research, thereby affording researchers more time to devote to actual research and discovery.

Areas of Focus

Expand the library's collection of site-licensed analytic software tools and training opportunities

Becker Library will continue to work with researchers to identify user communities for specialized software tools and employ a proven system for coordinating and negotiating group license discounts.

Illustrate the importance of well-executed systematic reviews to the research process

Systematic reviews are a form of research that can be applied to all areas of biomedicine and not just those with clinical interventions. Becker Library has a strong program supporting the systematic review process and will expand its role in this area through additional educational initiatives, including newsletter briefs describing the multiple types of systematic reviews and website tutorials for using automated review management programs.

Provide guidance and support on publication-related requirements for NIH grants and applications

Becker Library will offer classes, online materials, and consultation services for individuals and groups in the use of tools such as NCBI's My Bibliography, SciENcv, and NIH Biosketch, for preparing grant applications, along with online tools for monitoring compliance with the NIH Public Access Policy.

Help investigators clearly illustrate the impact of their research in grant applications and renewals

Becker librarians analyze a wide variety of publication metrics to produce reports and visualizations demonstrating research impact for enhancing applications and renewals to funding agencies.

Publication metrics considered include the h-index, article citation rates, journal impact factor, downloads and, increasingly, social media engagement. Becker Library will work closely with faculty and administration to further refine its process for assessing impact.



Advise authors on key aspects of the publication and dissemination process including journal selection, alternative publishing platforms, manuscript preparation and raising the global visibility of their work

Getting their research recognized, cited and incorporated into the work of others are key goals of every author. The growing body of science, increasing number of publications and articles, and new modalities for sharing ideas (blogs, Twitter, Facebook) makes it a challenge for an author's work to stand out. Specialists within Becker Library offer advice, training and access to an extended network of successful authors to help researchers get their work noticed. Becker Library intends to find new ways to raise faculty awareness of its services in this area.

Offer tools and training to research scientists wishing to improve their communication skills

Today more than ever, effective and clear communication about science is crucial. Becker Library has taken an active role in identifying the tools and training needed by our faculty, staff and students to be better communicators and spokespersons for biomedical research. Through partnerships with the Office of Research, Institute of Clinical and Translational Sciences, medical and allied health education programs, Medical Public Affairs, and campus regulatory departments such as the Human Research Protection Office, the library serves as a conduit for sharing the needs of various campus populations. Going forward we will work with these partners to develop a broad portfolio of programs in areas such as storytelling, interacting with the media, effective and engaging presentations, and social media methods.

Strengthen position in evaluating research productivity and benchmarking against other institutions through publication-based metrics

Becker Library invests in tools, such as the recently licensed SciVal (Elsevier), to analyze publication and citation data across vast expanses of research, researchers and countries. These tools provide a mechanism for evaluating an institution's research strengths, the amount of national and international collaboration, and objectively measuring research productivity. Becker Library uses these tools to provide reports on university, departmental, and individual investigator impact and productivity to administrative units throughout the university and will work closely with stakeholders to identify additional tools and activities in this area.

Introducing Researchers to Informatics: Building an Informatics On-Ramp

In close collaboration with the Institute for Informatics and WUIT, Becker Library will introduce investigators to informatics concepts and tools that are rapidly becoming essential to all areas of research.

Biomedical researchers increasingly need basic computational skills and access to shared computing resources to conduct their research. In response to this changing research environment, Becker Library and the Center for High-Performance Computing (CHPC) began a partnership in 2016 to develop a short series of introductory research computing workshops. The creation of the Institute for Informatics (I²) provides a unique opportunity for Becker Library and CHPC to extend this collaboration in other areas of informatics.

These educational initiatives complement Becker Library's ongoing software licensing program, wherein the library coordinates discounted pricing on specialized research software, offers onsite training, and acts as a clearinghouse for information on local resources and platforms such as Galaxy and KEGG.

Together, these programs will position Becker Library as a knowledge gateway to the research computing and informatics resources available on campus and as a provider of the foundational skills essential for remaining at the forefront of innovative research.

Areas of Focus

Becker Library and the I² will jointly develop and deliver a comprehensive curriculum for introducing researchers to the concepts, potential and tools of bioinformatics

Becker Library and the CHPC have developed workshops introducing non-technical researchers to basic computational tools, such as Linux, R and Python. In partnership with I² new workshops are

being considered that can form the nucleus of an introductory series for researchers interested in computational methods.

In partnership with the I² and Washington University Information Technology (WUIT), establish a core research data services outreach program to ensure that researchers are leveraging the university's data storage infrastructure to enhance performance, security and collaboration

New programs and services from I² and WUIT in support of basic research are in the pipeline. Olin Library and Becker Medical Library have been involved in planning and development of these programs and services and will be playing an educational role as they become available to the research community.

Becker Library intends to act as a knowledge resource for medical school researchers by promoting the services, offering information on their use and cost, and providing basic instruction on how to access and use them.

Apply the scientific- and information-cataloging skills within the library to assist with I²'s goal of identifying open data sets for use by campus researchers, and develop educational content around their access and use

The proliferation of open data (freely accessible, no use restrictions) is changing the basic nature of scientific discovery by allowing data scientists to aggregate, analyze and validate data from studies worldwide to make new discoveries.

One of the barriers encountered in this new realm of research is locating available and appropriate datasets. Librarians, who are trained search professionals, are poised to offer valuable assistance. Libraries such as New York University's Health Sciences Library have begun creating data catalogs to "facilitate researchers' discovery of data by providing searchable and browsable online collections of datasets."¹ Becker Library will seek to leverage the work of other institutions to establish a data catalog for Washington University researchers.

1. <https://datacatalog.med.nyu.edu/about>. 11/13/2017



Bringing Better Evidence to Clinical Decision Making

Timely access to high-quality information is crucial for patient care decisions. Becker Library will ensure that the best information is available to the healthcare team where and when it is needed.

The rapidly growing production of healthcare information, both scientific and popular, has led to a chaotic environment where information overload is the norm. There has been a threefold increase in the publication of systematic reviews as healthcare researchers recognize the need to synthesize massive amounts of research in a methodical way.² Although this creates a wide range of resources to support practice and learning, it also creates conflicting evidence and greater demands on professionals to spend time identifying and filtering the best information to answer their questions. Without information that is readily accessible, reliable and timely, clinicians cannot deliver high-quality care.

In response to these factors, Becker Library has focused in recent years on strengthening services and resources aimed at providing clinical evidence at the point of medical decision making. It has done this by embedding librarians on clinical rounding teams within partner hospitals, providing access to a broader variety of clinical mobile apps, and facilitating the adoption of system-wide clinical information resource licenses. Going forward, Becker Library will build on these established programs to further improve information access for better patient care.

Areas of Focus

Expand the library's clinical rounding service to include additional librarians

Becker Library has two clinical librarians who participate in teaching rounds. This will be increased to five clinical librarians covering both academic hospitals. Librarians will be trained to recognize medical abbreviations, understand the history and physical examination structure, and distinguish brand versus chemical drug names, and will shadow experienced librarians until they are acclimated. The "15-Minute Librarian" will be equipped with a laptop providing real-time answers during new patient presentations. A backup librarian will provide off-site assistance for complex questions.

Add mobile medical apps and tools to the library's collection of clinical resources

Becker Library provides a selection of mobile apps but has not offered any events for training or promotion of these resources. There are hundreds of medical apps, both free and fee-based, and while some are authoritative, many are biased. Becker staff will identify and evaluate possible new mobile apps in close collaboration with clinical faculty and residents. Periodic mobile app tech events will be held for information exchange and training. Mobile apps will be featured on the Becker website in a "grab and go" section and will also be discussed during clinical rounding.

Identify a tool that will automate data-extraction for systematic reviews

Becker librarians who perform systematic review searches for researchers provide a completed package that includes an EndNote library, an Excel spreadsheet and a methods section. The researcher must then manually perform article screening and selection, which is a time-consuming process. Becker systematic

review librarians will choose two systematic review tools to pilot for comparison and seek feedback from experienced researchers with systematic review expertise.

Partner with the Institute for Informatics (I²) on projects for clinical information discovery

Becker librarians are expert database searchers using both natural and controlled vocabularies while constructing evidence-based medicine (EBM)-type inquiries. Two Becker librarians are a part of an I² grant proposal for creating a visualization of article relationships within a database search to help clinicians navigate the literature quickly using the EBM PICOT format. Librarians will be a part of the team that designs usability and end-user think-aloud protocols.

Increase the use of library resources and services within the Faculty Practice Plan

Washington University's Faculty Practice Plan (FPP) comprises over 1,300 physicians in multiple specialties providing hospital-based as well as ambulatory services at many suburban locations. While Becker Library has had success reaching out to physicians on the medical campus, there has not been a concerted effort to connect with the ambulatory practice groups. Becker Library will inform FPP clinical administrators about library services, resources and mobile apps available to faculty for improved patient care.

2. Page MJ Epidemiology and reporting characteristics of systematic reviews of biomedical research: a cross-sectional study. PLOS Medicine, 2016 <http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1002028>



Imparting Skills for Lifelong Learning

In collaboration with the university's academic programs, the library will provide opportunities and methods to develop students' lifelong learning skills in the areas of information seeking and critical appraisal.

Rapid advances in health sciences and the complexity of health care make lifelong learning skills a necessity. In fact, the Liaison Committee on Medical Education (LCME) asserts that medical students are expected to acquire, demonstrate and become competent in lifelong learning skills.³

Through self-directed learning (SDL) experiences, the MD curriculum prepares students to identify their knowledge gaps, find high-quality information relevant to their needs, and assess the credibility of resources.

Becker Library trains residents, fellows and students from nearly all school programs to effectively search the literature, critically appraise their findings and to select among the best resources. These are the fundamental skills needed for lifelong learning, and librarians are the recognized professionals to impart these skills.

Becker Library will continue to develop new avenues for helping the school's education programs provide these skills to their students.

Areas of Focus

Build on the library's success with medical student education to develop additional self-directed learning activities and evaluation criteria using new models of service to keep pace with an evolving environment

In partnership with the Office of Medical Student Education (OMSE), Becker Library has created self-directed small group sessions with an information-seeking feedback component as part of the Practice of Medicine I and Practice of Medicine II courses.

Working with OMSE, librarians will redesign existing library instructional activities to align with curriculum renewal efforts, utilizing educational technology when it is the appropriate best medium.

Foster a strong involvement with the WUSM Best Evidence in Medical Education (BEME) team in reviewing BEME systematic review protocols

A team of Becker librarians have provided peer-review for two BEME protocols and have become proficient in offering expert guidance to those pursuing completion of a systematic review on an educational topic that will contribute to the field of medical education. Becker librarians will work together to submit a protocol to BEME for review hopefully leading to a BEME systematic review.

Active engagement with the Director of the Center for Interprofessional Education (CIPE) for support of evolving educational activities and needed resources

Becker Library has supported CIPE by acquiring new resources specific to interprofessional education and health care programs collaborating with CIPE. Moving forward we plan to provide training sessions for combined professionals where information skills are taught.

3. Liaison committee on medical education (LCME). Functions and structure of a medical school (contains the LCME standards) <http://lcme.org/publications/>



Teaching the Importance of Clear and Understandable Messages

Becker Library will improve existing programs and services for addressing health literacy, health communication and population health.

Effective communication between health professionals and patients is an essential component of positive health outcomes. Yet while communication is considered a core skill for physicians, many patients still have difficulty understanding what their physician is telling them.^{4,5} Ongoing communication skills training for health professionals can be effective in mitigating the negative effects of low literacy and other social and cultural factors on the physician-patient relationship.

Additionally, ensuring patients are provided with the most reliable, authoritative and understandable health information requires physicians and health professionals to have an awareness of and proficiency in locating the most appropriate information resources for their patients.⁶

Becker Library has a successful program that focuses on providing health communication training and health literacy support services. The library will build on this success to further address the need for ongoing skills training and to promote the importance of and assist with identifying credible, reliable and understandable health information for patients and the public.

Areas of Focus

Enhance the communication skills of health providers and clinical researchers as well as the tools they use to ensure patients have a clear understanding of their health conditions and treatments

Becker Library will expand the scope and number of workshops offered to help clinical investigators develop recruitment and consent materials that communicate more effectively and clearly with research participants. Becker staff will also approach clinical practices to assist with identifying and validating plain language information for their patients.

Promote access to credible and understandable health information to assist patients and consumers in making informed health and wellness decisions

Becker Library will continue to partner with the St. Louis Children's Hospital Family Resource Center to provide appropriate and credible health information to patients and families and represent the library and the university at community events to further promote health information resources for the public.

Expand partnerships with medical and allied health education programs to enhance student knowledge and skills in communicating with patients across different cultures, ethnicities and literacy levels

A health communication expert from Becker Library offers lectures in effective communication in the medical education curriculum and serves as an adjunct professor at St. Louis College of Pharmacy. Becker Library has built upon her skills to develop new avenues for teaching students how to communicate with other professionals, patients and the public. Going forward, we will approach other educational programs to determine need and offer assistance in this area.

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4. Moore PM, Wilkinson SSM, Rivera Mercado S. Communication skills training for health care professionals working with cancer patients, their families and/or careers. Cochrane Database of Systematic Reviews 2004, Issue 2. Art. No.: CD003751. DOI: 10.1002/14651858.CD003751.pub2.
 5. Williams MV, Davis T, Parker RM, Weiss BD. The role of health literacy in patient-physician communication. Family Medicine – Kansas City. 34.5 (2002): 383-389.
 6. McMullan M. Patients using the Internet to obtain health information: how this affects the patient-health professional relationship. Patient education and counseling. 2006 Oct 31;63(1):24-8.



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