

# Bernard Becker Medical Library

Annual Report – Fiscal Year 2022

Supplement and Appendices

## About

Washington University School of Medicine and its teaching hospitals make up a complex organization on the vanguard of biomedical research, patient care, public health and educating the next generation of professionals. Becker Library provides resources and services to help all of our faculty, staff and students accomplish their goals. We seek opportunities to assist people by giving them the tools, information, training and connections to enable, improve or accelerate their work.

## Mission

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.

## Vision

In the pursuit of its mission, Becker Library:

- Commits to personal, timely and professional service.
- Fosters a culture that embraces the principles of diversity and inclusion.
- 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 strives to respect all dimensions of human differences and foster a diverse environment that is inclusive of all persons, regardless of racial or ethnic background, nationality, gender, gender identity, sexual orientation, veteran status, religious beliefs, ability, age or socioeconomic status. We are committed to exposing and dismantling institutional racism and unearned privilege, particularly where we have influence in our workplace, in our professions, and in our university.

# Divisions of the Library

## Archives, Rare Books, and the Center for the History of Medicine

The archives and rare books sections serve as the historical repositories for the Washington University School of Medicine and its affiliated hospitals at the medical center. The archival collections document the history of the School of Medicine including its faculty and students, as well as the institutional histories of Barnes-Jewish Hospital and St. Louis Children's Hospital. The rare books collections comprise rare medical texts devoted to scholarship and teaching featuring 31,351 volumes illuminating the history of medicine, with particular collection strengths in ophthalmology, neurology, anatomy, otolaryngology, dentistry, and obstetrics. In addition to serving students, scholars, and researchers through its special collections, Becker Library hosts a variety of outreach events throughout the year to foster interest in the history of medicine including quarterly exhibitions and a lecture series.

### Significant Activities in Special Collections during Fiscal Year 2022

The Archives and Rare Books reading room received a long-awaited and well-deserved refresh in December 2021. New carpet and ceiling tiles were installed and the entire room was given a fresh coat of paint.

The Washington University Medical Center Desegregation History Project highlights the stories of students and faculty, doctors and nurses, advocates and administrators who lived and worked under segregationist and other racist policies before the medical center desegregated in the 1960s. The Becker Archives maintains project participants' oral history interview transcripts and audio recordings, which capture and preserve first person accounts and reflections on this notable time in the history of the medical school. All project materials were made freely available online in the fall of 2021 through Digital Commons@Becker and the Becker Archives Database.

The Becker Archives staff partnered with the medical school's Academic Women's Network to create an exhibit highlighting twenty-two women who are current or former faculty members at the Washington University School of Medicine who mentored and inspired women in science and medicine. This remarkable exhibit was displayed in the library's atrium in March 2022 in conjunction with Women's History Month.

Two exhibits were installed in the Glaser Gallery. The first, running from September to February, featured artifacts and photographs of 24 different medical schools that operated in the city of St. Louis in the 1800s. The second entitled "Out of Scope," running from February to June, focused on the works in the rare books collections that are not explicitly medical in nature, but reveal the close connections between medicine and other disciplines such as art and literature.

The Rare Books Section also hosted its annual display of rare anatomical texts in December over Zoom. The event was recorded and is now available on the Library's YouTube channel. Rare Book Assistant Angela He also created a video highlighting the Chinese medical texts in the Tyler Collection, which is also available on YouTube.

Class visits in wake of the pandemic continue to be few in number. A session for Patricia Olynyk's undergraduate "Art of Medicine" class was conducted over Zoom, and a studio arts class from

Southern Illinois University-Edwardsville came to visit Becker Library in person. Quill and Scalpel, the undergraduate medical humanities club, also came to visit.

The Archives and Rare Books staff hosted the David A. Gee Administrative Fellows in the ARB reading room in August 2021. They were introduced to our collections, and learned more about the namesake of their fellowship, David Gee, who was the former president of the Jewish Hospital of St. Louis.

During fiscal year 2022 the Archives and Rare Books Division hosted three recipients of its travel scholarships.

- In the fall of 2021, Divyansh Agarwal, an MD-PhD trainee from the University of Pennsylvania, researched the structure of academic training for surgeon-scientists at the Washington University School of Medicine. Dr. Agarwal focused his research on the collections the Becker Archives holds for Evarts Graham, Carl Moyer, and Jessie Ternberg, who each contributed to important scientific investigations in their role as academic surgeons at the Washington University School of Medicine.
- In the fall of 2021, Tina Bharani, MD, a surgery resident at Thomas Jefferson University Hospital, researched archival collections related to the evolution of the field of reconstructive surgery. Dr. Bharani focused her research on the collections the Becker Archives holds for Vilray Blair, Evarts Graham, and James Barrett Brown, each of whom were faculty members at Washington University and early pioneers in plastic surgery, and who developed many of the practices of modern-day reconstructive surgery.
- Rachel Chua is a PhD candidate in History at the University College in London. For her dissertation, she is researching “western” medical school involvement in China in the early 1900s. She came to Becker Archives in the spring of 2022 to review our E.V. Cowdry Papers. Dr. Cowdry, former head of Washington University’s department of anatomy, spent the years 1917-1921 as a visiting faculty member at the Peking Union Medical College to help transition the school to educate students in “western” medicine.

A new collection was added to Digital Commons@Becker to host historical accounts of Washington University School of Medicine. Ten histories of medical school departments, with original publication dates ranging as far back as 1898, were uploaded in the spring of 2022 and are now freely publicly accessible online. Notable among these historical accounts, most of which were authored by faculty members of the medical school, is [A History of the Department of Psychiatry at Washington University in St. Louis School of Medicine](#) by Eugene Rubin, MD, PhD. Dr. Rubin’s 108-page history represents the first book to be published in Digital Commons@Becker. Dr. Rubin relied on significant research support from the archives staff to publish this book.

There were several remarkable accessions to the Becker Archives in the past year. The library now holds the papers of Dr. Walter F. Ballinger, who was the former head of the WUSM department of surgery. Additionally, the library acquired the papers of distinguished neuroscientist Dr. Mary Bartlett Bunge, and her equally notable neurobiologist husband Dr. Richard Bunge. The Bunges were longtime faculty members at WUSM, and their electron microscopy prints are currently on display in the Glaser Gallery.

### **Rare Book Acquisitions**

The rare books division follows a three-pronged acquisition strategy. First of all, it seeks to acquire works that support areas of existing strength, namely ophthalmology, neurology, obstetrics and

gynecology, and psychiatry. Second, it acquires works that fall broadly under the field of “popular medicine,” meaning works in the vernacular that reflect contemporary approaches toward sickness and disease. Finally, it actively seeks to develop its holdings in non-Western medical history. These areas of acquisition were chosen based on the makeup of the collections, our highly international community, and the areas of medical history that faculty and students have expressed interest in. The division is grateful to the Bernard Becker family and the Philip Seib family, whose donations provide the funds needed to grow our collections.

## Acquisitions in FY22

### East Asian Materials

**A significant number of our new acquisitions are East Asian materials. This is in line with our goal of diversifying our holdings to tell a more global history of medicine.**

Fu, Renyu. *Fu Shi Yan Ke Shen Shi Yao Han. (Precious Book of Ophthalmology)*. China: 1644.

Udagawa, Genshin. *Seisetsu ihan teiko shakugi (Commentary on Essentials of Western Medicine)*. Edo: Suharaya Ihachi, 1805. WITH *Ihan teiko naisho dobanzu (Copperplate Engravings of Organs of Ihan Teiko)*. Edo: Suharaya Ihachi, 1808.

Jinbo, Genshu. *Geka shuho kiku (Collection of the Essential Treatment of Surgical Diseases)*. Osaka: 1670.

Honjo, Fuitsu. *Ganka kinno (Causes, Diagnoses & Treatment of Eye Diseases)*. Kyoto, Edo, and Osaka: 1831.

Hua, Shou. *Jushi keiraku hakki wage (Commentary on Shi si jing fa hui in Japanese)*. Kyoto: Kosaji Han'emon, 1693.

Imamura, Akira. *Shinkyu shisho (Acupuncture and Moxibustion)*. Kyoto&Tokyo: 1864.

Two illustrated manuscripts: *Eight Categories of the Physiognomy of the Face and Palm & Fingers, in Accordance with the Five Phases, Written Down AND The Theory of the Complexion of the Face, Written Down, also the Theory of the Ages, Breasts, Ears and Navel*. Japan: either 1725, 1749, 1785, 1809, 1845, or 1869.

### European Materials

**Our European acquisitions complement our existing strengths in areas including ophthalmology and the history of deaf education.**

Guillemeau, Jacques. *Hondert en dertien gebreken en genesinge der oogten*. Amsterdam: Jan Claesz ten Hoorn, 1678.

Frost, Wenzel & Kotatko, Wenzel. *Der Mensch im Symbole*. Prag: 1846.

Montgeron, Louis Basile Carre de. *La verite des miracles operes par l'intercession de. M. de Paris*. Utrecht: Chez les libraries de la Comp., 1737.

Rhijne, Willem ten. *Dissertatio de arthritide*. London: R. Chiswell, Arnold Leers, 1683.

## American Materials

**These materials reflect our ongoing commitment to acquiring works of domestic medicine that highlight how laypeople consumed and interpret medical knowledge.**

Pye, Julia. *Invalid Cookery*. Chicago: 1880

Ruttley, John. *Nature's secrets and the secrets of woman revealed*. San Francisco: J.H. Ruttley, 1875.

## Collection Management

The Collection Management Division secures and provides access to electronic and printed resources, proactively and in response to the evolving needs of faculty and students. In doing so it investigates sources and negotiates and purchases subscriptions to books and journals; creates and edits bibliographic information in the library's catalog so resources are easily discoverable; and provides interlibrary loan and document delivery services so that patrons can conveniently obtain resources from Becker Library and libraries at other institutions.

In April 2022, the long-time Associate Director of Collection Management, Marysue Schaffer, retired and the division was combined with the Health Information Services Division.

## Research Services

The Research Services division of Becker Library provides a broad range of educational programs and services in support of the research activities of the School of Medicine's faculty, staff, and students. Specifically, the division provides introductory training in biomedical research computing, delivers educational offerings and programs in the areas of data management and sharing, and supports awareness, access, and training on a variety of software tools for biomedical data analysis and visualization. In addition, the division provides a host of customized programs, services and expertise to assist faculty, investigators and students in navigating the complex and ever-changing research publishing landscape. Assistance to authors and researchers is available on a wide range of issues including publishing options, public access mandates, copyright, author rights, assessment of research impact, and the dissemination of research findings.

## Research Analytics and Impact Evaluation

Author analytics and evaluation support is a service area that has continued to increase in scope and depth over the past several years in response to the expanding level of interest and need in this area. Guidance and reports are provided for individuals and groups with requests coming from more than 20 offices, departments, centers and institutes across the School of Medicine in FY22. Becker Library staff provided guidance on how to demonstrate expertise using publication data; journal impact factor scores; benchmarking metrics; institution and author name variations, to name a few. Becker Library staff also assisted investigators with strategies to establish their online profiles; guidance on completing tenure packets; and recommendations for enhancing the impact of their research efforts. Becker Library's subject guide *Quantifying the Impact of My Publications* had 6,083 views over the course of the fiscal year.

A number of evaluation reports were also completed during FY22. Reports, graphs, and tables were generated for individuals, groups, divisions and administrative groups on campus. Visual networks, graphs, co-author networks and choropleth geographic maps were also provided. Uses for these reports included grant applications and renewals; progress reports; departmental reports; information for departmental websites; recruiting; and promotion and tenure. Other examples included:

- Departmental productivity and performance reports
- H index reports for departments
- Benchmarking against individuals, groups, departments or institutions
- Narratives for promotion and tenure
- Applications, reporting and renewals for grant funding
- University performance in specific subject areas
- Identification of top authors in a field for recruiting and grant collaboration
- Global collaboration patterns
- Longitudinal tracking of trainees for grant reporting
- Demonstrating collaborative efforts for a grant proposal or renewal
- Slides for lectures or conferences

## **Supporting Authors and Grant Compliance**

Assisting authors with a variety of topics related to publishing, and supporting investigators with funding policy compliance continued to be large areas of focus during FY22 to meet the demand for support in these areas. Becker Library and the Office of the Vice Chancellor for Research continued to work together to promote compliance with the NIH Public Access Policy. Answering questions and providing assistance has continued to be an active area of focus since this support service was launched in 2006. During FY22, Becker Library staff contacted publishers and the NIH Manuscript Submission (NIHMS) system on behalf of NIH-funded authors; ran publication reports to determine the compliance status for applicable publications and to spot-check publications that may have omitted acknowledgement of a grant award; submitted manuscripts to NIHMS; provided guidance on proactive compliance; to name a few. To date, Becker Library has submitted 456 articles to NIHMS on behalf of NIH-funded authors. Washington University in St. Louis has a 95% compliance rate with the NIH Public Access Policy for the time period 2008 to the present (32,995 articles). In addition to the NIH Public Access Policy, Becker Library provided support for over 50 other public access policies from other government agencies and funding organizations.

Becker Library staff also provided support for the NIH Biosketch and NCBI tools such as My Bibliography and SciENcv. Becker Library's NIH Biosketch subject guide had 20,556 views during FY22. One challenge addressed during FY22 was the new federated login changes for users with eRA Commons and NCBI accounts which required separate guidance for investigators and administrative staff. Guidance was also provided to the Office of the Vice Chancellor for Research, the Clinical Research Training Center and other groups on campus. Becker Library also provided guidance on the revised NIH Biosketch announced in March 2021 which went into effect as of January 2022. In addition to the information shared via subject guides, and the questions answered during individual consultations, Becker Library also gave 12 presentations during FY22 on the NIH Public Access Policy, NIH Biosketch, My Bibliography and SciENcv, for audiences across the School of Medicine.

A trend that continued in FY22 is authors looking for guidance on selecting a journal for publication. Support for journal publication options continued and included guidance for identifying credible conferences. Becker Library's Selecting a Journal for Publication subject guide had 70,565 views during FY22, and multiple presentations were provided on this topic to a variety of groups on campus. A positive trend noted this year was the willingness of journal publishers to allow authors to amend publications with corrected or updated names. Preprints also continued to garner much attention as a means of disseminating groundbreaking research prior to publishing in a peer-reviewed scholarly journal. The Preprints subject guide had 2,989 views during FY22.

Becker Library also provided support for the Office of the Vice Chancellor and General Counsel during FY22 by drafting reports and guidance on various issues such as use of material for online teaching purposes, copyright, and other issues. Support for WUSM authors related to copyright and other publication issues also continued. Becker Library provided guidance on a variety of topics ranging from publication copyright transfer agreements; selecting an appropriate license for publication; DOIs; copyright; authorship roles; ORCID; correction of names in databases and publications; publishing options; use of images; how to protect content from being re-used without permission; Fair Use; how to obtain permission; use of materials created under work-for-hire; how to handle course materials with identifiable patient information; to name a few. Information on these topics is available on a Tools for Authors subject guide which had 80,840 views during FY22. New efforts for FY23 are focused on updated license language to reflect current educational practices and new guidance for faculty and instructors.

Ongoing efforts to support our authors and to promote the Washington University Open Access Resolution continued during FY22. One example is the Elsevier agreement that allows for reduced Article Processing Charges (APCs) for Washington University authors who publish in Elsevier journals. Corresponding authors with a Washington University affiliation receive a 25% reduction in the APC for Open Access articles. Extensive research to analyze Washington University publication patterns with Open Access and Elsevier journals was undertaken by Becker Library staff to prepare a proposal and justification for the reduced APC program. This analysis will be repeated in preparation for the Elsevier renewal in FY23. Before the agreement was activated in 2020, 11.5% of Washington University authors published Open Access articles; as of May 2022, 18% opted to publish Open Access articles.

## **Research Profiles at Washington University School of Medicine**

With ongoing funding from ICTS, Office of the Dean, and School of Medicine Departments, Becker Library continued to lead further development and support of Research Profiles at Washington University School of Medicine in FY22. A highlight of the year was the creation of several webpages greatly expanding on and unifying existing support documentation related to the platform. The new pages provide an extensive overview of Research Profiles and all of the information visible within the different platform sections, demonstrate ways to use the many features of the platform to best highlight faculty activity, and provide answers to commonly asked questions.

In addition to these expanded webpages, the Research Profiles support team at Becker Library continued to regularly update the platform with profiles for new faculty hires over the course of the year. The team also responded to nearly 175 requests for profile updates and changes and questions about profile publication information. Presentations and consultations were also provided to 15

groups on campus over the course of the year, spanning educational programs, departments and divisions, centers, institutes and more.

## **Digital Commons@Becker**

The digital repository for School of Medicine scholarly output continues to feature a wide variety of content and media types from across the campus, with 1,728 new items added to the repository during FY22, bringing the total number of scholarly works in Digital Commons@Becker to more than 17,000. In the past year, the repository received visitors from all over the world, highlighting the broad geographic dissemination of scholarly outputs shared via Digital Commons@Becker. There were also 336,479 items downloaded from the repository in FY22, totaling more than 2.5 million downloads since the launch of Digital Commons@Becker in 2010. The most utilized collection within the repository during the past year was the School of Medicine Open Access Publications collection, with 225,301 downloads.

## **Open October**

In collaboration with University Libraries and the Institute for Informatics, Becker Library hosted a month-long series of presentations highlighting trends in open science, open data and open access publishing to raise awareness among our campus community to the changes taking place in research and scientific communication. The highlight of Open October 2022 was a keynote address by Jessica Polka, PhD, Executive Director of ASAPbio. Dr. Polka's presentation focused on the evolving role of preprints in the life sciences, which led to a stimulating question and answer session focused on the future of scientific publishing.

## **Continuing Collaboration with the Institute for Clinical and Translational Sciences**

Becker Library staff continued to provide ongoing support for the Washington University Institute for Clinical and Translational Sciences (ICTS) Tracking and Evaluation Team, including participating on the Translational Science Benefits Model (TSBM) project team. The website for the TSBM, a framework for assessing the health and societal benefits of clinical and translational sciences, was launched in January 2019 (<https://translationalsciencebenefits.wustl.edu/>). Becker Library staff continued to identify, develop and review TSBM case studies throughout FY22. In addition, Becker Library staff served on the TSBM Workgroup within the Clinical and Translational Science Awards Program's Center for Leading Innovation and Collaboration.

As part of their role on the ICTS Tracking and Evaluation Team, Becker Library staff continued to generate annual publication reports and citation analyses on ICTS members (3,466). Becker Library staff also continued to monitor compliance for ICTS-cited publications in accordance with the NIH Public Access Policy. Information and reports were also generated for the ICTS renewal, including tables, maps, social media usage and metric definitions. Monthly reports for publications and preprints related to COVID-19 authored by Washington University authors were also generated on a bi-monthly basis during FY22.

## **Providing Education and Support in Data Management and Sharing**

In partnership with the Institute for Informatics, Becker Library continued to provide training and services in the areas of data management and sharing during FY22. As in FY21, electronic consent, or e-consent, continued to be a significant need for researchers throughout FY22. As a result, Becker Library staff continued to participate in a School of Medicine working group focused on e-consent with leadership from the Institutional Review Board, Human Research Protection Office, Human Research Quality Assurance Program, HIPAA Compliance Office, and others. During FY22, this working group completed and rolled out the WUSTL REDCap E-Consent Template as well as an accompanying Standard Operating Procedure or SOP to assist researchers wanting to implement e-consent. Becker Library staff led several educational webinars introducing the new template and SOP and provided individual consultations to support researchers with questions, all of which were in high demand.

REDCap workshops continued to be of great interest during FY22, with a variety of REDCap topics covered throughout the year, including using REDCap for eConsent. In total, 12 REDCap workshops were offered in FY22 with 460 faculty, staff and trainees in attendance.

With the new NIH Data Management and Sharing Policy approaching, Becker Library spent a significant amount of time in FY22 helping researchers at the School of Medicine prepare for this upcoming policy change. An educational session on the new policy was presented 14 times across campus to general audiences, individual labs and research groups, departments, and senior leadership, with 580 individuals in attendance across the sessions. The library's website was also updated with curated information on the policy and self-help tools related to creating a data management plan and sharing research data. In advance of NIH's new policy, guidelines and procedures were also put in place to allow sharing of research data via Digital Commons@Becker, the digital repository for School of Medicine scholarly output managed by Becker Library. An additional staff member was also hired to allow Becker Library to more fully support researchers in data management and sharing moving forward. All of this work was very important in FY22 in preparation for the launch of this new NIH policy in FY23.

Introductory MDClone workshops continued to be provided in FY22, with 5 workshops offered over the year with 63 researchers in attendance. Updated MDClone workshops will be offered in FY23 following the release of a new MDClone interface at the end of FY22.

Data management and sharing was also covered by Becker Library as a component of responsible conduct of research curriculum offered throughout the School of Medicine. Specifically, training was provided through the Bioethics Research Center and the Clinical Research Training Center with more than 40 trainees in attendance.

In addition to educational sessions, consultation services related to data management and sharing topics were also provided to individuals and groups. Consultation areas covered a broad range of REDCap topics, including using REDCap for eConsent. Additional consultation areas included MDClone, general data management and sharing topics, and the upcoming NIH data management and sharing policy. In total, 207 consultations were provided during FY22.

## **Providing Education and Support in Research Computing**

Biomedical researchers increasingly need basic programming skills to conduct their research. In response to this growing need, Becker Library continued to partner with the Institute for Informatics in FY22 to organize and teach hands-on workshops covering a variety of research computing topics related to R, Python and MATLAB. In addition, Becker Library launched a new series of introductory computing workshops in collaboration with Research Infrastructure Services (RIS) within WashU IT to reduce the barriers around use of the new RIS Research Compute high performance computing platform. Workshop attendees included faculty, staff, students, and trainees from several departments at WUSM, with 884 in attendance across the 19 workshops offered during the fiscal year.

Research computing consultation services were also provided to support needs in this area. There were 50 consultations conducted during FY22 covering a variety of research computing topics.

## **Supporting Access to Research Software and Facilitating Education**

Becker Library continued to support researchers in FY22 by organizing customized training workshops on commonly used software tools. Three workshops were organized in FY22 on Partek Flow and PyMOL with 102 researchers in attendance.

Consultations services were also offered to help researchers find the software they need, navigate the access process, and identify training materials. There were 51 software consultations conducted during the fiscal year.

## **Love Data Week**

In partnership with University Libraries and the Institute for Informatics, Becker Library organized and taught a series of sessions on topics related to data management and sharing, data analysis, and data visualization, in celebration of Love Data Week 2022 (February 14-18, 2022). The highlight of the week was a keynote address by Russell Poldrack, PhD, Albert Ray Lang Professor of Psychology at Stanford University. Dr. Poldrack gave a captivating talk titled, "Toward an Open Ecosystem for Neuroimaging Data Analysis and Sharing", leading to an interactive discussion on ways to move forward with data sharing as the default practice in the biomedical sciences.

## **Health Information Services**

The Health Information Services (HIS) division offers a broad range of biomedical resources and instructional services to faculty teaching the next generation of health care leaders, to students learning evidence-based practice skills, and to healthcare providers on the front lines providing quality patient care. The division works closely with the school's educational programs to support their curricula and the affiliated teaching hospitals to support evidence-based practice.

HIS includes the frontline information desk staff who answer thousands of inquiries regarding library services, item location and checkout, computer and printer instruction, and remote access.

As of April 2022, the division of Collection Management (CM) merged with HIS. The CM division secures, catalogs, and provides access to electronic and print resources, both proactively and in response to the evolving needs of faculty, staff, and students.

## **Providing support to educational programs**

### **Medical Student Education**

HIS librarians welcomed incoming medical students during their orientation introducing them to study spaces and services within Becker library.

A Becker librarian facilitated, along with faculty from the Office of Medical Student Education (OMSE), a team-based learning session for all medical students to prepare them for self-directed learning activities.

HIS librarians provided an evidence-based medicine instructional session to all medical students in Module One, *Molecules to Society*. Librarians also provided feedback for accompanying self-directed learning (SDL) assignments that were co-scored with faculty. Self-directed learning assignments assess each student's ability to identify a knowledge gap, ask an answerable question, judge the credibility of the resources and answers obtained, and then explain how the answers obtained apply to the trigger for the question.

Librarians participated in the two Clinical Immersion assignments where each student formulated a question based on a patient seen during their hospital rotation. In Module Five, *Metabolism & Reproduction*, again librarians co-scored an SDL assignment.

### **Postgraduate Education**

Becker librarians created custom presentations for staff, faculty and fellows from Anesthesiology, Newborn Medicine, Neurology, Pulmonary Medicine, Neuroradiology, Rheumatology, and Spine Surgery.

The T32 Postdoctoral Training Program for students provides a mentored research experience (9 to 12 months) with opportunities to participate in research on cancer prevention. Becker librarians provided didactic training entitled "Your Questions Answered: Library Support for Searching & Publishing".

Genetic counseling is a new program admitting students in Fall 2021. HIS librarians worked with faculty to develop a required or recommended textbook collection. A comprehensive Library Guide was created which compiles all necessary information and research resources for students. Students received a library orientation presentation.

Becker library provides a librarian liaison to both the Physical Therapy and Occupational Therapy programs providing library orientation at the beginning of each semester. The librarian is embedded in evidence-based practice classes and is available to students throughout their educational careers. The Occupational Therapy course, *Evidence to Inform Practice*, provides a librarian-led session annually for students.

For the first time, a Becker librarian provided PubMed instruction for a Torts class at Washington University Law School.

## **Undergraduate Education**

Pediatric Emergency Medicine Research Associates' Program (PEMRAP) is a popular option for undergraduate students interested in a career in medicine. Becker library is a part of this program during Fall and Spring semesters providing orientation and instruction for resources to support a required research project.

## **Professional Development**

A Becker librarian conducted a Searching for Scientific Literature session within the *Fundamentals of Scientific Writing* course.

The HIS team provided instruction and systematic review searching for students enrolled in the Institute of Public Health course, *Systematic Review and Meta-analysis*.

The evidence-based nursing practice program, *Evidence Equals Evidence*, is annually supported by Becker librarians. Eligible nursing staff are instructed in the best ways of retrieving relevant, practical information to inform patient care decisions.

## **Informatics and Biostatistics Education**

The Clinical Informatics fellowship program is required training for board certification in clinical health informatics. Several library staff provide instruction and reading assignments covering resource licensing, evidence-based library resources, EndNote training, mobile medical apps, research computing and data management tools.

An HIS librarian instructed Biomedical Informatics & Data Science summer Interns in PubMed searching to support scientific poster projects.

The *Mixed Methods in Medical Informatics* class received a presentation and demonstration of library resources.

Incoming Biostatistics students benefitted from an introduction to library services and resources.

## **Supporting the Office of Medical Student Education (OMSE)**

HIS worked with OMSE faculty as peer-reviewers in evaluating two Best Evidence in Medical Education (BEME) systematic review proposals.

## **Feuerstein Health and Wellness Center**

Custom shelving was installed for an additional 27 linear feet to accommodate the expanding book collection. There were almost 300 check-outs of health and wellness books. In 2021 a micro-grant program was offered to students, post-doctoral students, residents, and fellows with proposed wellness initiatives. There have been six projects funded: 1) student hiking club 2) narrative group for residents 3) DBBS sustainability project 4) healing room 5) book club and 6) dog-petting event.

## **Systematic Reviews**

Becker librarians, recognized as national experts in systematic review searching, held the 5<sup>th</sup> annual "Designing Search Strategies for Systematic Reviews" -- a three-day synchronous workshop for librarians. The class attracted 19 students from across the U.S., Canada, and Poland.

The HIS Team completed 128 systematic reviews which is a 29% increase from FY 2021. Librarians were co-authors on 42 published systematic reviews. To streamline the review process, a management tool, Covidence, was purchased and made available to systematic review teams. One hundred fifty (150) accounts were created.

A new web-based service page and intake form were created to more efficiently handle requests for systematic reviews and to better differentiate between types of reviews. There is now a new cross-reference to the Biostatistics Consult Service and from Biostatistics to Becker's review service.

An HIS librarian provided two informative sessions of the Becker library systematic review service detailing techniques for building comprehensive searches.

## **EndNote support**

A Becker librarian provided technical support and training for 68 staff and faculty totaling 120 distinct transactions. There were six group training sessions offered. A Becker librarian also created an [EndNote subject guide](#) that provides information on purchasing/downloading the latest version, important safety tips for protecting EndNote data, and answers to FAQ's.

## **Outreach activities**

A Becker librarian annually participants in the DEI Saturday Scholars outreach program providing library resource training to high school students to support health-related projects. This year 130 students participated.

A Becker librarian addressed participants of the Summer Program for Pediatric & Research Careers (SPPARC) to discuss her career path and job experiences.

A librarian presented to a combined group from the Community Advisory Board and Aids Clinical Trails Group on information resources and finding the best evidence.

The Accreditation Council for Graduate Medical Education (ACGME) requested assistance from Becker library in providing Review Committee members with evidence to inform new procedures and policies.

## **Health & Science Communication**

Becker Library expanded its communication services in FY22 by launching the new Center for Health & Science Communication. The center was the culmination of years of service in these two areas and was established to engage and train the School of Medicine (WUSM) community in the fundamentals of communication through workshops, training opportunities, and conversations with leaders in the field.

To serve as a hub for health and science communication-related activities on campus, the center developed a website in January 2022. The website serves as a way to promote free communication resources and highlight relevant communication events to the WU community.

## **#SciComm Week and #SciComm Seminars**

To celebrate the launch of the center, Becker Library hosted #SciComm Week (September 27-30, 2021) to highlight trends in both health and science communication. Melissa Marshall, founder, Present Your Science, provided a 90-minute workshop on transforming slide design, and Joyce Balls-Berry, PhD, Associate Professor of Neurology at Washington University School of Medicine, provided a lecture on the inclusion of diverse populations in research. The Alan Alda Center for Communicating Science capped the week with a keynote workshop introducing their communication method. More than 160 attendees participated in the week's events.

The center hosted two additional #SciComm Seminars in FY22 with 106 participants in attendance (see appendix for presentation dates, titles, and speakers). Through these 5 events, the center was able to provide training opportunities for each of the identified education tracks.

## **Plain Language Review Service**

The Plain Language Review Service continued to review documents for several departments on campus. The program reviewed more than 120 pages of patient-facing materials in FY22. These materials included surgery guides, research surveys, and patient handouts. In addition to the review services, Becker Library's health communication specialist spoke to 336 attendees as both an invited speaker and curriculum lecturer on topics including plain language, clear communication, and media literacy in health care.

## **Library Technology Services**

Library Technology Services (LTS) provides overall coordination and support for information technology systems, as well as coordinating with Washington University's central Information Technology unit (WUIT) on issues related to Becker Library. Systems and services supported by LTS include Becker Library's web site, library business process applications (License Manager), library service platforms (Aeon, ILLIAD, Research Profiles, Atom, EZProxy), and public devices (Windows, MacOS, printers, copiers).

## **Research Profiles**

FY22 saw the first updates of our Profiles/Pure system with new data from WorkDay. We successfully completed two update cycles, which also involved migrating the previous department identifiers to the new supervisory organization identifiers. This resulted in increased departmental granularity, but required substantial work by Becker's Profiles support specialist to roll-up organizations in a way that kept Profiles easy to use for our patrons.

We have also been part of a cross-departmental project (discussed more below) that has allowed us to leverage Profiles data retrieved via the API. It's an exciting/interesting use of the platform that further demonstrates the utility and potential of this system, along with our expertise in this domain.

## **Systems Updates & Upgrades**

Several updates were made to systems during the fiscal year:

- Aeon: Version upgrade

- AtoM to Aeon Request App: We identified an issue the the AtoM API and worked with Artefactual on a fix.
- ILLiad: Version upgrade
- KEGG: Returned to our pre-pandemic frequency and posted six database updates over FY2022.

## **Hardware Updates & Upgrades**

Over the fiscal year Library Technology Services deployed 20+ new PCs, many as docked laptops, in an effort to help staff be more effective as professionals working in a hybrid remote/on-site environment. Equipment tracking and warranty data were consolidated to better anticipate future needs and budgeting concerns.

## **Public Computing**

Several updates were done to improve patron printing and copying in the library, including adopting PaperCut, which greatly simplifies library printing across patron types. This update eliminates the need for copy cards and simplifies the entire printing process for patrons through a straight-forward web interface. A new multifunction copier/printer and badge swipe releases to three units were also added.

Patrons using Becker Library's public computers were experiencing unacceptably long login times – leaving many users frustrated and complaining to Becker Library's information services staff. To address this issue Library Technology Services worked closely with WUIT for several months to identify the problem's cause and implement a solution.

## **Software Licensing**

Improvements were made to how individually licensed applications offered through Becker Software Licensing are monitored and processed. Becker's IT support worked with WashU IT Enterprise Applications to correct and refine the License Manager application and its integration with WorkDay.

## Appendix A – Library Statistics and Finances

### FY22 Collection Statistics

Electronic Journal Titles	9,001 <sup>1</sup>
Total Number of Print Journal Titles	1,856 <sup>2</sup>
Electronic Book Titles	96,044
Circulating Print TITLES (journals and books)	79,576
Paid Electronic Database Subscriptions	14
Audiovisual Items (CD, DVD etc.)	408
Rare Book Volumes	26,758
Archival Material (linear feet)	4,732

### FY22 Research Services

Systematic reviews completed	128
Database searches completed	175
Information Services Desk inquiries	2,156
Librarian inquiries	104

### Online Guides (Becker Guides)

Becker librarians create and maintain a variety of guides and resources to assist users in multiple subject areas. During fiscal year 2022, the total number of page views across all Becker Guides was 231,100. The following table lists the top 20 guides based on total views.

Guide Name	Views
Tools for Author	80,840
Selecting a Journal for Publication	70,565
NIH Biosketch	20,556
Quantifying the Impact of My Publications	6,083
Systematic Review Guide	5,206
Global Health Resources	3,726
Qualitative Research	3,209
Preprints	2,989
Evidence Based Nursing	2,980
Mobile Medical Apps	2,877
Research Impact	2,125
Community-Engaged Research	2,100
COVID-19 Resources	1,985

<sup>1</sup> As of FY22, open access titles are no longer counted, hence this value is significantly smaller than previous years.

<sup>2</sup> Total number of print journals titles includes journals stored at Olin Library on the Danforth Campus.

NIH Public Access Policy	1,968
Author Rights and Copyright	1,873
LGBTQ Healthcare Resources	1,741
DBBS Education Resources	1,428
Evidence Based Emergency Medicine	1,379
E-Books Tips and Hints	1,223
Videos and Tutorials	1,147

## Collection Use

	FY21		FY22		Percent Change	
	Unique Items	Uses	Unique Items	Uses	Items	Use
<b>E-Journals</b>	2,355	2,554,766	2,460	2,129,433	+4%	-17%
<b>E-Books</b>	21,577	78,948	26,857	121,410	+24%	+54%
<b>Print Journals</b>	8	3	2	3	-75%	0%
<b>Print Books</b>	906	1,220	1,137	1,543	+25%	+26%
<b>Audiovisuals</b>	7	23	2	3	-71%	-87%
<b>Checkouts</b>	936	1,246	1,141	1,549	+22%	+24%

## Borrowers

	FY21		FY22	
	# borrowing materials	% of registered borrowers	# borrowing materials	% of registered borrowers
<b>Students</b>	743	60%	651	37%
<b>Faculty/Staff</b>	349	28%	630	36%
<b>Resident/Fellow</b>	65	5%	182	10%

## Top Print Books Used in FY22

Title	Author	Uses
The Body keeps the score : brain, mind, and body in the healing of trauma	Bessel A. van der Kolk, M.D.	12
The broken heart of America : St. Louis and the violent history of the United States	Walter Johnson	8
When breath becomes air	Paul Kalanithi	8
MGMA ... provider compensation and production report		7
Atomic habits : tiny changes, remarkable results : an easy & proven way to build good habits & break bad ones	James Clear	7
Crying in H Mart : a memoir	Michelle Zauner	6
Research design : qualitative, quantitative, and mixed methods approaches		6
Dr. Pestana's surgery notes : top 180 vignettes of surgical diseases	Carlos Pestana	6
Occupational therapy in community and population health practice	Marjorie E. Scaffa	5
First aid for the psychiatry clerkship	Sean M. Blitzstein	5
PTEXAM : the complete study guide	Scott M. Giles	5

## Top 20 E-Books Used in FY22

Below is a list of the top 20 e-books used according to the data in the Counter 5 Standard Book Report 2, in which each vendor can choose what type of section use will be counted.<sup>3</sup>

Title	Uses
Johns Hopkins ABX Guide	4,395
Gray's Anatomy for Students (4 <sup>th</sup> ed.)	3,045
Robbins & Cotran Pathologic Basis of Disease (10 <sup>th</sup> ed.)	2,791
Robbins Basic Pathology (10 <sup>th</sup> ed.)	1,705
Rutherford's Vascular Surgery and Endovascular Therapy, 2-Vols. (9 <sup>th</sup> ed.)	1,415
Dermatology: 2-Vols. (4 <sup>th</sup> ed.)	1,395
Atlas of Human Anatomy (7 <sup>th</sup> ed.)	1,284
Cummings Otolaryngology (7 <sup>th</sup> ed.)	929
Diagnostic and Statistical Manual of Mental Disorders V	909
Handbook of Neurosurgery by Greenberg	983
Pathophysiology of Heart Disease: An Introduction to Cardiovascular Medicine (7 <sup>th</sup> ed.)	787
5-Minute Clinical Consult, Updating	772
Washington Manual of Medical Therapeutics	748
Ferri's Clinical Advisor 2022	732
Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases (9 <sup>th</sup> ed.)	708
Dermatopathology (3 <sup>rd</sup> ed.)	686
Andrew's Diseases of the Skin (13 <sup>th</sup> ed.)	642

<sup>3</sup> ClinicalKey e-books and UCentral mobile app books were not included in usage counts for previous years, resulting in significantly higher usage statistics for some titles.

Applied Theories in Occupational Therapy	627
Current Surgical Therapy (13 <sup>th</sup> ed.)	614
Cornea, 2-Vols. (5 <sup>th</sup> ed.)	594

## Top 20 E-Journals Used in FY22

Below is a list of the top 20 e-journals used according to the data in the Counter 5 Standard's Journal Report. This report counts the number of successful full-text unique uses, 1 use for each session.

Title	Publisher	Total Use
Nature	Nature Research	138,061
New England Journal of Medicine	New England Journal of Medicine	76,479
Science	American Association for the Advancement of Science	47,063
Cell	Elsevier	40,230
PNAS	National Academy of Sciences	34,428
Journal of the American Chemical Society	American Chemical Society	30,369
JAMA	American Medical Association	25,761
Nature Neuroscience	Nature Research	25,404
Neuron	Elsevier	
Journal of Neuroscience	Society for Neuroscience	19,625
Journal of Visual Experiments (all)	JOVE	19,318
Nature Medicine	Nature Research	18,729
Nature Methods	Nature Research	18,716
Nature Immunology	Nature Research	18,693
Immunity	Elsevier	17,567
Nature Genetics	Nature Research	16,612
The Journal of Immunology	Nature Research	16,405
Nature Biotechnology	Nature Research	15,712
American Heart Journal <sup>4</sup>	Elsevier	14,742
Nature Reviews Immunology	Nature Research	11,969

## Interlibrary Loan Services

Becker Library provides a document delivery service that allows School of Medicine faculty and staff to request articles to be copied and delivered for a small fee as well as interlibrary loan services for obtaining from other libraries books and articles not owned by Becker.

### TOTAL BORROWING, LENDING AND DOCUMENT DELIVERY

Total ILL	FY22	FY21	FY20	FY19	FY18
<b>Filled</b>	5,621	6,580 <sup>5</sup>	7,549	8,009	8,805

<sup>4</sup> Unusual activity in one month [14,275 uses]. This journal is usually not in the top 20.

<sup>5</sup> FY21's annual report incorrectly reported this value as 5,406 which didn't include borrowed items

#### BECKER LIBRARY BORROWED FROM OTHER LIBRARIES

<b>Borrowing</b>	<b>FY22</b>	<b>FY21</b>	<b>FY20</b>	<b>FY19</b>
<b>Filled</b>	1,187	1,174	1,269	1,529

#### INTERLIBRARY LOAN BY SERVICE

Interlibrary loan requests filled for other libraries by Becker Library collection	3,585 <sup>6</sup>
Document Delivery requests filled for WU patrons from Becker Library collection	849
Becker Library Borrowed from Other Libraries	1,187 <sup>7</sup>

#### JOURNAL TITLES MOST REQUESTED FROM OTHER LIBRARIES BY WUSM PATRONS IN FY22

<b>Journal Title Borrowed from other libraries</b>	<b>Times borrowed</b>
Microsurgery	9
Journal of Cardiac Surgery	8
European Journal of Ophthalmology	7
Ophthalmology	7
Scandinavian Journal of Medicine & Science in Sports	7
American Journal of Industrial Medicine	6
International Journal of Cardiovascular Imaging	6
Journal of Pediatric Oncology Nursing	6
Journal of School Health	6
Journal of Sport Rehabilitation	6

#### Financial Information

<b>FY22 Income and Expenses</b>	<b>Amount</b>
<b>Income</b>	\$328,492
<b>Expenses</b>	
Salaries and benefit	\$2,813,223
Collection expenses	4,745,400
Operating expenses	460,252
<b>Total expenses</b>	<b>\$8,018,875</b>

<sup>6</sup> 3,517 articles + 68 monographs

<sup>7</sup> 1,127 articles + 60 monographs

## Appendix B – Staff Professional Activities

### Publications

Alexander VM, Martin CE, Schelble AP, Laufer AB, **Hardi A**, McKenzie LJ, Hipp HS, Kawwass JF, Spencer JB, Jungheim ES. Ovarian stimulation for fertility preservation in women with cancer: A systematic review and meta-analysis comparing random and conventional starts. *J Gynecol Obstet Hum Reprod.* 2021 Oct;50(8):102080. doi: 10.1016/j.jogoh.2021.102080.

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Systematic Review with meta-analysis: safety and effectiveness of combining biologics and small molecules in inflammatory bowel disease. *Crohns Colitis* 360. 2022 Jan;4(1)

Bhatt NK, Mendoza J, Kallogjeri D, **Hardi AC**, Bradley JP. Comparison of Surgical Treatments for Zenker Diverticulum: A Systematic Review and Network Meta-analysis. *JAMA Otolaryngol Head Neck Surg.* 2021 Feb 1;147(2):190-196. doi: 10.1001/jamaoto.2020.4091.

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Raghuraman N, Temming LA, **Doering MM**, Stoll CR, Palanisamy A, Stout MJ, Colditz GA, Cahill AG, Tuuli MG. Maternal oxygen supplementation compared with room air for intrauterine resuscitation: A systematic review and meta-analysis. *Obstet Gynecol Surv* 2021 76(9);519-21.

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## Abstracts

Carothers BJ, Combs TB, Palombo E, et al. We're All Running on Empty: ICTS Membership Engagement and Productivity in the COVID Era. Institute of Clinical and Translational Sciences Symposium. May 13, 2022

## **Referee Activities**

Journal of the Medical Library Association (Cathy Sarli)

PubMed Central Journal Independent Reviewer Consultant (Cathy Sarli)

## Appendix C – Departmental Staff Listing

### *Library Director*

Paul Schoening                      *Associate Dean and Director*

### *Library Administration*

Sarah Kalkbrenner                      *Manager, Financial Operations*  
Cherrelle Brooks                      *Accounting Assistant II*  
Junhee Lim                      *Senior Department Accounting Assistant*

### *Archives and Rare Books*

Elisabeth Brander                      *Head, Rare Books*  
Angela He                      *Rare Books Associate*  
Stephen Logsdon                      *Head, Archives*  
Sarah Bush                      *Processing Archivist*  
Philip Skroska                      *Visual and Graphic Archivist*

### *Circulation*

Angie Rosengarten                      *Information Desk Supervisor*  
Ariel Foland                      *Library Assistant*  
Bree Jennrich                      *Library Assistant*  
Adam Pesek                      *Library Assistant*  
Nathaniel Potts                      *Library Assistant*  
Monique Vieira                      *Library Assistant*

### *Research Services*

Marcy Vana                      *Associate Director, Research Services*  
Seonyoung Kim                      *Senior Support Scientist*  
Maze Ndukum                      *Senior Support Scientist*  
Cathy Sarli                      *Senior Librarian*  
Brittney Sandler                      *Research Support Librarian*  
Laura Simon                      *Research Support Librarian*  
Chris Sorensen                      *Senior Support Scientist*  
Amy Suiter                      *Research Support Librarian*

### *Health Information Services & Collection Management*

Deborah Thomas                      *Associate Director, Health Information Services*  
Michelle Doering                      *Librarian*  
Emily Gallaher                      *Librarian*

Anise Gilliam	<i>Serials Assistant</i>
Denise Hannibal	<i>Acquisitions Librarian</i>
Angela Hardi	<i>Librarian</i>
Kim Lipsey	<i>Librarian</i>
Barb Mathieu	<i>Library Associate</i>
Anna Vani	<i>Catalog Librarian</i>
Lauren Yaeger	<i>Librarian</i>

#### Health and Science Communication

Mychal Voorhees	<i>Health Communication &amp; Training Specialist</i>
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#### Library Technology Services

Robert Altman	<i>Head, Library Technology Services</i>
Lucas Steinbeck	<i>Technology Support Analyst II</i>

#### Retirements and Departures

Marysue Schaffer	<i>Associate Director, Collection Management (retired)</i>
Brian McKinney	<i>Library Assistant (retired)</i>
Lindsey Scales	<i>Research Support Librarian (resigned)</i>
Martha Riley	<i>Archivist &amp; Rare Book Cataloger (retired)</i>
Stephanie Coen	<i>Library Assistant (resigned)</i>
Daniel Klosterman	<i>Library Assistant (resigned)</i>
James Zerkel	<i>Library Assistant (resigned)</i>
Neal Shipe	<i>Library Assistant (resigned)</i>

## Appendix D – Lectures and Events Sponsored and Co-Sponsored by Becker Library

Open October (Virtual)

### **“The Evolution of Preprints in the Life Sciences”**

Jessica Polka, PhD

Oct. 29, 2021

Love Data Week (Virtual) (February 14-18, 2022)

### **“Toward an Open Ecosystem for Neuroimaging Data Analysis and Sharing”**

Russell Poldrack, PhD

Feb. 17, 2022

#SciComm Seminars

### **“Transforming Slide Design”**

Melissa Marshall

Sep. 28, 2021

### **“Inclusion of Diverse Populations in Health Research”**

Joyce E. Balls-Berry, PhD, MPE

Sep. 29, 2021

### **“Creating Connections: An Introduction to the Alda Method”**

Alan Alda Center for Communicating Science

Sep. 30, 2021

### **“Using Empathy to Become a Better Science Communicator”**

Rebecca Schwarzlose, PhD

Nov. 16, 2021

### **“Communicating with Policymakers to Maximize Impact”**

Karen Joynt Maddox, MD, MPH

Timothy McBride, PhD

Apr. 13, 2022

Historia Medica Lectures

*Presented in partnership with the Center for the History of Medicine*

### **“Longevity for the World: Self and the Social Body in Early Modern China”**

80th Historia Medica Lecture

He Bian (Ch. 邊和), PhD  
Oct. 20, 2021

**“Riots, Racism, and Urban Health Reform in the 1960s”**

81st Historia Medica Lecture  
Merlin Chowkwanyun, PhD  
Nov. 3, 2021

**“Dissecting the Past: Doctors, donors and assembling a collection”**

82nd Historia Medica Lecture  
Elisabeth Brander, MA, MLS  
Feb. 23, 2022

Other Events

**“Annual Display of Rare Anatomical Texts” (Virtual)**

Dec. 3, 2021

Glaser Gallery Exhibits

**“19th Century Medical Schools of St. Louis”**

Sep. 2021 – Feb. 2022

**“Out of Scope: Unexpected Items in the Rare Book Collections”**

Feb. – Jun. 2022

Special Collections Book Club

*Presented in partnership with University Libraries Special Collections*

**Medicus** by Ruth Downie

Oct. 27, 2021

**Dr. Mutter’s Marvels** by Cristin O’Keefe Aptowicz

Mar. 23, 2022

**The Pull of the Stars** by Emma Donoghue

May 25, 2022