

# Bernard Becker Medical Library

Annual Report — Fiscal Year 2021

Supplement and Appendices

## About the Library

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 26,547 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 monthly open houses, quarterly exhibitions, and a lecture series.

During fiscal year 2021 the Center for the History of Medicine was organizationally relocated under Becker Medical Library. With the retirement of the center's director, Dr. Robert Feibel, there was an opportunity to align the Center for the History of Medicine with Becker Library to continue its mission and better leverage its resources. The center will continue its original mission to enhance scholarship and learning for and by students and faculty, but will more closely complement Becker Library's existing activities and programs around the history of Washington University and medicine. The center acts as a community-building entity to encourage, support, and facilitate multi-institutional events, programs, and exhibits focusing on the history of medicine. Through these activities it will continue to address its original goals—educate future generations of physicians, scientists, and scholars; offer an historical perspective on the evolution of clinical and basic science knowledge; and highlight the School of Medicine's important discoveries and innovations—and expand its programs to emphasize non-Western influences on medicine, how systemic racism has adversely impacted medicine, and historical illustrations of the value of diversity, equity, and inclusion on medical advances and patient care.

The initial advisory committee for the new Center for the History of Medicine has been convened. The committee consists of nine members drawn from a variety of academic departments in both the Danforth and medical campuses. It is meant to be a cross-campus and interdisciplinary endeavor. Elisabeth Brander, Becker Library's rare book librarian, acts as the center's administrative director.

The center is currently working to implement project grants in the history of medicine for Washington University graduate students and early career faculty. These grants will encourage the Washington University community to pursue research and creative projects related to the history of medicine.

## Significant Activities in Special Collections during Fiscal Year 2021

Building off of the successful release of the new archives database in November 2019 that included 18,714 images from the Becker Archives visual collection at the time of deployment, a concerted effort was made beginning in the summer of 2020 to add more digital surrogates of archival documents to the database. This large-scale project was devised to link thousands of description records in the archives database to their appropriate digital surrogate. At the conclusion of the 2021 fiscal year, 23,755 digital objects were available in the archives database, meaning 5,041 documents were added to the database.

as part of the project. This undertaking was one of several library projects during the pandemic that created meaningful work for library staff that could be completed at home. Although the project is ongoing, a large number of library staff members contributed to this effort in the summer and fall of 2020 when most of the library staff had not yet returned to onsite work on a regular basis. Specifically, much of the library's information services staff and archives staff contributed to the project from home. As a result of this effort, two notable collections, the William Beaumont Papers and the Washington University Magazine, are now fully accessible online via the archives database.

Donations of archival material to the Becker Archives continued throughout FY2021 despite the challenges of the pandemic. A new system of "curbside drop-offs" was implemented to allow those wishing to donate archival material to the Becker Archives to do so without having to leave their car. The Becker Archives collected dozens of new accessions in FY2021 via this method. Of note, a large donation from the Department of Genetics included material from the university's famed participation in the Human Genome Project. Included in this accession were laboratory notebooks, two custom-made gel loaders that were used to transfer DNA sequence materials, and documentation showing how the project was managed on a day to day basis.

A new exhibit was installed in the library's seventh floor Glaser Gallery on February 15th, 2021. This exhibit featured documents and photographs highlighting the involvement of several Washington University faculty, staff, and graduates in the Manhattan Project during World War 2. The opening of this exhibit coincided with the library's 77th Historia Medica Lecture given by Dr. James L. Nolan on February 24th, 2021 titled, "Atomic Doctors: Conscience and Complicity at the Dawn of the Nuclear Age." The main subject of this talk was Dr. Nolan's grandfather, James F. Nolan, MD, a 1938 graduate of the Washington University School of Medicine who was an important member of the radiation safety group of the Manhattan Project at Los Alamos during World War II.

Becker Library now has the honor of serving as the archival home of the Pediatric Palliative Care Oral History Project. This years-long oral history project was initiated by Dr. Bryan Sisk, Assistant Professor in Pediatric Hematology and Oncology at Washington University. The transcripts to all 35 interviews with individuals from all over the world who have had notable roles in the development of pediatric palliative care are now available online via the Digital Commons @ Becker. The audio recordings to these interviews are stored in the Becker Archives, and they can be made available to researchers upon request.

In lieu of monthly in-person First Fridays events that were canceled throughout the pandemic, Becker Library hosted monthly virtual events that featured curated collection items on a new theme each month. The inaugural virtual First Fridays event was live-streamed on October 2, 2021 and featured a behind-the-scenes tour of the archives and rare books. This special tour allowed the audience to follow staff members into the typically restricted "stacks" areas where the collections are stored. Other virtual First Fridays featured tabletop displays in the reading room on themes such as animals, vaccines, botanical books, preservation, and the brain.

Despite the pandemic, special collections offered Zoom-based instruction to undergraduates in the medical humanities programs:

March 11th: Show and tell session with Quill and Scalpel Medical Humanities Club

March 16th: Class for Patricia Olynyk, Art of Medicine (Medical Humanities minor)

March 18th: Class for Amy Cislo, Making Sex and Gender  
April 15th: Class for Jennifer Arch: Literature and Medicine  
April 29th: Class for Jennifer Arch: Epidemics Seminar

### 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 FY21

**WALTER HERMENIUS RYFF (1500-1548) [PSEUD. ALBERTUS MAGNUS]. *Ein Newer Albertus Magnus*. Frankfurt: Wengandt Han, [c. 1550].**

This 16<sup>th</sup> century German work ties into the library’s efforts to collect works that reflect the medical landscape outside of an academic setting. Walter Ryff was known for taking works written for an elite, educated audience and repackaging them for a lay audience.

**Thornton, Robert John. *Vaccinae Vindicia*. 1806.**

Over the past year, vaccination has become a topic of intense interest. This work, in which Robert Thornton defends Edward Jenner’s work, shows that controversy around vaccination is nothing new.

***A Mechanical Account of the Non-Naturals*. 1720.**

While the humoral system of medicine often seems straightforward, this work delves deeper into its nuances and provides insight into how people hundreds of years ago understood health and disease.

**GEHEMA, Janusz Abraham. *Die beste Zeit-Vertreib...* Bremen: 1689.**

**AMELUNG VON TANNENBAUM, Heinrich Christian]. *Nonorigi Schadgehemii ein- vor allemahl gethane Antwort auff den von D. Jano Abraham à Gehema, mit unbesonnenen, tölpischen, unverantwortlichen, groben Injurien, übel Vertheydigten Reformirten Apothecker*. Freystadt [Dresden]: “zufinden bey dem Autore,” 1690**

These two works together shed light on tensions in the medical landscape of early modern Germany, specifically regarding who should hold medical authority.

**NAKANOME, Dojun (or NAKAME, Juzan). *Ganmoku [or ganbyo] shinron*. [Japan]: Kanaido, 1850**

One of the rare book division’s goals is to expand our holdings in East Asian medicine to document a global history of medicine, rather than just the history of medicine in Europe and

North America. Since the Becker collection is one of the world's finest collections documenting the history of ophthalmology, expanding holdings in this area is a good starting point. This work illustrates how medicine is a global endeavor, as it includes illustrations copied from Dutch medical texts that are already in the Becker collection.

**Blondel, James Augustus. *The Power of the Mother's Imagination over the Foetus*. London: John Brotherton, 1729**

One of Becker Library's collection strengths is the field of obstetrics and gynecology. This acquisition illustrates the period when older beliefs and superstitions regarding childbirth were being dispersed.

**Lemery, Nicholas. *A Course of Chymistry*. London: A Bell, 1720.**

This work expands the library's holding of works that bridge medical theory and medical practice. It contains instructions on how to concoct specific chemical remedies, providing insight into how theories of iatrochemistry were actually used by physicians.

## 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.

Although the pandemic disrupted established workflow patterns during fiscal year 2021, Collection Management Services continued to provide resources to further the missions of research, teaching, and patient care. The library provided a broad and deep collection of high-quality resources. Online books and journals are purchased or subscribed to when they are available and affordable. Constant oversight is necessary to ensure that these resources always remain accessible. Print books are often a cost-effective option and can be more appropriate for certain items. When members of the medical school community require material that the library does not own, interlibrary loan services are an invaluable way to supplement the library's collection. In FY21, Becker patrons borrowed 1,174 items from other libraries through this service. Patrons were also served by electronic delivery of 746 selections from Becker's owned resources.

The recently created Feuerstein Health and Wellness Center is a popular addition to the library's print collection. Items for this area are selected for content that is targeted toward an active, balanced lifestyle and thoughtful social issues. Suggestions from the medical school community are always welcome and considered. In FY21, this collection contained 294 titles. Items were checked out 104 times, with 130 renewals, proving that there is much interest in this non-traditional subject matter.

FY21 was a year of great transition as the library's internal catalog was migrated in July 2020 from its independent Koha system to integration into the Sierra system used by the Danforth campus libraries. The previous year had focused on preparation for this change, but as expected there were numerous inconsistencies and duplications to resolve, and many problems of various magnitudes, both foreseen

and unanticipated. Working remotely instead of side-by-side made it harder to clear these things up and to provide adequate staff training, however everything became smoother as time progressed. There are 11,854 titles that are held by both the Becker Library and at least one of the Danforth campus's libraries. To reduce duplication within the combined Sierra catalog, Becker items need to be transferred onto the Danforth records and the Becker record deleted. This project requires each record to be individually examined and edited to bring them up to the current RDA cataloging standard that Becker adopted several years ago. Olin Library catalogers contributed to this effort as their time allowed, but the majority of the work is being done by Becker catalogers. At the close of FY21, this project is 64% completed.

Collection Management Services also led an inventory project, greatly assisted by the information services staff. This uncovered and resolved various errors, such as misplaced items and books lacking a catalog record.

## 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.

### Continuing COVID-19 Response

As the COVID-19 pandemic persisted in FY21, Becker Library continued to support researchers at the School of Medicine in evolving ways. Training sessions were still offered in a virtual format, with recordings captured to provide a ready resource for researchers when needed.

The COVID-19 subject guide created at the end of FY20 was updated and expanded to help researchers stay abreast of the latest research on COVID-19 occurring nationally and around the world. There were 2,647 views on the COVID-19 subject guide to date. Becker Library also maintained the School of Medicine COVID-19 researcher pool in Research Profiles to make it easier to identify faculty on campus studying COVID-19 and promote collaboration.

Preprints garnered much attention during the COVID-19 pandemic as a means of disseminating groundbreaking research prior to publishing in a peer-reviewed scholarly journal. To support School of Medicine authors with preprints, Becker Library developed a preprints subject guide containing information on preprint publishing guidelines and the landscape of preprint servers. The preprints guide had 1,031 views during FY21. Assistance was also provided to researchers interested in gathering preprint policies from journals across their specific field of biomedicine. As part of Becker Library's Open October programming highlighting trends in open science, open data and open access publishing, Joseph Ross, MD, MHS, Professor of Medicine and Public Health at Yale University, and founder of

medRxiv, delivered an invited lecture on preprints in medicine, helping to further discussions on preprints across the School of Medicine.

Electronic consent, or e-consent, was also of great interest and need for researchers during FY21 due to the ongoing pandemic. As a result, Becker Library joined others at the School of Medicine in helping researchers understand e-consent processes and implement e-consent when possible. Specifically, Becker Library staff participated 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. The goal of the group is to better coordinate existing support services for e-consent procedures and to develop new supporting documentation. The efforts of this working group resulted in a series of webinars on the e-consent process led by Becker Library staff with support from other working group members. The educational output of this working group was vital to the campus research community during times when in-person research was limited due to COVID-19 restrictions. Additional efforts are being planned for 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 FY21 to organize and teach hands-on workshops covering a variety of research computing topics related to R, Python and MATLAB. All workshops were offered virtually in FY21. Workshop attendees included faculty, staff, students, and trainees from several departments at the medical school, with 730 in attendance across the 21 workshops offered during the fiscal year. Research computing consultation services were also provided to support needs in this area. There were 36 consultations conducted during FY21 covering a variety of research computing topics.

#### Supporting Access to Research Tools and Facilitating Education

During FY21 Becker Library assisted Washington University Information Technology's Software Licensing with the final steps of university licensing of BioRender, a software tool for making professional science figures and graphics. This investigation was initiated in response to several researcher requests. This tool adds to Software Licensing's existing catalog of software, and complements Becker Library's suite of seven site licensed tools, which provide discounted licenses to more than 200 labs and almost 3,000 individuals. In conjunction with these efforts to support awareness and access to research software, Becker Library continued to organize training events on popular tools, including 2 workshops in FY21 with 60 researchers in attendance. Consultations services were also offered in this area to help researchers find the tools they need, navigate the access process, and identify training materials. There were 25 software consultations conducted during the fiscal year.

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

In partnership with the Institute for Informatics, Becker Library provided training and services in the areas of data management and sharing during FY21. Educational sessions occurred on a rolling basis and were conducted in a virtual format. REDCap workshops continued to be in high demand, with a variety of REDCap topics covered throughout the year, including using REDCap for eConsent. In total, 24 REDCap workshops were offered in FY21 with 600 faculty, staff and trainees in attendance.

Data management and sharing educational sessions were expanded in FY21 to include training on MDClone. MDClone is a free, secure, self-service platform for building queries and downloading

computationally derived (“synthetic”) data from the Institute for Informatics research data core. Five introductory MDClone workshops were offered in FY21 with almost 100 researchers in attendance. Data management and sharing was also covered by Becker Library as a component of the responsible conduct of research curriculum offered through the Bioethics Research Center at the School of Medicine. In addition to educational sessions, consultation services related to data management and sharing topics were also provided to individuals and groups. Consultation topics covered REDCap, repository options for data sharing, regulatory policies related to data sharing, and more, with 171 consultations provided during FY21.

As data security concerns and policies continue to evolve, Becker Library continues to engage with other groups at the School of Medicine to expand our educational offerings and support services. In FY21, staff from Becker Library participated in a School of Medicine working group focused on new FDA compliance validation standards impacting a portion of research studies at the School of Medicine. The working group consists of leadership from the Institutional Review Board, Human Research Protection Office, Human Research Quality Assurance Program, HIPAA Compliance Office, and other stakeholders. The purpose of the working group is to improve university data management and security infrastructure in order to meet these new FDA standards. Becker Library staff contributed to this working group by creating tutorial videos for e-consent development within the REDCap Cloud software, as REDCap Cloud is a data capture tool that has been validated to meet these standards.

### Love Data Week

In partnership with University Libraries and the Institute for Informatics, Becker Library organized and taught a series of workshops on topics related to data management and sharing, data analysis, and data visualization, in celebration of Love Data Week 2021 (February 8-12, 2021). Workshop topics included MDClone, R, Python, Tableau, LabArchives, and more. Carrie Wolinetz, PhD, NIH Associate Director for Science Policy, brought the week to a close with a presentation and discussion period on the new NIH Data Management and Sharing Policy.

### Supporting Authors and Grant Compliance

Becker Library and the Office of the Vice Chancellor for Research continue to work together to promote compliance with the NIH Public Access Policy. Answering questions and providing assistance has been an active area of support since this service was launched in 2006. To date, Becker Library has submitted 428 articles to the NIH Manuscript Submission system on behalf of NIH-funded authors. Washington University in St. Louis has a 94% compliance rate with the NIH Public Access Policy for the period of 2008 to the present (30,688 articles). During a one-month period from May to June 2021, over 130 emails were sent in response to NIH Public Access Policy questions or issues. In addition to the NIH Public Access Policy, Becker Library provides support for over 50 other public access policies from other government agencies and funding organizations.

Over the past several years Becker Library has extended the range of services to add support for the NIH Biosketch and NCBI tools such as My Bibliography and SciENcv. Becker Library’s NIH Biosketch subject guide had 23,777 views during FY21. In addition to the information shared via subject guides, and the questions answered during individual consultations, Becker Library also gave more than 15 presentations during FY21 on the NIH Public Access Policy, NIH Biosketch, My Bibliography and SciENcv, for audiences across the School of Medicine.

Becker Library also provides support for the Office of the Vice Chancellor and General Counsel by providing reports or 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 is also ongoing. Becker Library provides guidance on a variety of topics ranging from publication copyright transfer agreements; selecting an appropriate license for publication; authorship roles; ORCID; publishing options; use of images; Fair Use; how to obtain permission; to name a few. Information on these topics is available on a *Tools for Authors* subject guide which had 40,771 views during FY21.

A trend that continues is authors looking for guidance on selecting a journal for publication. Support for journal publication options continues and includes guidance for identifying credible conferences. Becker Library's *Selecting a Journal for Publication* subject guide had 54,279 views for the past fiscal year, and multiple presentations were provided on these topics to a variety of groups on campus.

### Research Profiles at Washington University School of Medicine

With ongoing funding from ICTS, Office of the Dean, and School of Medicine Departments, Becker Library led further development and support of Research Profiles at Washington University School of Medicine. Significant enhancements put in place by the support team in Becker Library during FY21 include:

- Addition of a “Willing to mentor” notation on individual profiles to allow faculty to indicate that they are willing to mentor and specify which types of trainees they are willing to accept.
- Implementation of a request form to streamline the creation and updating of profiles for School of Medicine centers and institutes in Research Profiles.
- Addition of a section for “Education activities and interests” to allow faculty to describe their activities, interests and accomplishments as an educator. Activities such as designing a course, serving as a course master, directing post-graduate training programs, and other educational or professional interests can be provided in this section.
- Inclusion of organization description information on School of Medicine organization profiles.
- Library Technology Services worked closely with university WorkDay implementation specialists to ensure that personnel information pulled from the new system and imported into Profiles would be accurate and consistent.

In addition to the enhancements listed above, the Research Profiles support team at Becker Library continued to update Research Profiles with profiles for new faculty hires over the course of the year and responded to almost 150 requests for profiles updates and changes and requests for presentations on Research Profiles.

### 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 1,312 new items added to the repository during FY21, bringing the total number of scholarly works in Digital Commons@Becker to more than 16,000. In the past year, the repository received visitors from more than 200 countries, highlighting the broad geographic dissemination of scholarly outputs shared via Digital Commons@Becker. There were also 445,644 items downloaded from the repository in FY21, totaling more than 2 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 327,232 downloads.

### 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. Guidance and reports are provided for individuals, groups or divisions, with requests coming from more than 30 offices, departments, centers and institutes across the School of Medicine in FY21.

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 6,126 views for the fiscal year.

Becker Library staff also provided evaluation reports containing visual networks, graphs, and tables such as co-author networks or choropleth geographic maps displaying top authors in a specific field, co-author network maps displaying collaboration among authors; and word clouds displaying topics to demonstrate trends or areas of expertise. Publication reports to confirm acknowledgement of grant support were also generated. Uses for these reports include grant applications and renewals; progress reports; departmental reports; information for departmental websites; recruiting; and promotion and tenure. Other examples include:

- 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

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

Becker Library staff continue 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 led the development of case studies used to provide a contextual narrative to illustrate the TSBM. Eight case studies have been completed by Becker Library staff as of July 2021, with additional case studies as well as case study templates and guidance in progress.

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 (3,400). 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.

### 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. Open October 2020 featured guest speakers covering topics such as using open data to fuel drug discovery, advancing biomedicine with open practices, using open documents to investigate harmful practices in the sugar industry, preprints in medicine, and a panel discussion on openness and publishing at Washington University.

## 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, as well as remote access.

### Providing support to educational programs

The HIS Division, having experience in the legacy medical education curriculum with self-directed learning (SDL) activities, took a more active role within the new Gateway medical curriculum. Working with a curriculum team, an evidence-based medicine (EBM) assessment rubric was created, and new clinical scenarios based on module themes were utilized. Three EBM instructional sessions were provided to all medical students in Modules One and Three, employing flipped classroom preparation, lecture, and small group activities while providing feedback for accompanying SDL assignments. SDL assignments assess each student's ability to identify something they do not know/understand, 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.

The division also participated in the first Clinical Immersion where students formulated a question based on a patient they had seen during their hospital rotation and provided feedback for an EBM assignment for the final Practice of Medicine II course in the legacy curriculum.

The T32 Predoctoral Training Program for students provides a mentored research experience (9 to 12 months) with opportunities to participate in research on cancer prevention and control. Two library divisions co-taught sessions on information retrieval.

The division customized instructional sessions to accommodate Neuroradiology, Rheumatology, Spine, and Pediatric Emergency Medicine fellows' curriculum.

Genetic Counseling is a new program admitting students in Fall 2021. The HIS division worked with faculty to develop a required/recommended textbook collection. A comprehensive Library Guide was created which compiles all necessary information and research resources for students.

Pediatric Emergency Medicine Research Associates' Program is a popular option for undergraduate students interested in a career in medicine or an allied health field. Becker library is a part of this program providing a comprehensive tour of available Becker resources to support the required research project.

Becker library provided scholarly information retrieval instruction for several OHIDS programs including the summer Internship in Biomedical Informatics & Data Science (BIDS@i2) and the Master of Science program in Biomedical Informatics.

The Clinical Informatics Fellowship Program provides required training for board certification in clinical health informatics. During a month long rotation, Becker Library provides instruction and reading assignments covering resource licensing, evidence-based practice, taxonomies, info-button technology and clinical information resources. The yearlong program is comprised of rotations with Pathology, Genome Institute, Radiology informatics.

#### Support for Professional Development

The division created a four part Advanced Searching Skills series, which provided a comprehensive overview of searching tips and techniques.

HIS provided educational sessions for Institute for Public Health courses, Scientific Writing & Publishing and Systematic Review & Meta-analysis.

Barnes Jewish Hospital conducts an evidence-based practice program for new undergraduate and graduate nursing students. HIS is involved with teaching students the skills necessary for acquiring the evidence, which could eventually lead to application both at bedside and in the nursing unit.

#### Multi-institutional projects

The HIS division was involved in large scale projects culminating in either practice guidelines or systematic review publications: A multidrug-resistant organism review for the World Health Organization, Practice guidelines for the American Association for Thoracic Surgery and dementia in the emergency department by Geriatric Emergency Care Applied Research.

#### Systematic Reviews

Becker library, recognized as national experts in systematic review searching, successfully converted the fourth annual "Designing Search Strategies for Systematic Reviews" workshop to a synchronous 3-day format. Sixteen medical librarians from around the U.S. and Canada were instructed about best methods and practices for creating reproducible systematic review search strategies. Feedback from course participants was very positive with all agreeing they would recommend the workshop to a colleague.

The HIS team completed work for 91 Systematic Review projects requiring over 1,000 work hours. There was also follow-up on manuscript editing and peer-review collaboration. Division staff were co-authors on twenty-four published systematic reviews.

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

Washington University School of Medicine is a valued member of the international Best Evidence in Medical Education (BEME) Collaboration. The HIS division worked with OMSE faculty as co-peer reviewers in evaluating three (BEME) systematic review proposals on medical and health professional education topics of global interest.

The Medical Education Research Unit provides consultation and encouragement for students to engage in medical education research. Becker library provides individual guidance to students for their scholarly activities.

### Diversity, Equity and Inclusion Activities

Becker library, in partnership with the Office of Medical Student Education, acquired a new online program for diagnosing skin manifestations of disease. VisualDx is the most comprehensive tool for providing illustrations for skin of color. This online resource will be utilized by students, residents and fellows.

Becker library has created a new Guide to Diversity, Equity and Inclusion Resources. The Guide allows users to browse Becker Library's growing collection of DEI-related books, many curated through the Feuerstein Health and Wellness Information Center, as well as links to organizations, articles and videos grouped under headings like "Anti-Racism," "LGBTQIA+," "People with Disabilities," and "Latinx Community."

The Saturday Scholars Program provides public high school students an opportunity to learn about human anatomy both in a lecture and lab environment, while interacting with Washington University medical students. An HIS librarian prepares students for acquiring information needed to research a topic for a presentation.

## Health & Science Communication

Becker Library's health communication program continued to expand its services during this past year. A new partnership with the Department of Surgery brought more patient-facing documents into the Plain Language Review Service. Over the course of the first year of this partnership, the program reviewed 7 surgery guides and 8 supplemental surgery handouts.

With the COVID-19 pandemic, health literacy and plain language services focused heavily on reviewing COVID-19 patient and community education documents. A wide variety of documents were reviewed including research briefs related to COVID-19 studies, COVID-19 mitigation guidelines, and patient letters on canceling surgeries during the pandemic. Becker Library's health communication specialist was also asked to join the COVID-19 Coordination Messaging to Vulnerable Communities Working Group comprised of area health departments, health leaders, and medical school faculty and staff working to provide health literacy assistance in real-time.

Across all school departments, Becker Library's health communication expert engaged in more than 30 reviews of patient and research participant-facing documents. In total, 11 departments, centers, and

student groups were served by this service in the past year. Becker Library's health communication specialist spoke to more than 130 attendees as both an invited speaker and curriculum lecturer on topics including plain language, health literacy, promoting your work beyond the journal article, and media literacy in health care.

## Library Technology Services

During the past year, the library's web and technology services team was tasked with several major projects along with a wide variety of other smaller projects to support the staff and users of the library. These include:

1. Preparing library systems for the migration to Workday
  - a. Writing a custom extract-transform-load application for pulling data from the Workday API
  - b. The refactoring of a custom intermediary application used to refine the Workday data, add supplemental information, and produce the necessary XML for synchronizing with Elsevier Pure, the platform for Research Profiles
  - c. Working with a team from Washington University Information Technology's Enterprise Applications unit to get the library's License Manager application updated to work with Workday
  - d. Implementing changes to interlibrary loan requests billing
2. Worked closely with Washington University's central information technology organization to transition services
  - a. Migrated KEGG mirror to new servers and Washington University's centrally managed research infrastructure
  - b. Migrated library's EZproxy service to a newer, more stable infrastructure
  - c. worked with Washington University Information Technology (WUIT) in preparation for the library's migration to WUIT's Shared IT Services networked file infrastructure
  - d. Persistently communicated with WUIT in an effort to better understand the accessibility features in our collaboration platforms and to have native captioning enabled in HIPAA Zoom

## Appendix A – Library Statistics and Finances

### FY21 Collection Statistics

Electronic Journal Titles	10,204 <sup>1</sup>
Total Number of Print Journal Titles	1,824 <sup>2</sup>
Electronic Book Titles	85,900
Circulating Print TITLES (journals and books)	79,465
Paid Electronic Database Subscriptions	14
Audiovisual Items (CD, DVD etc.)	476
Rare Book Volumes	26,547
Archival Material (linear feet)	4,280

### FY21 Research Services

Systematic reviews completed	91
Database searches completed	180
Information Services Desk inquiries	1,763
Librarian inquiries	114

### 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 2021, the total number of page views across all Becker Guides was 176,787. The following table lists the top 20 guides based on total views.

<b>Guide Name</b>	<b>Views</b>
Selecting a Journal for Publication	54,279
Tools for Authors	40,771
NIH Biosketch	23,777
Quantifying the Impact of My Publications	6,126
Systematic Review Guide	4,917
Qualitative Research	3,677
Evidence Based Nursing	3,504
Mobile Medical Apps	3,004
Global Health Resources	2,785

<sup>1</sup> Electronic journal titles includes those accessible in partnership with Olin Library on the Danforth Campus.

<sup>2</sup> Total number of print journals titles in FY21 includes journals stored at Olin Library on the Danforth Campus.

COVID-19 Resources	2,647
NIH Public Access Policy	2,093
Community-Engaged Research	1,963
Physical Therapy	1,892
LGBTQ Healthcare Resources	1,875
DBBS Education Resources	1,778
Gun Violence-Related Resources	1,747
Evidence Based Emergency Medicine	1,665
Designing Search Strategies for Systematic Reviews	1,628
Research Impact	1,602
Author Rights and Copyright	1,491

## Collection Use

	FY20		FY21		Percent Change	
	Unique Items	Uses	Unique Items	Uses	Items	Use
<b>E-Journals<sup>3</sup></b>	2,342	3,452,008	2,355	2,554,766	1%	-26%
<b>E-Books<sup>3</sup></b>	21,093	229,499	21,577	78,948	2%	-66%
<b>Print Journals</b>	4	31	8	3	100%	-90%
<b>Print Books</b>	1,123	1,710	906	1,220	-19%	-29%
<b>Audiovisuals</b>	14	29	7	23	-50%	-21%
<b>Checkouts</b>	1,149	2,155	936	1,246	-19%	-42%

## Borrowers

	FY20		FY21	
	# borrowing materials	% of registered borrowers	# borrowing materials	% of registered borrowers
<b>Students</b>	541	25%	743	60%
<b>Faculty/Staff</b>	912	41%	349	28%
<b>Resident/Fellow</b>	206	9%	65	5%

<sup>3</sup> In FY21 publishers used Counter 5, only counting Unique Use (1 use for each session) which will generally result in lower use statistics than previous years for e-journals and e-books. Usage of all available titles includes free COVID-19 articles.

## Top 20 Print Books Used in FY21

Title	Author	Uses
Dr. Pestana's surgery notes, 3rd & 4th ed.	Pestana, Carlos	8
Step-up to medicine, 4th & 5th ed.	Agabegi, Steven and Elizabeth	8
Essentials of general surgery and surgical specialties, 6th ed.	editors	6
How to be an antiracist	Kendi, Ibram	5
Step-up to USMLE step 2 CK, 5th ed.	various	5
Discovering statistics using IBM SPSS statistics, 5th ed.	Field, Andy	4
First aid for the psychiatry clerkship	Ganti, Latha	4
Medical Spanish : interviewing the Latino patient	González-Lee and Simon.	4
The broken heart of America : St. Louis and the violent history of the U.S.	Johnson, Walter	4
When breath becomes air	Kalanithi, Paul	4
Why are all the black kids sitting together in the cafeteria?	Tatum, Beverly	4
Thinking, fast and slow	Kahneman, Daniel	3
Blueprints neurology	Drislane, Frank	3
Case-Smith's occupational therapy for children and adolescents	O'Brien, Jane Clifford	3
Designing clinical research	various	3
First aid for the basic sciences, 3rd ed.	Le, Tao	3
Getting past your breakup	Elliott, Susan	3
Health disparities in the United States , 3rd ed.	Barr, Donald	3
Make it stick : the science of successful learning	Brown, Peter	3
Minor feelings : an Asian American reckoning	Hong, Cathy Park	3

## Top 20 E-Books Used in FY21

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.

Title	Uses
Textbook of Neonatal Resuscitation (NRP), 7th Ed	841
Pathophysiology of Heart Disease	634
Principles of Neural Science, Fifth Edition	629
Evidence-Based Medicine E-Book	470
How the immune system works 6th ed	457
Anesthesiologist's Manual of Surgical Procedures	367
Zollinger's Atlas of Surgical Operations 10e	359
Applied Theories InOccupational Therapy	354
Harrison's Principles of Internal Medicine 20e	329
Occupational Therapy	328
Pedretti's Occupational Therapy	304

Contemporary Debates in Bioethics	260
Pathophysiology of Heart Disease: A Collaborative Project of Medical Students and Faculty 6e	251
Schwartz's Principles of Surgery 11e	240
Designing Clinical Research	231
Sensors, Actuators, and Their Interfaces: A multidisciplinary introduction	221
Comprehensive Physiology	218
Operative Dictations in General and Vascular Surgery	190
Oxygen Transport to Tissue XXXIV	180
Oxygen Transport to Tissue XXXIII	174

## Top 20 E-Journals Used in FY21

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.

<b>Title</b>	<b>Publisher</b>	<b>Total Use</b>
Nature	Nature Research	125,086
New England Journal of Medicine	New England Journal of Medicine	91,460
Science	American Association for the Advancement of Science	83,371
The Lancet	Elsevier	65,359
Cell	Elsevier	41,544
PNAS	National Academy of Sciences	41,526
JAMA	American Medical Association	25,577
Nature Neuroscience	Nature Research	21,378
Neuron	Elsevier	20,795
Nature Medicine	Nature Research	18,618
Clinical Infectious Diseases	Oxford Journals	16,637
Nature Immunology	Nature Research	16,345
Journal of the American Chemical Society	American Chemical Society	16,037
Science Translational Medicine	American Association for the Advancement of Science	15,537
Immunity	Elsevier	15,046
Journal of Neuroscience	Society for Neuroscience	14,951
RadioGraphics	Radiological Society of North America	14,527
The Journal of Immunology	American Association of Immunologists	14,486
Journal of Visual Experiments - all subscribed sections	JOVE	14,046
Nature Methods	Nature Research	13,773

## 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	FY21	FY20	FY19	FY18	FY17
<b>Filled</b>	5,406	7,549	8,009	8,805	9,261

### BECKER LIBRARY BORROWED FROM OTHER LIBRARIES

Borrowing	FY21	FY20	FY19	FY18
<b>Filled</b>	1,174	1,269	1,529	1,792

### INTERLIBRARY LOAN BY SERVICE

Interlibrary loan requests filled for other libraries by Becker Library collection	4,660 <sup>4</sup>
Document Delivery requests filled for WU patrons from Becker Library collection	746
Becker Library Borrowed from Other Libraries	1,174 <sup>5</sup>

### JOURNAL TITLES MOST REQUESTED FROM OTHER LIBRARIES BY WUSM PATRONS IN FY21

Journal Title Borrowed from other libraries	Times borrowed
Chinese Journal of Infection and Chemotherapy	5
Proceedings of the American Association for Cancer Research	5
Orthopedic reviews	4
Tropenmedizin und Parasitologie	4
Acta Ophthalmologica	3
Developing World Bioethics	3
Journal of Labelled Compounds and Radiopharmaceuticals	3
Synlett	3

## Financial Information

FY21 Income and Expenses	Amount
<b>Income</b>	\$428,659
<b>Expenses</b>	
Salaries and benefit	\$3,096,337
Collection expenses	4,484,423

<sup>4</sup> 4,632 articles + 28 monographs

<sup>5</sup> 1,140 articles + 34 monographs

Operating expenses

486,291

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**Total expenses**

**\$8,067,051**

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## Appendix B – Staff Professional Activities

### Publications

Blankenship SA, Brown, KE, **Simon LE**, Stout MJ, Tuuli MG. Antenatal Corticosteroids in Preterm Small-for-Gestational Age Infants: A Systematic Review and Meta-Analysis. *American Journal of Obstetrics & Gynecology MFM*, vol. 2, no. 4, 2020, pp. 100215.

Meister MR, Zhou J, Chu H, Coyne-Beasley T, Gahagan S, LaCoursiere DY, Mueller ER, Scal P, **Simon L**, Stapleton AE, Stoll CRT, Sutcliffe S, Berry M, Wyman JF. Non-Invasive Bladder Function Measures in Healthy, Asymptomatic Female Children and Adolescents: A Systematic Review and Meta-Analysis. *Journal of Pediatric Urology*, 2021.

Wamkpah, N. S., et al. "Physical Therapy for Iatrogenic Facial Paralysis: A Systematic Review." *JAMA Otolaryngology - Head and Neck Surgery*, vol. 146, no. 11, 2020, pp. 1065-1072. SCOPUS, www.scopus.com, doi:10.1001/jamaoto.2020.3049.

Lenger SM, Bradley MS, **Thomas DA**, Lowder JL Sutcliffe S. D-mannose vs other agents for recurrent urinary tract infection prevention in adult women: a systematic review and meta-analysis. *American Journal of Obstetrics and Gynecology*, Aug 2020, 223(2), pp. 265.e1–265.e13

Abraham J, Pfeifer E, **Doering M**, Avidan MS, Kannampallil T. Systematic Review of Intraoperative Anesthesia Handoffs and Handoff Tools. *Anesth Analg*. 2021 Jun 1;132(6):1563-1575

Bauer E, Mazul A, Zenga J, Graboyes EM, Jackson R, Puram SV, **Doering M**, Pipkorn P. Complications after Soft Tissue with Plate vs Bony Mandibular Reconstruction: A Systematic Review and Meta-analysis. *Otolaryngol Head Neck Surg*. 2021 Mar;164(3):501-511

Bollig CA, Lee DS, Mazul AL, Stepan K, Puram SV, Massa ST, Zenga J, Faden DL, **Doering M**, Jackson RS, Pipkorn P. Systematic Review of Second Primary Oropharyngeal Cancers in Patients With p16+ Oropharyngeal Cancer. *Otolaryngol Head Neck Surg*. 2021 Apr;164(4):733-740

Burek DJ, Massaly N, **Doering M**, Zec A, Gaelen J, Morón JA. Long-term inflammatory pain does not impact exploratory behavior and stress coping strategies in mice. *Pain*. 2021 Jun 1;162(6):1705-1721

Carpenter CR, Hammouda N, Linton EA, **Doering M**, Ohuabunwa UK, Ko KJ, Hung WW, Shah MN, Lindquist LA, Biese K, Wei D, Hoy L, Nerbonne L, Hwang U, Dresden SM. GEAR Network. Delirium Prevention, Detection, and Treatment in Emergency Medicine Settings: A Geriatric Emergency Care Applied Research (GEAR) Network Scoping Review and Consensus Statement. *Acad Emerg Med*. 2021 Jan;28(1):19-35

Dang RP, Roland LT, Sharon JD, **Doering M**, Chicoine MR, Pipkorn P. Pedicle Corridors and Vessel Options for Free Flap Reconstruction following Endoscopic Endonasal Skull Base Surgery: A Systematic Review. *J Neurol Surg B Skull Base*. 2021 Apr;82(2):196-201

Husaini M, Esmaeeli A, Thangam M, **Doering M**, Brown DL. Synthesis of systematic reviews of percutaneous device closure of patent foramen ovale (PFO) for prevention of recurrent cryptogenic stroke: Redundant publications and methodological deficiencies. *Am Heart J*. 2021 Feb;232:57-60

Kayser J, Morrow-Howell N, Rosen TE, Skees S, **Doering M**, Clark S, Hurka-Richardson K, Bin Shams R, Ringer T, Hwang U, Platts-Mills TF. Network TG. Research priorities for elder abuse screening and intervention: A Geriatric Emergency Care Applied Research (GEAR) network scoping review and consensus statement. *J Elder Abuse Negl*. 2021 Mar-May;33(2):123-144

Lee DS, Ramirez RJ, Lee JJ, Valenzuela CV, Zevallos JP, Mazul AL, Puram SV, **Doering M**, Pipkorn P, Jackson RS. Survival of Young Versus Old Patients With Oral Cavity Squamous Cell Carcinoma: A Meta-Analysis. *Laryngoscope*. 2021 Jun;131(6):1310-1319. Epub 2020 Dec 2.

Llibre-Guerra JJ, Li Y, Allegri RF, Mendez PC, Surace EI, Llibre-Rodriguez JJ, Sosa AL, Aláez-Verson C, Longoria EM, Tellez A, Carrillo-Sánchez K, Flores-Lagunes LL, Sánchez V, Takada LT, Nitrini R, Ferreira-Frota NA, Benevides-Lima J, Lopera F, Ramírez L, Jiménez-Velázquez I, Schenk C, Acosta D, Behrens MI, **Doering M**, Ziegemeier E, Morris JC, McDade E, Bateman RJ. Dominantly inherited Alzheimer's disease in Latin America: Genetic heterogeneity and clinical phenotypes. *Alzheimers Dement*. 2021 Apr;17(4):653-664. Epub 2020 Nov 23.

Mendez MP, Patel H, Talan J, **Doering M**, Chiarchiaro J, Sternschein RM, Steinbach TC, O'Toole J, Sankari A, McCallister JW, Lee MM, Carlos WG, Lyons PG. Communication Training in Adult and Pediatric Critical Care Medicine. A Systematic Review. *ATS Sch*. 2020 Jul 14;1(3):316-330.

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. *JAMA Pediatr*. 2021 Apr 1;175(4):368-376.

Rauseo A, Aljorayid A, Olsen M, Larson L, **Lipsey KL**, Powderly W, Spec A. "Clinical Predictive Models of Invasive Candida Infection: A Systematic Literature Review" *Medical Mycology* [In Press]

Kang E, Kim MY, **Lipsey KL**, Foster ER. Person-Centered Goal Setting: A systematic review of intervention components and level of active engagement in rehabilitation goal setting interventions, *Archives of Physical Medicine and Rehabilitation* [In Press]

Greenberg JK, Yan Y, **Lipsey KL**, Ackerman L, Noje C, Jackson E, Burns E, Sayama C, Selden NR, Vachrajani S, Chevis Shannon. Development and External Validation of a Decision Support Tool for Managing Children with Minor Head Trauma and Intracranial Injury. *The Lancet Neurology* [In Press]

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 Feb 2;50(8)

Bhatt NK, Mendoza J, Kallogjeri D, **Hardi A**, 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

Herrick CJ, Puri R, Rahaman R, **Hardi A**, Stewart K, Colditz GA. Maternal race/ethnicity and postpartum diabetes screening: a systematic review and meta-analysis. *J Womens Health (Larchmt)*. 2020 May;29(5):609-621

Lau SC, Bhattaraja S, Fong WM, Nicol GE, Lenze EJ, Baum C, **Hardi A**, Wong AW. Effectiveness of theory-based digital self-management interventions for improving depression, anxiety, fatigue and self-efficacy in people with neurological disorders: a systematic review and meta-analysis. *J Telemed Telecare*. 2020 Sep 20.

Lenger SM, Chu CM, Ghetti C, **Hardi A**, Lai HH, Pakpahan R, Loweder JL, Sutcliffe S. Adult female urinary incontinence guidelines: a systematic review of evaluation guidelines across clinical specialties. *Int Urogynecol J*. 2021 Apr 21

Soares A, Boden WE, Hueb W, Brooks MM, Valchos HEA, O'Fee K, **Hardi A**, Brown DL. Death and myocardial infarction following initial revascularization versus optimal medical therapy in chronic coronary syndromes with myocardial ischemia: a systematic review and meta-analysis of contemporary randomized controlled trials. *J Am Heart Assoc*. 2021 Jan 19;10(2):e019114

Wamkpa NS, Peterson AM, Lee JJ, Jia L, **Hardi A**, Stoll C, Huston M. Curbing the cough: multimodal treatments for neurogenic cough: a systematic review and meta-analysis. *Laryngoscope*. 2020 Oct 21

Jones LK, Tilberry S, Gregor C, **Yaeger LH**, Hu Y, Sturm AC, Seaton TL, Waltz TJ, Rahm AK, Goldberg A, Brownson RC, Gidding SS. Implementation strategies to improve statin utilization in individuals with hypercholesterolemia: a systematic review and meta-analysis. *Implement Sci*. 2021 Dec;16(1); Article number 40

Cler SJ, Sharifai N, Baker B, Dowling JL, Pipkorn P, **Yaeger L**, Clifford DB, Dahiya S, Cicoine MR. IgG4-related disease of the skull and skull base – a systematic review and report of two cases. *World Neurosurg*. 2021 June;150; 179-196

Fowler LA, Grammer AC, Staiano AE, Fitzimmons-Craft EE, Chen L, **Yaeger LH**, Wilfley DE. Harnessing technological solutions for childhood obesity prevention and treatment; a systematic review and meta-analysis of current applications. *Inter J Obesity*. 2021 May; 45(5);957-981

Chi D, Chen AD, Ha AY, **Yaeger LH**, Lee BT. Comparative effectiveness of transversus abdominis plan blocks in abdominally based autologous breast reconstruction: a systematic review and meta-analysis. *Ann Plast Surg*. 2020 Dec;85(6);e76-83

Muttalib F, Clavel V, **Yaeger LH**, Shah V, Adhikari NKJ. Performance of pediatric mortality prediction models in low-and middle-income countries: a systematic review and meta-analysis. *J Peds*. 2020 October 225:182-192.e2

Chen SY, Massa S, Mazul AL, Kallogjeri D, **Yaeger L**, Jackson RS, Zevallos J, Pipkorn P. The association of smoking and outcomes in HPV-positive oropharyngeal cancer: a systematic review. *A J Oto Head Neck Med Surg*. 2020 Oct 41(5); article number 102592

Telles F, McNamara N, Nanayakkara S, Doyle MP, Williams M, **Yaeger L**, Marwick TH, Leeson P, Levy PT, Lewandowski AJ. Changes in the preterm heart from birth to young adulthood: a meta-analysis. *Ped* 2020 Aug 146(2); article number e20200146

## Invited Presentations

**Brander, E.** Paracelsus and Print: The World of 16th Century Alchemy: A Show and Tell of Rare Books from the Becker Medical Library with Librarian Elisabeth Brander and Alchemist Brian Cotnoir. Morbid Anatomy (Virtual), April 25, 2021.

**Brander, E.** Maesters, Greyscale, and Milk of the Poppy: Medicine in 'Game of Thrones': An Illustrated, Live Zoom Lecture with Rare Book Librarian Elisabeth Brander, Morbid Anatomy (Virtual), September 9, 2020.

## Contributed Presentations

**Hardi A, Simon L, Yaeger L, Doering M** Adherence to PRISMA reproducible search strategy requirements for systematic reviews. Medical Library Association 2020 (Virtual) Lighting Talk Presentation, August 12, 2020

**Simon L** and **Altman R.** Populating Pure With External Site Information. 2021 North American SciVal and Pure User Group Meeting. January 27, 2021.

**Vana ML, Ndukum M,** Scott, D. University Libraries for R: Supporting R useR!s. useR! 2020 Virtual Conference. July 8, 2020.

## Abstracts

**Sarli CC, Suiter AM.** Using SciVal to Identify Top Faculty Authors. 2021 SciVal and Pure North American User Group Meetings. January 26, 2021.

Belter C, Gutzman K, Nix T, **Suiter A.** Roles for Librarians in Research Impact Services. 2020 Medical Library Association Virtual Conference, August 10–14, 2020.

Belter C, Gutzman K, Nix T, **Suiter A.** Roles for Librarians in Research Impact Services. Bibliometrics & Research Assessment Symposium 2020. October 2020.

## Poster Presentations

Moore M, Patterson B, Samuel S, Sheridan, H, **Sorensen CJ.** Neuroimaging Data Primer: A Resource for Curating Digital Imaging and Communications in Medicine (DICOM) and Neuroimaging Informatics Technology Initiative (NIFTI) File. MLA 2020 vConference, Online. 2020

## Referee Activities

Journal of the Medical Library Association (**Sarli C**)

PubMed Central Journal Independent Reviewer Consultant (**Sarli C**)

## Appendix C – Departmental Staff Listing

### *Library Director*

Paul Schoening                      *Associate Dean and Director*

### Library Administration

Donna Ottensmeier                      *Manager, Financial Operations*  
Sue Hennessey                      *Senior Departmental Accounting Assistant*  
Rose Kettler                      *Administrative Coordinator*  
Laura Swofford                      *Marketing Manager (joined the Office of Health  
Information and Data Science during FY21)*

### Archives and Rare Books

Elisabeth Brander                      *Rare Book Librarian*  
Stephen Logsdon                      *Head, Archives*  
Brian McKinney                      *Binding & Preservation Assistant*  
Martha Riley                      *Archivist & Rare Book Cataloger*  
Philip Skroska                      *Visual and Graphic Archivist*

### Circulation

Angie Rosengarten                      *Information Desk Supervisor*  
Stephanie Coen                      *Library Assistant*  
Daniel Klosterman                      *Library Assistant*  
Nathaniel Potts                      *Library Assistant*  
Neal Shipe                      *Library Assistant*  
James Zerkel                      *Library Assistant / Diversity, Equity & Inclusion Liaison*

### Collection Management Services

Marysue Schaffer                      *Associate Director, Collection Management*  
Anise Gilliam                      *Serials Assistant*  
Denise Hannibal                      *Acquisitions Librarian*  
Barb Mathieu                      *Library Associate*  
Anna Vani                      *Catalog Librarian*

### Research Services

Marcy Vana                      *Associate Director, Research Services*  
Maze Ndonwi                      *Senior Support Scientist*  
Cathy Sarli                      *Senior Librarian*

Lindsey Scales	<i>Research Support Librarian (Started March 2021)</i>
Laura Simon	<i>Research Support Librarian</i>
Chris Sorenson	<i>Senior Support Scientist</i>
Amy Suiter	<i>Research Support Librarian</i>

#### Health Information Services

Deborah Thomas	<i>Associate Director, Health Information Services</i>
Michelle Doering	<i>Librarian</i>
Emily Gallaher	<i>Librarian</i>
Angela Hardi	<i>Librarian</i>
Kim Lipsey	<i>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

Bob Engeszer	<i>Associate Director, Research, Publishing and Communication (retired)</i>
Judith Hansen	<i>Consumer Health Librarian (retired)</i>
Evan Sprague	<i>Research &amp; Publishing Support Librarian (relocated)</i>

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

Open October (Virtual)

**“Drug Discovery in the Era of Precision Medicine”**

Marina Sirota, PhD

Oct. 2, 2020

**“Establishing the Reliability of Scientific Claims from Big Data in Biomedicine”**

Lara Mangravite, PhD

Oct. 9, 2020

**“Preprints in Medicine: More Promise or Pitfall for Research”**

Joseph S. Ross, MD, MHS

Oct. 14, 2020

Love Data Week (Virtual) (February 8-12, 2021)

**“The Lion in the Path – the Future of Data Management and Sharing”**

Carrie Wolinetz, PhD

NIH Associate Director for Science Policy

Feb. 12, 2021

Historia Medica Lectures

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

**“Parallels Between the Sugar and Tobacco Industries: A First Glimpse at Sugar Industry Documents”**

75th Historia Medica Lecture

Cristin Kearns, DDS, MBA

Oct. 27, 2020

**“Plagues, Practitioners and Prints: Visualizing Pre-Modern Medical Know-How”**

76th Historia Medica Lecture

Suzanne Karr Schmidt

Nov. 18, 2020

**“Atomic Doctors: Conscience and Complicity at the Dawn of the Nuclear Age”**

77th Historia Medica Lecture

James L. Nolan, Jr., PhD

Feb. 24, 2021

**“The Hidden History of Medical Risk: Examples from Premodern Surgery”**

78th Historia Medica Lecture

Marquis Berrey, PhD

Mar. 25, 2021

**“Cholera in Tokyo, 1877-1895: Public health, epidemic disease, and the cityscape”**

79th Historia Medica Lecture

Susan L. Burns, PhD

Apr. 21, 2021

Other Events

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

Dec. 4, 2020

**“Designing Search Strategies for Systematic Reviews” Workshop (Virtual)**

Aug. 5-7, 2020

*Virtual First Fridays @ Becker*

**“A Virtual Tour of the Archives and Rare Books Stacks”**

Oct. 2, 2020

**“Book Plates”**

Nov. 6, 2020

**“Animals”**

Feb. 5, 2021

**“Vaccines”**

Mar. 5, 2021

**“Botanical and Herbal Books”**

Apr. 2, 2021

**“Preservation”**

May 7, 2021

**“Brain Awareness Month”**

Jun. 4, 2021

Glaser Gallery Exhibits

**“Washington University’s Involvement in the Manhattan Project”**

Feb. 2021 – Sep. 2021

Special Collections Book Club

**“The Thousand Autumns of Jacob de Zoet” by David Mitchell**

Oct. 2020

**“Fever” by Mary Beth Keane**

Feb. 2021

**“The Physick Book of Deliverance Dane” by Katherine Howe**

May 2021