

Dr. Bernard Fantus:
Father of the
Blood Bank
and
Researching Chicago
Medical History

SPECIAL COLLECTIONS RESEARCH CENTER

I N T R O D U C T I O N



This publication, and the two exhibitions which it accompanies, testify to the role of individual philanthropy and institutional history in building research collections. “Dr. Bernard Fantus: Father of the Blood Bank,” is drawn from materials donated to the University of Chicago Library by Dr. Fantus’s niece, Muriel Fulton, a devoted member of the Library’s Visiting Committee. Mrs. Fulton’s commitment to preserving her uncle’s papers and her generosity in placing them at the University of Chicago Library assures future study and appreciation of Dr. Fantus’s

historic contributions. The collections profiled in “Researching Chicago Medical History: Sources in the University of Chicago Library” come from a variety of sources, including medical organizations, researchers, and practitioners. Together, these interrelated collections make it possible to investigate how Chicago’s medical schools, hospitals, and the individuals associated with them have shaped medicine in Chicago and contributed to developments worldwide.

I extend sincere thanks to Reed Lowrie, Biomedical Sciences Specialist and Reference Librarian, John Crerar Library; and Susanna Morrill, Accessions Coordinator, Special Collections Research Center, for researching, organizing and writing the exhibitions; Daniel Meyer, Associate Curator, Special Collections Research Center, and University Archivist, for coordinating their work; and Kerri Sancomb, Exhibition Specialist, who produced the physical exhibitions and the digital images for this publication.

Alice Schreyer

Director, Special Collections Research Center

| BY REED LOWRIE

Dr. Bernard Fantus

Father of the Blood Bank

Although Bernard Fantus is most well known today for his role in opening the first blood bank in the world, this achievement was actually the capstone accomplishment of a brilliant career in medicine. Fantus pioneered the use of candy coating medications to make them more palatable to children. He was a foremost authority on *materia medica*—the tools of medicine—and expert in all manner of therapeutics, especially, but not solely, drug therapies. Fantus was a prolific author who wrote and edited several influential books and whose weekly series of articles on therapeutics in the *Journal of the American Medical Association* was read by thousands of physicians in the 1930s.

A man of deep humanistic principles, Fantus was renowned for his work with the indigent, both at Cook County Hospital and in his private practice. He was an advocate for many important public health initiatives and a tireless campaigner for individual and social practices that would lead to a healthier community.

This exhibition highlights the life and work of this extraordinary physician. Materials in the exhibition are drawn from the Dr. Bernard Fantus Papers in the Special Collections Research Center. This collection of historical materials was presented to the Library by Mrs. Muriel Fantus Fulton, niece of Dr. Fantus. The Library gratefully acknowledges Mrs. Fulton's generosity and her commitment to preserving a record of Dr. Fantus's remarkable career.

Born in Budapest in 1874, Bernard Fantus was educated primarily in Vienna. His family emigrated to the United States in 1889, settling in Chicago in 1892. Fantus was accepted into the College of Physicians and Surgeons, from which he graduated in 1899. Following medical school Fantus served his internship at Cook County Hospital. He spent his entire career working at one of the institutions of the great West Side medical center. Although he had a small private practice, the bulk of Fantus's time was spent teaching and writing, while serving the medical needs of the city's general population. Financial success and worldly rewards held little appeal to him, and Fantus preferred to direct his energies toward projects that could help the greatest number of his fellow citizens.

To this end, the bulk of Fantus's writings were on the subject of therapy, particularly drug therapy. In his first years in the United States, Fantus worked as a pharmacist's assistant in Detroit. This kindled an interest in drugs and their use that remained paramount



Young Bernard Fantus, ca. 1892. Fantus Papers


Kivonat a születési jegyzékből.

A pesti izr. hitközség anyakönyvtárána

| A gyermek neve | A születés helye | | A gyermek anyja neve | A gyermek anyja születési helye | | A gyermek anyja születési ideje | | A gyermek anyja születési anyja | A gyermek anyja születési anyja | A gyermek anyja születési anyja |
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| | háza | utca | | születési helye | születési ideje | születési anyja | születési ideje | | | |
| Bertalan János | 1874 | Budapest | Fantus Teréz | Budapest | 1840 | 1840 | 1840 | 1840 | 1840 | 1840 |

Kelt Budapest, 1880. évi.  *[Signature]*

A pesti izr. hitközség anyakönyvtáralata

 *[Signature]*

Bernard Fantus was born in Budapest, Hungary on September 1, 1874. He was schooled primarily in Vienna, before emigrating with his family to the United States in 1889. The Fantuses initially settled in Detroit, where Bernard worked as a pharmacist's assistant.

Leopoldstädter Communal-Real- und Obergymnasium in Wien.

Semestral-Zeugnis.

Fantus Bernhard in Wien, Budapest, Ungarn, 1884.

Schüler der vierten Gymnasial-Classo a erhält über das erste Semester des Schuljahres 1884 ein Zeugnis der zweiten Fortgangs-Classo

Sittliches Betragen: sehr gut

Fleiß: sehr gut

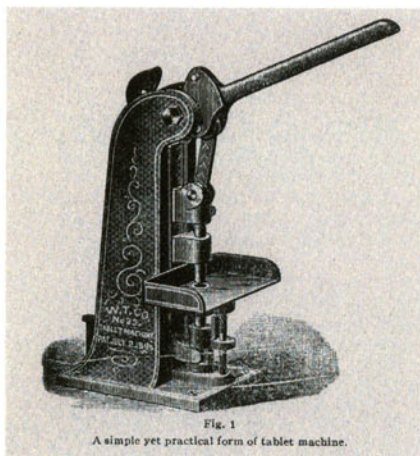
Äußere Form der schriftlichen Arbeiten: sehr gut

Zahl der verkauften Lehrstunden: 22; davon ohne Rechtfertigung: —

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throughout his medical career. He was a long-time member of the Revision Committees of both the United States Pharmacopoeia and the National Formulary and an active member of the American Pharmaceutical Association. He was seen as a liaison between the pharmaceutical and medical worlds, being one of the few practitioners to have had experience in each. His earliest books were dedicated to issues of pharmaceuticals and pharmacology, ranging from the chemical composition of drugs to the basics of prescription writing. Fantus's commitment to pharmacology was strong enough that he did graduate study in the field, at great personal expense, in Strasbourg in 1906, in Berlin in 1909, and at the University of Michigan in 1917. Concomitant with his interest in public health, Fantus was an outspoken enemy of the patent medicine industry, warning against the dangers of various nostrums and quack medicines.

One of Fantus's most notable accomplishments was the progress he made in making medicine more palatable to children. In his 1914 book *Candy Medication* he wrote that his goals were to rob "childhood of one of its terrors, namely, nasty medicine" and that better-tasting medicine would "help to make the doctor more popular with the little ones." Fantus studied the basics of candy making

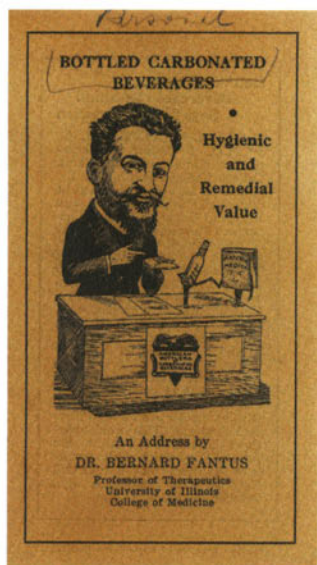


Tablet machine, Bernard Fantus, *Candy Medication*, 1915. Rare Book Collection

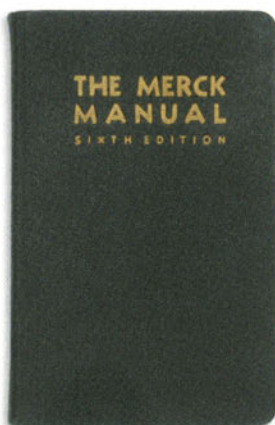


Eureka hand tablet machine, Bernard Fantus, *Candy Medication*, 1915. Rare Book Collection

< ABOVE Bernard Fantus birth certificate, 1880. Fantus Papers. BELOW Bernard Fantus school report, 1888. Fantus Papers



Bernard Fantus, "Bottled Carbonated Beverages," pamphlet, 1933. Fantus Papers



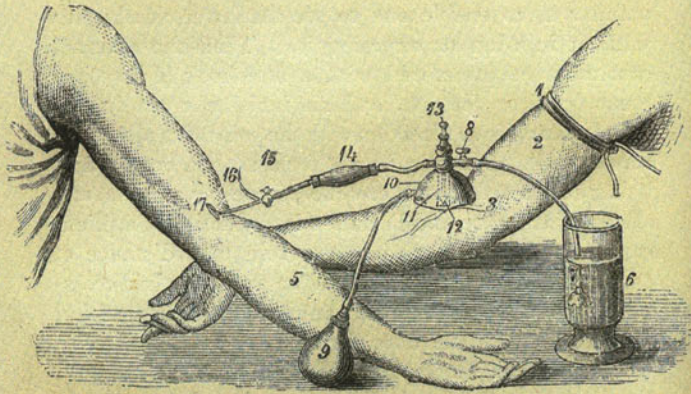
Merck & Co., *The Merck Manual*, 1934. Fantus Papers

with a confectioner and applied what he learned there to his knowledge of preparing medications. He confessed that many initial attempts at devising an appetizing concoction—including sulphur taffy and cod-liver oil chocolate creams—were not successful. Ultimately Fantus settled on simple sugar tablets that could be easily prepared by a pharmacist. Fantus's book was immediately influential: in a follow-up article two years later, Fantus noted that there were already over 50 medicines available commercially in candy form. In 1918 he further added to knowledge of this subject by describing a method of coating tablets with tolu to disguise unpleasant flavors without harming the medicine's efficacy. Tolu, a type of balsam, is used as a flavoring for cough syrups and lozenges to this day.

Fantus was interested in other therapies as well. His vast knowledge of the subject led to his being chosen as the editor of the *Yearbook of General Therapeutics* for the last nineteen years of his life. He was willing to explore the less glamorous aspects of medicine, in the interest of doing the most good for the most people. Two of his later books, *Useful Cathartics* and *Technic of Medication*, became standard works, reprinted for many years. Fantus was the first person to be named as a contributor to the *Merck*

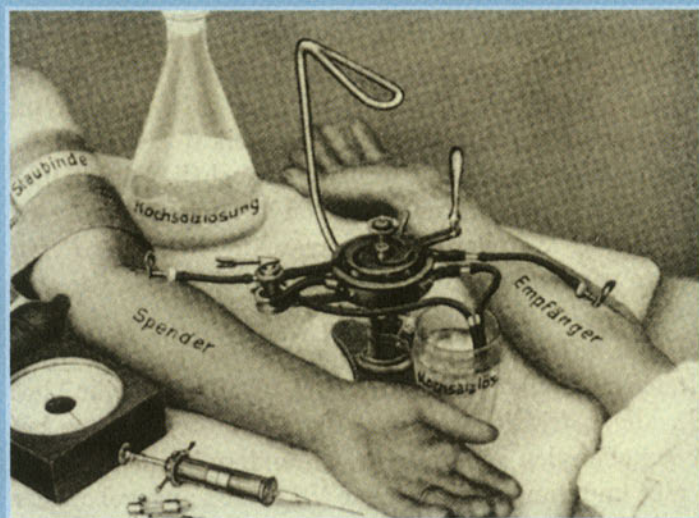
> OPPOSITE J. Roussel, *Transfusion of Human Blood by the Method of J. Roussel*, 1877. John Crerar Collection of Rare Books in the History of Science and Medicine

C. ROUSSEL'S TRANSFUSER



1. Bandage for bleeding.
2. Arm which supplies the blood.
3. Vein swollen for bleeding.
5. Arm which receives the blood.
6. Vessel containing water.
7. Bell of the aspirator.
8. Tap which shuts the water off.
9. Round balloon to regulate the cupping-cup.
10. External envelope of the cupping-cup.
11. Internal cylinder in the cupping-cup.
12. Lancet inside the cylinder.
13. Screw which regulates the lancet.
14. Balloon pump of the transfuser.
15. Tap at the bifurcation.
16. Canula by which the water escapes.
17. Canula inserted into the patient's arm.

The founding of the blood bank was a product of the long history of attempts at blood transfusion. The first modern efforts occurred in the 17th century. Reports of these experiments aroused the wrath of the church and the state, which subsequently banned transfusions throughout Western Europe.



Early transfusion procedure required the donor and recipient to be in an intimate position, under extraordinarily stressful circumstances. Indeed, the operation would only be performed when the recipient was in a life-threatening situation. It is not surprising that many times physicians had trouble finding a donor.



Reproduced by the courtesy of the Boston Medical and Surgical Journal
Figure 10. Taking the blood from the donor for transfusion by the citrate method. (Lewisohn, Boston M. & S. J.)

Manual. He achieved this honor in the book's sixth edition, where he edited the therapeutics section. The *Merck Manual* was then, and remains, one of the standard medical texts. He was a prolific author of journal articles throughout his career. Beginning in 1934 he wrote a weekly series of articles in the *Journal of the American Medical Association* called the "Therapy of Cook County Hospital." He was also a regular contributor to the *Journal of the American Pharmaceutical Association*. It was a rare month in the 1920s and 1930s when an article by Fantus didn't appear in one journal or another.

Even with this impressive record of accomplishment, Fantus is most well-known today as the founder of the nation's first blood bank. This is with good reason, as the Cook County Blood Bank, opened in March 1937, revolutionized the practice of medicine in the United States, and the world.

The blood bank was in many ways both an endpoint and a new beginning in the fitful history of attempted blood transfusions that spanned several hundred years. The first modern efforts at transfusion occurred in the 17th century when physicians in England and France experimented, somewhat successfully, with transferring blood from one animal to another, and even from an animal into a human. These procedures greatly disturbed the powers

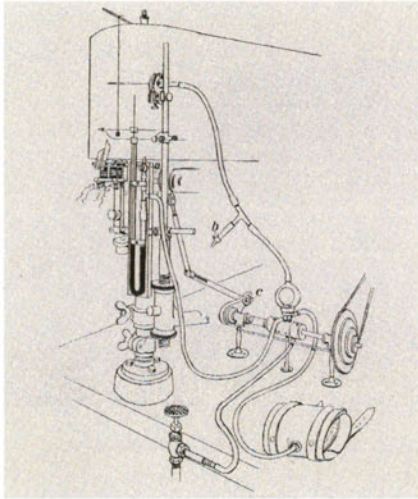


James Blundell, *Researches Physiological and Pathological*, 1825. John Crerar Collection of Rare Books in the History of Science and Medicine

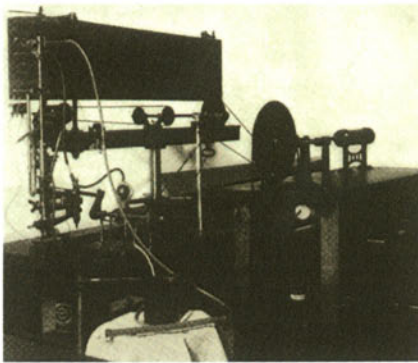


Geoffrey Keynes, ed., *Blood Transfusion*, 1949. John Crerar Library

< ABOVE P. Clairmont, et. al. *Die Bekämpfung des Blutverlustes durch Transfusion und Gefäßfüllung*, 1928. John Crerar Library. BELOW Henry M. Feinblatt, *Transfusion of Blood*, 1926. John Crerar Library



"Rotary Valve Connected with the Recording Apparatus," *Journal of the American Medical Association*, 1917. John Crerar Library



"Photograph of Apparatus," *Journal of the American Medical Association*, 1917. John Crerar Library

of the church and state and transfusions were subsequently declared illegal in most of Western Europe.

The practice was revived in the early 19th century by James Blundell in England, who was relatively successful in using transfusion in situations where death was imminent due to blood loss. Though his success rate of around fifty percent seems poor today, the procedure was deemed successful enough that it was replicated throughout Europe for the next fifty years. Devices were developed to aid in the process of transferring blood from one person to another, illustrations of which can be seen in the exhibit. Despite the progress in instrumentation, the fatality rate remained stubbornly high, and in the latter quarter of the 19th century the practice fell out of favor once again.

It took a series of discoveries in the early years of the 20th century to make transfusion a standard medical procedure. Richard Lewisohn discovered that a small amount of sodium citrate could be safely added to the blood to keep it from coagulating, a previously intractable problem with transfusions. Increased awareness about the importance of sterilization reduced problems with infection and contamination. And Landsteiner's discovery of blood types explained why many transfusions had failed for mysterious reasons. At the same time, advances in surgical equipment and techniques made the process of physically connecting veins and arteries of the donor and the recipient possible. An elite coterie of transfusion specialists who could perform this

delicate and complicated operation sprung up in the major cities of the U.S. and Europe.

This situation did not benefit those people who didn't live near, or couldn't afford, one of the transfusion specialists. In addition, the process of donating blood was so traumatic and potentially dangerous that often donors could not be found. The key to solving these problems lay in storing blood for later use. Alexis Carrel, one of the transfusion specialists, suggested in 1910 that blood could be safely stored. This theory was proven correct in the trenches of World War I, where Oswald Robertson succeeded in refrigerating blood and using it in later transfusions.

The elements were all in place for what would become the blood bank, but it took someone of vision to put all the pieces together. Bernard Fantus began working on the problem after reading in the mid-1930s about Soviet experiences with storing cadaver blood for later use. He had returned to Cook County Hospital as Director of Therapeutics in 1934. After several years of working out the scientific and administrative issues of the blood preservation laboratory, Fantus was ready to open his new facility in early 1937. Before he did so, he decided it needed a new name, one that would convey to the layperson, and to skeptical health workers, how the facility worked. He settled on calling it the Cook County Blood Bank, determining that the analogy between the system of deposits and withdrawals of a commercial bank would illustrate how the blood bank would operate. The facility was a success, and the bank



**DR. BERNARD
FANTUS.**

Bernard Fantus, *Chicago Tribune*, n.d. Fantus Papers



Blood bank refrigerator, Robert A. Kilduffe and Michael DeBakey, *The Blood Bank and the Technique and Therapeutics of Transfusions*, 1942. John Crerar Library

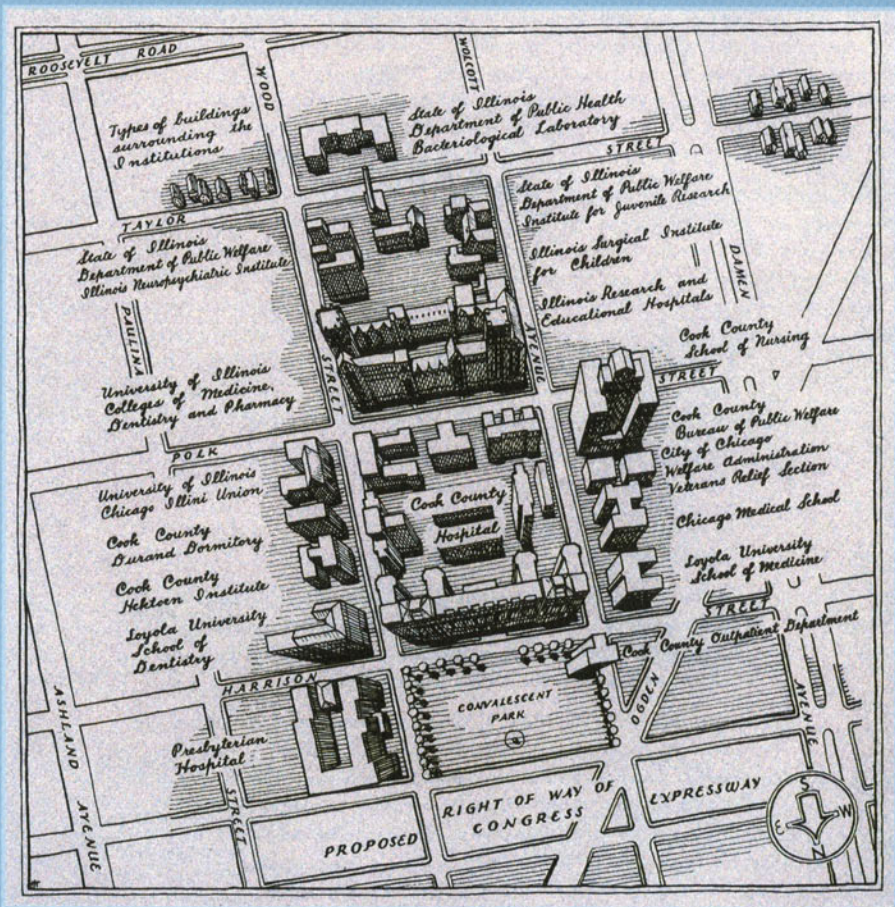


American Association of Blood Banks Medal, 1987. Fantus Papers

metaphor struck a chord with the medical establishment and the general public. By the time of Fantus's death, just over three years after the opening of the facility, it was clear that he had pioneered a remarkable new institution.

While Fantus lived long enough to see the success of his concept, it took many more years to realize just how far-reaching were the ramifications of blood storage, especially in the field of surgery. It is hard to imagine how major surgery as we know it would be possible without quick and safe access to blood and blood products. The importance of Fantus's work on the blood bank, and throughout his career, was recognized by his colleagues in Cook County Hospital immediately following his death. The out-patient clinic was renamed in his honor, and a new clinic bearing his name was dedicated in 1961. This building is still in use today. Over the years, recognition of his achievements has increased, and we are happy to be able to present this exhibition as a tribute to this remarkable man.

> OPPOSITE *Medical Center District Chicago, Illinois, Fact Book*, 1948. Fantus Papers



The 1944 Annual Report of the Medical Center Commission remarked that "More than anyone else, Dr. Fantus gave Chicago's medical center idea a broad human touch, bringing together public officials, civic and professional leaders. [He] was an inspired crusader."

| BY SUSANNA MORRILL

Researching Chicago Medical History:

Sources in the University of Chicago Library

Chicago medical history evolved in concert with the city's history, and with more general developments in American medicine. Euro-American medicine was first brought to Chicago by military surgeons tending to soldiers stationed at Fort Dearborn in the very early 1800s. However, Chicago quickly developed into a town and then city with the customary medical infrastructure. In this early period and through the present, pioneering individuals were the driving forces behind hospitals, medical schools, and medical organizations. In turn, these institutions were the foundations for medical education, patient care, public health, and medical research in the city. The University of Chicago Library contains numerous and wide-ranging sources that document this history of Chicago medicine. The sources are particularly strong for the period from the 1840s to the 1950s. It should be noted that this pamphlet mentions only a selection of sources available at the Center.

Chicago Medical Pioneers

The Special Collections Research Center holds a rich array of material relating to Chicago medical pioneers. As demonstrated by the items on exhibit, the center has sources relating to city pioneers and practitioners such as Nicholas Senn, Morris Fishbein, Bayard Holmes, and Samuel J. Burrows. Senn was a nationally prominent surgeon who did most of his work in the late nineteenth century, while Fishbein was a twentieth-century mover and shaker at the American Medical Association who vigorously campaigned to increase public awareness of health issues. Holmes was educated in both homeopathy and traditional medicine, and went on to do pioneering work in bacteriology, ending his career researching the physical causes of what was then named "dementia praecox" (now usually considered to be schizophrenia). Burrows was a Chicago general practitioner who for many years worked out of his family's hospital, Burrows Hospital. In addition to the papers of these men, the Center holds the papers of such Chicago physicians as heart specialist James B. Herrick, obstetrician Joseph B. DeLee, neonatologist Julius H. Hess, pediatrician Clifford G. Grulee, pathologist Edwin Raymond Le Count, gynecologist Joseph L. Baer, and laryngologist Robert Sonnenschein.

The center also has the papers of numerous University of Chicago medical faculty and researchers. Items in the standing cases of the exhibit come from the papers of Ludvig Hektoen, Franklin C. McLean, Eugene M. K. Geiling, Charles Huggins, Leon O. Jacobson, and Lawrence H. Lanzl. Not represented in the exhibit are other University of Chicago



Chicago Homeopathic Medical College, commencement invitation, 1891. Society of Medical History of Chicago Records



Lawrence Lanzl and technician with tissue-equivalent radiation phantom, ca. 1961. Lawrence Lanzl Papers



Chicago Health Department, Educational Poster No. 160, 1913. Society of Medical History of Chicago Records



Woman's Medical College, Chicago, n.d.. Society of Medical History of Chicago Records

researchers and faculty such as physiologists Arno B. Luckhardt and Ralph S. Lillie, pathologist Howard Taylor Ricketts, biochemist Eugene Goldwasser, microbiologist R. Wendell Harrison, and histologist Alexander A. Maximow.

The papers of these Chicago doctors and researchers offer a multiplicity of archival material. For instance, the Senn papers contain numerous handwritten manuscripts of the literarily prolific surgeon, while the Fishbein papers have many letters written between Fishbein and correspondents, well-known and ordinary. The papers of medical researchers often contain data and research material utilized by people such as Huggins in their medical breakthroughs.

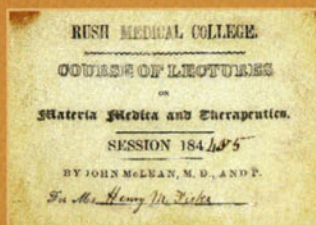
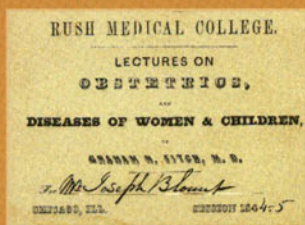
Chicago Medical Institutions

Throughout the history of Chicago medicine, pioneering individuals were the human foundations of the city's medical institutions, particularly the schools and hospitals. Special Collections Research Center offers researchers an eclectic variety of material documenting these schools and hospitals. The Center holds a great number of sources related to the hospitals and schools of the University of Chicago: separate collections of the records of the University of Chicago hospitals and clinics, as well as records pertaining to the hospitals and medical school that are spread throughout related collections, including the Presidents' Papers, Board of Trustees Records, Board of Medical Affairs Records, the Franklin

> ABOVE Chicago Medical Relief Committee, report, March 25, 1872. Society of Medical History of Chicago Records. BELOW Rush Medical College lecture tickets, 1844–1845. Society of Medical History of Chicago Records



The Great Chicago Fire of 1871 destroyed many schools, hospitals, and offices, but it also drew the medical community closely together. Chicago doctors formed the Medical Relief Committee that funneled to needy colleagues donations from as far away as New York and St. Louis.





Though prominent personalities helped to drive the development of medical Chicago, many unheralded doctors actually made Chicago medical institutions work. These doctors represented a wide range of practitioners from surgeons and homeopathic physicians to antiseptic circumcision specialists and female gynecologists.



C. McLean Papers, and the papers of other University of Chicago faculty and researchers.

Sources are also available for schools and hospitals that were in some way affiliated with the University of Chicago. In particular, the Center holds material relating to Rush Medical College for the very early period of its history in the 1840s through the 1860s, and for the period when the school was affiliated with the University of Chicago (1898–1941). Other affiliated institutions represented at the Center are the Chicago Lying-In Hospital which became part of the University in 1927, and Provident Hospital and Training School (affiliated 1929–1944).

In addition to these collections, the Center has sources pertaining to other Chicago medical institutions. These include the Chicago Woman's Medical College, Cook County Hospital, the Chicago Retreat for the Insane, and smaller institutions such as the Turck Institute, the Chicago Homeopathic College, and the Washingtonian Home, to name just a few. The records of the Society of Medical History of Chicago contain a large number of sources on these and similar hospitals and schools. This collection is a goldmine for information about Chicago medical history since by the late nineteenth century members of the society actively began to collect relevant documents. The sources in this and other collections include administrative records, correspondence, photographs, lecture notebooks, patient records, and ephemera.



Rachel Hickey with infant, 1888. James B. Herrick Papers



Amputation instruments of Thomas W. Burrows, ca. 1887. John Crerar Library Collection

< ABOVE Patrol wagon-ambulance, Chicago Police Department, 1888. Society of Medical History of Chicago Records. BELOW Double amputation performed by Ludvig Hektoen, Cook County Hospital, 1888. Society of Medical History of Chicago Records

Chicago Medical Organizations

In addition to founding hospitals and schools, Chicago physicians gathered into organizations that educated doctors, regulated the profession, built up medical networks of professional acquaintances, raised needed funds, and provided social outlets for medical professionals. When the John Crerar Library merged with the University of Chicago Library in 1984, the Center received the rare and manuscript material held by the Crerar Library, formerly the most important public medical and science library in Chicago. The Crerar Library transferred to the Center the records of many Chicago area medical organizations dating back to the late nineteenth century. In particular, the Center holds the records of numerous specialist medical societies that proliferated as medical specialties flourished. The Center has the papers of the Chicago Heart Association, Chicago Laryngological and Otological Society, Chicago Neurological Society, Chicago Pediatric Society, and the Chicago Psychological Association. The Center also has the records of more generalized medical organizations such as the Chicago Medical Relief Committee and the Society of Medical History of Chicago.

By the twentieth century, with its central location, Chicago became and continues as the headquarter of a number of national medical organizations. The Center also holds these kinds of records, including papers from the American Neurological Association, the American Veterinary Medical Association, and the National Physician's Committee.

In addition, the Center holds scattered sources on other, related Chicago medical organizations. These include women's charitable organizations

affiliated with hospitals, such as the Mother's Aid Society, and more social organizations such as the Chicago Practitioners' Club.

Chicago Public Health

In Chicago as elsewhere in the United States, until the twentieth century, people did not accept the idea that government should be responsible for the health of its citizens. Early on, the city established only the barest number of public health institutions. From the 1840s through 1860s, for instance, city and county hospitals came and went until Cook Hospital was finally permanently founded in 1865.

For this reason, while the Center has numerous sources on the history of Chicago public health, these sources are usually found in related collections, rather than represented in separate, discrete collections. As can be seen by the items represented in the exhibition, these sources are quite varied and fascinating. They document Chicago public health institutions, as well as public health campaigns, literature, and events. They record, for instance, Edward Mead's pioneering work with the mentally ill in Chicago in the 1840s, births attended at Cook County Hospital, the importance of the Chicago waterworks to the health of the city's citizens, and visual material created for the education of the public.

There are many such sources in the records of the Society of Medical History of Chicago. However, they are also found in less likely collections such as the Ernest Burgess Collection, or the Clippings on Social Evils in Chicago from the John Crerar Library Manuscript Collection.



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