Medicine ON THE Maumee

A History of Health Care in Northwest Ohio

AN EXHIBITION

Ward M. Canaday Center for Special Collections

Medicine on the Maumee:
A History of Health Care in Northwest Ohio

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Ward M. Canaday Center for Special Collections
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Introduction

Clara Church, 8 years old, tetanus, January 29, 1859. Chris Fall, 35 years old, laborer, drinking ice water, May 15, 1860. Avery McCarthy, 19 years old, fits, September 20, 1860. John Ayers, 32 years old, bad whiskey, June 3, 1863. Theodore Hansen, 27 years old, soldier, starved in Rebel prison, April 3, 1865. Ada Meeker, 1 year old, cholera infantum, September 24, 1865. Susanna H. James, housewife, 23 years old, typhoid fever, January 23, 1866.

These brief entries recorded in the pages of the *Record of Deaths in the City of Toledo* are more than just statistics. Individually, they hint at lives tragically cut short. Collectively, they tell the story of the difficulties of survival in Toledo in the middle of the 19th century. They also help document the state of medical care in the city at the time.

The medical history of a community is a mirror of its social, political, economic, and cultural history. Medical history can reveal much about how a community deals with issues such as poverty, race relations, industrialization, urbanization, education, morality, and politics. Medical history focuses attention on what a community does and does not do to promote the most basic of civic responsibilities—the chance to live a healthy life.

The exhibition "Medicine on the Maumee: A History of Health Care in Northwest Ohio" attempts to be a mirror reflecting the development of our community. It traces the evolution of medical care from the earliest years of settlement to current day. It looks at epidemics that devastated the population, at hospitals that sought to cure, at doctors and nurses who provided care, at wars that maimed many, and at how medicine became an industry. While the medical history of northwest Ohio is probably not unique in any of these aspects, how medicine was practiced locally has had a profound impact on who and where we are as a community today.

For more than 30 years, the Ward M. Canaday Center for Special Collections has sought through its exhibition program to interpret its collections for the public in meaningful ways that educate and enlighten. With the merger between The University of Toledo and the former Medical University of Ohio in 2006, now seemed an appropriate time to look at the topic of medicine—to go beyond its scientific and technical aspects to provide a humanistic interpretation. This exhibit has also allowed us to expand beyond our own holdings to incorporate items borrowed from many other local archival repositories. As such, it presents a unique opportunity to look at medicine from many perspectives, and to see items that are not likely to be brought together again in a single exhibit.

This exhibit is in no way exhaustive. Due to time and space constraints, there are topics that have been omitted. This by no means indicates their lack of importance to understanding the medical history of northwest Ohio. I apologize to the individuals who have been ignored, and for the areas not covered.

My thanks to all of those organizations and individuals who have contributed to making this exhibit possible. In particular, I would like to thank personnel from the archives and libraries of the Mercy, Mercy College, and ProMedica who have not only lent us materials, but some also have served as co-authors of this catalog. At Mercy College, I would especially like to thank Holly Uppal, curator of collections, and Deborah Johnson, library manager. At Mercy, I would like to thank Pam Bayer, manager of Mercy Regional Library Services. At ProMedica, I would like to thank especially archivist Joanna Russ, and library staff members Becki Daniels and Erin Jones. From my own institution, I would like to thank Sheryl Stevens and Jolene Miller, who knew much about the history of the former Medical University of Ohio; and to Sue Carter, who helped me to understand how HIV/AIDS affected Toledo. And from the Canaday Center, I would like to thank Tamara Jones, Arjun Sabharwal, and Kimberly Brownlee. In particular, I would like to thank Arjun, who not only contributed to the research on this catalog, but who is developing a virtual version of the exhibit which will be available at the close of the actual exhibit. This will allow us to continue to educate and enlighten long after the actual exhibit ends.

Other colleagues at area institutions have also generously loaned us materials for this exhibit, including the Center for Archival Collections at Bowling Green State University (Stephen Charter and Marilyn Levinson), the Hayes Presidential Library in Fremont (Nan Card and Tom Culbertson), the Harris-Elmore Public Library (Jennifer Fording), the Academy of Medicine of Toledo and Lucas County (Lee Wealton), the Toledo-Lucas County Health Department (Barbara Gunning, Kevin Halligan, and Mary Frank), the Toledo-Lucas County Public Library (Donna Christian and Irene Martin), and St. Paul's Episcopal Church in Maumee. Also, thanks to Rick Finch at Fort Meigs for his help in researching medicine during the War of 1812. We are grateful to all of these people and organizations for entrusting us with some of their most precious items which have made this exhibit really special.

This exhibit developed through a conversation I had last year with Dr. James Ravin. Dr. Ravin, whose own research and scholarship have focused on the humanistic side of the medical profession, suggested some names of individuals who might be interested in guiding the development of such an exhibit. From those names came a steering committee, whose members know more collectively about the history of medicine in northwest Ohio than this exhibit can ever hope to convey. My sincere thanks to them for taking time from their busy lives to help with this project: Dr. George Baibak, Dr. James Hennessy, Dr. S. Amjad Hussain, Dr. John Newton, Dr. Paul Rega, Dr. Michael Stark, Mr. Lee Wealton, Dr. Peter White, and Dr. Donna Woodson. And thanks of course to Dr. Ravin, who read an early draft of the catalog and provided some important suggestions. Thanks also to Marketing and Communication Department staff Deanna Woolf for managing the catalog production and Joan Bishop for her creative graphic design work.

"Medicine on the Maumee: A History of Health Care in Northwest Ohio" is accompanied by an artistic exhibition that displays the beauty of the human anatomy through actual anatomical specimens, and by illustrations of the same. My thanks to Dr. Carlos Baptista for displaying his art of plastinated specimens, and to Roy Schneider for displaying his art of medical illustrations.

While all of these people have contributed to this exhibit, I save my greatest thanks for the men and women who work long hours every day to save lives, provide comfort, and advance medicine in our community. While people still die tragically and lives are still cut short just as they were in the 1860s, most of us can expect to live longer, healthier, and more productive lives than our forebearers. This exhibit is dedicated to all who make this possible through their labors.

Barbara Floyd
Director, Ward M. Canaday Center for Special Collections
The University of Toledo
March 2012

Bulletin of the Toledo Medical College for the 1904-1905 academic year.

Above: One of Benjamin Rush's lectures on medicine, 1811.

Left: An issue of The Medical Compend, *published in Toledo in 1889.*

CHAPTER 1.

Graveyard of the Midwest: Early Medicine in Northwest Ohio

Geography was unkind to northwest Ohio. Despite the advantage of being located near one of the Great Lakes, the flatness of the land, its many rivers and streams, and the heavy clay soil left by retreating glaciers produced the "Great Black Swamp," as northwest Ohio was known. In his 1850 groundbreaking work *A Systematic Treatise, Historical, Etiological, and Practical, of the Principal Diseases of the Interior Valley of North America,* Dr. Daniel Drake, one of the earliest physicians to settle in Ohio, described the area as such: "Between the Maumee and Sandusky Rivers, south of the western extremity of Lake Erie, lies the great forest, which has received the ominous name of the Black Swamp.... The levelness of this tract, taken in connection with the argillaceous bottom, explains the paludal or swampy character of its surface. From this surface there arises a miscellaneous forest, of greater density and loftiness than is to be found elsewhere, perhaps, in the Interior Valley of North America." While other areas of Ohio experienced a boom in settlements after statehood in 1803, few pioneers came to the northwest region of the state because of these conditions.

But it was not only geography that was hostile to settlement. While the Native Americans in the region were defeated in 1794 at the Battle of Fallen Timbers, they remained long after, and assisted by their British allies, kept settlers at bay. Victory by the United States in the War of 1812 pushed the Native Americans and British out for good. In 1817, the Port Lawrence Company plotted a settlement along the Maumee River near the mouth of Swan Creek and offered lots for sale, but few sold. A rival development called Vistula was plotted in 1833, but still, few came.

Canals finally brought settlers to the region. As early as 1824, the land that would become Toledo was surveyed for routes to link the region with interior waterways, including the Ohio and Mississippi rivers. Toledo was incorporated as a city in 1837, and consisted of the early settlements of Port Lawrence and Vistula.

But the swampy conditions led to frequent epidemics of deadly diseases including malaria, cholera, and typhoid fever. Toledo earned the nickname "Graveyard of the Midwest" because unhealthy conditions made living in the city dangerous and undesirable. The canal that flowed through the middle of the city did not help, as its dirty waters and influx of transients who moved goods through the city helped to spread disease.

In his book, Daniel Drake described how epidemics of what he called "autumnal fever" (today known as a type of leptospirosis, which is transmitted through infected animals, including field mice) impacted those living in the Black Swamp. "From Doctors Smith and Perkins, of Toledo, Doctors Conant, White, St. Clair, Matthews, Van Every, and Dwight, of Maumee City, Doctor Peek of Perrysburg, and Professor Ackley, now of Cleveland, but formerly of Toledo, I learned that, from the commencement of settlement down to the time of my first visit, in 1842, the whole locality had been infested with those fevers; cases of which sometimes assumed a malignant and fatal character." Drake describes two epidemics in 1838 and 1839 that were particularly deadly. A drought dried up the riverbed, and drove many wild animals into the city. "Under this great drying it was, that the ordinary autumnal fever was raised into such an epidemic as had not been known before," Drake reported. The 400 to 500 Irish laborers working on the canal were hit hard by the fever, and many died.

The first recorded physician to settle in northwest Ohio was a doctor named Barton around 1800, whose first name was lost to history. He practiced medicine in Maumee, and was joined in 1816 by Dr. Horatio Conant. The first doctor recorded in Toledo was Dr. J. V. D. Sutphen, who

settled in the city in 1825. Other pioneering physicians included Dr. John Fassett, Dr. Blakesly H. Bush, Dr. Jacob Clark, and Dr. John Mosher.

Dr. Frederick William Jaeger began practicing medicine in the Black Swamp region in Woodville in 1844 when he was 39 years of age. He would often travel between his office and settlements where his patients lived, including Elmore, Stony Ridge, Hartford (today Oak Harbor), and Sugar Creek. Jaeger came from Germany, and little is known about his formal medical training. His patient log books that exist today are some of the earliest documentation of the life of a doctor in northwest Ohio. Among the illnesses Jaeger attempted to treat were cholera, ague (malaria), consumption, smallpox, and typhoid. In addition to disease, Jaeger also treated broken bones, attended childbirths, amputated limbs, and pulled teeth. The medicines he used included castor oil, aloes, silver nitrate, and quinine.

Cholera was a constant problem, with major epidemics occurring in 1849, 1852, and 1854. The 1849 epidemic led Toledo to create a board of health, and it gave the city marshal the power to remove all nuisances to control the disease and seize any suitable vacant building to serve as a cholera hospital. The *Toledo Blade* reported in 1854 that 239 residents died in 17 days in July alone. But the paper argued that the cholera alarm was overstated, as most of the sick had "violated all the laws by which human beings exist. Many of them are transitory people, evidently vagrants and vagabonds who happened to tarry here long enough to die." It urged residents to take notice of symptoms early to avoid passing the disease on to others. "Ignorance, neglect of symptoms, intemperance and filth, are the cause of nine-tenths of the disease," the paper reported.

Yet the tragedy of the disease could not be dismissed. Mrs. Harriet Jukes of Maumee described the impact in a letter in 1854: "There is so much dread of the disease, that when a person is attacked few are found willing to nurse them, unless there are members of their own family who can do it. There was a little child taken ill in Perrysburg, and we are told that it was put in a bed in a room by itself, and all the family left the house, the parents looking in at the window now and then so see how it fared. As soon as it died they quitted the town, and the neighbours had to bury it; since which time they have all died. My servant has left me for fear of the cholera, and should any of us be attacked, we should, I suppose, be left to our own resources." Both Jukes and her husband, the Rev. Mark Jukes, died within days of her writing this letter.

The cholera epidemics that swept through northwest Ohio not only killed people, but also wiped out whole towns, including Providence and Miltonville, two once-flourishing villages southwest of Toledo on the Maumee River. Both platted in 1835, Providence was the more prosperous of the two. It was located across the river from present-day Grand Rapids (then called Gilead). The town grew as river traffic had to portage the Maumee at that point to go around the rapids. By 1840, stores, hotels, warehouses, and saloons had multiplied. Providence also started to swell with canal workers, many of Irish descent, who were digging a lock of the Miami and Erie Canal literally through the center of town.

Like many Ohio canal towns, Providence quickly developed a reputation for drinking and crime. Despite that, it kept booming, especially after the canal opened in 1843. In 1854, disembarking canal boat passengers brought the dreaded cholera that was wreaking havoc across the midwest. Scores died, and were buried in cemeteries such as St. Patrick's, where some of the etchings on the 1854 gravestones of cholera victims are still visible. The more fortunate fled in a mass exodus, leaving most of their possessions behind. Most of the original town structures were eventually moved or razed. Three are still standing: the founder's house, the Isaac Ludwig Mill, and the still active St. Patrick Catholic Church.

The nearby river town of Miltonville suffered a similar fate, and has vanished completely. It was located in Wood County about a mile upriver across from present-day Waterville on a low-lying area of the Maumee. Named for Milton Baird, a relative of one of the founders, by 1837 it consisted of two hotels, a number of stores, a post office, and a rope ferry for crossing the river. A sawmill and dam were constructed about a half-mile down stream.

While it flourished for a time, Miltonville never boomed, especially after the canal went through on the other side of the river. Its low-lying location made it prone to flooding. So when cholera struck Miltonville in the 1850s it ultimately succumbed. The only remaining trace is a roadside marker along the present-day State Route 65, and a small, aging, hidden cemetery of mostly unreadable tombstones on a bluff across the road overlooking where the town that was located.

The disease also left many orphans. At the height of the epidemics, Toledo was without a hospital, an orphanage, or nursing care. Following the 1854 epidemic, the Reverend Augustine Simeon Campion, pastor of St. Francis de Sales church, traveled from Toledo to Montreal to meet with the Sisters of Charity to inquire if they would be willing to establish an orphanage in Toledo. In late October 1855, four Sisters arrived from Montreal and founded the St. Vincent Asylum. It would be followed by a hospital in 1876.

Early Medicine in Toledo

In addition to overcoming epidemics, medicine in northwest Ohio was stymied by bigger issues in the profession—a struggle between "scientific" medicine and various forms of "alternative" or "quackery" medicine. While Americans had witnessed many revolutionary changes in their lives by the beginning of the 19th century, medicine had not kept pace. The practice of medicine differed little from that of the previous century. The most influential practitioner of the time was Dr. Benjamin Rush of Philadelphia, a proponent of the Enlightenment's concept of "natural law." In this rational view, the body was a machine, and all disease was one disease—an overstimulation of nerves and blood. To cure overstimulation, physicians prescribed "heroic" medical practices such as bleeding, blistering, and purging to restore natural balance to the body.

Bleeding consisted of opening a vein or making a series of small cuts through the skin. A warmed glass was often placed over the incision to draw fluid out as the pressure inside the cup dropped. Blistering was achieved by placing hot plasters on the skin to raise blisters, which were then drained. Calomel, a form of mercurous chloride, was used in large doses as a laxative to purge the system. While Rush influenced most doctors in the country to follow the concepts of heroic medicine, the painful and debilitating treatments—which rarely cured and often harmed—were unpopular with patients.

On the frontier, doctors were forced to be more experimental. Since they lacked even the basic necessities for medical care, they were willing to try anything. They were also less constrained by the ideas of the east coast medical establishment. Two doctors in particular influenced the practice of medicine on the frontier, including northwest Ohio. Dr. Daniel Drake lived in Cincinnati, and established a medical college there in 1819. In addition to his book on diseases of the interior of North America, Drake lectured and published frequently. Another influential frontier physician was Dr. William Beaumont, who used an unusual method to observe how the digestive system worked. During his service as an Army doctor at Fort Mackinac, Michigan, he was assigned to treat a patient with a severe stomach wound that would not heal. Beaumont used the stomach opening of the unfortunate patient as a window into the gastrointestinal tract. His observations were published in 1833 in *Experiments and Observations on the Gastric Juice and Physiology of Digestion*. Because of both authors' proximity, Drake's and Beaumont's books were likely to have been read by doctors in Toledo.

Another area where frontier physicians advanced medicine was surgical techniques, again reflecting the reality that they had little else to offer desperate patients in desperate situations. But surgery in the 19th century was difficult work that produced pain, hemorrhage, and sometimes shock and gangrene. And there were no anesthetics except ice and alcohol. Chloroform and ether were introduced by mid-century, but they were not widely employed until the 1870s.

While many doctors clung to bleeding and purging as standard practice, patients sought treatments that were not as debilitating. The wave of Jacksonian democracy that spread through the country in the 1820s and 1830s produced an egalitarian American populace with little use for aristocratic physicians, especially those who caused them such pain. The public turned to treatments based on common sense, or at least the common sense promoted by doctors who promised miracle cures without the pain of heroic medicine.

These alternative medical practices, or "sects" as they were called, included homeopathy (treating patients with very small doses of drugs that mimicked their illnesses), hydrotherapy (using hot and cold water to cure), mesmerism (manipulating the natural magnetism of the body), patent medicines (often little more than diluted alcohol), and botanicals (using medicines made

from plants). Alternative medicine became so popular that physician licensing, which had been commonplace in America, was abolished in most states in the 1840s. Thus anyone could become a doctor by attending one of thousands of proprietary medical schools that sprang up, or by simply serving out an apprenticeship. One particularly influential Midwestern school was the Botanic Medical College in Columbus. Founded by Samuel Thomson, it taught doctors to treat patients with distillates of native American vegetables rather than mineral purgatives like calomel. Thomson published many books on his treatments through his Columbus publishing house.

For the patient, alternative medicine flourished because while it might not cure their ailments, it usually did not kill. If one had to choose between being bled or taking a medicine made from native plants, it was not much of a choice. Since neither type of medicine had a track record of success, patients were more than willing to try that which did the least harm.

Organized Medicine

The popularity of alternative medicine led established doctors to band together to promote what they believed was medicine based upon the latest and best science. This was particularly true in remote areas of settlement where isolation and the poor quality of medical education brought doctors together by necessity to discuss treatments and improve the practice of medicine in their communities. Medical societies sought to advance medical education, develop professional literature, set ethical standards, and regulate who was allowed to practice medicine. Medical organizations also allowed physicians to standardize fees they charged to ensure adequate incomes. Medical societies were especially vigilant in excluding those who promoted alternative medicine.

The American Medical Association was formed in 1847 as a national organization of physicians. It became a model for local and state organizations, including some in northwest Ohio. But the first medical society in the region—the Maumee Valley Medical Association—predated the AMA. It was created in Perrysburg in 1842. In 1851, eight Toledo physicians met to discuss creating a medical society in their city. They included Drs. Hosmer Graham, W.W. Jones, P.H. Dawson, I.N. Hazlett, Alfred Taylor, F.W. Klauser, W.C. Scott, and R.H. Timpany.

While the group approved a constitution in September 1851, little else was accomplished because another cholera epidemic swept through the area in 1852, killing nearly 500 people in three months. The group did not come together again until 1856. In 1869, the North-Western Ohio Medical Association was organized in Lima, Ohio, for the "cultivation and advancement of medical science and literature and the elevation of standards of professional education." This association consisted largely of physicians from Allen, Van Wert, Hardin, Auglaize, Putnam, Mercer, and Hancock counties.

The Toledo Medical Association was the largest of the medical societies in northwest Ohio. Its mission was the "cultivation of the science of medicine and the promotion of public health, the advancement of the character and honor of the profession, and the elevation of the standards of medical education," according to its 1876 constitution. Requirements for membership included graduation from a medical college, residency in Toledo, and approval by other members of the association. This last provision helped to ensure that no "quackery" doctors would become members.

Early in its history, the Toledo Medical Association set a fee schedule for common procedures and treatments. It listed a range of fees that allowed for flexibility depending on the complexity of the case. By setting the fees, the doctors sought to make certain that no one charged too much or undercut their colleagues by charging too little. Fees listed included $10 for the delivery of a baby and $25 to $50 for the amputation of a limb.

The doctors sought to protect the public by keeping unqualified practitioners out of the profession, even launching a political campaign against Congressman James Ashley for appointing a homeopath to an official government position. They also worked to keep pharmacists and barbers from practicing medicine. The Toledo Medical Association pursued members who they believed violated ethical standards, and would fine or expel those found guilty. One frequent type of investigation concerned the issue of advertising for services, which the association vehemently opposed. Only quack physicians would stoop to advertising, they believed.

The Toledo Medical Association sought to improve the quality of care by creating a library of up-to-date

The dissecting room of the Toledo Medical College, ca. 1910.

medical texts, by meeting to discuss difficult cases treated by members, and through the publication of a journal. The organization emphasized treatments based on current theories published in highly respected medical publications of the day, and learning from the experiences of others in the association. The organization's journal, entitled the *Toledo Medical and Surgical Reporter*, began publication in 1877. In 1884 a second medical journal, the *Toledo Medical Compend: A Monthly Journal of Medicine, Surgery, and the Allied Sciences*, began publication in the city. Both journals contained articles by Toledo and area physicians discussing new theories of treatment.

Toledo Physicians and 19th Century Medical Treatments

The Toledo Medical Association met twice a month. At each meeting, one or more members would discuss a recent medical case that they had treated. The discussion would allow members to comment on how the doctor performed. This tradition continues in the medical profession today as morbidity and mortality conferences. Through this commentary, medical practice in Toledo was surely improved. The discussions were often recorded in the minutes of the association, and today these minutes provide a unique glimpse into the issues Toledo doctors struggled with as they sought to treat local residents.

Childbirth and women's heath care were often discussed. While childbirth was the most common medical procedure, difficult labors perplexed many. The doctors were still unaware of how infections spread, so while they used any means necessary to deliver babies, their techniques would often lead to the death of the mother. The doctors also believed many of the theories of female mental instability prevalent in Victorian America, including hysteria and "maternal impressions." The latter was the belief that a child within the womb could be influenced by the actions of the parents, or that the actions of parents at the time of conception could alter the child's development. Alcohol consumption by the father, anxiety by the mother, or sexual activity outside the norm could produce children who were physically deformed or mentally deficient. Cases involving all such matters were discussed by the members of the Toledo Medical Association in the 1870s and 1880s.

Despite the efforts of the association members to move medical theory forward, as late as 1877 the members were still discussing bloodletting as a serious medical treatment. Dr. Asa Bigelow reported that bloodletting could improve human stamina, which he believed was in decline. Dr. Thomas Waddel advocated bloodletting as the best treatment for repeated miscarriages. Dr. William Ridenour said bloodletting reduced the fullness of blood vessels.

But while the doctors clung to old theories, they also discussed new ideas that seemed to improve patient outcomes. Bromine to treat wounds, surgical anesthesia using chloroform, and preventative medicine were all discussed at meetings of the Toledo Medical Association during the 19th century. The association also supported legislation that created city boards of health and allowed for the inspection of houses of prostitution in order to prevent the spread of syphilis, a significant and growing problem in Toledo in the late 19th century.

Perhaps the most important discussion for the future of medical care occurred at a meeting of the association on January 24, 1888. It concerned the

Students enrolled at the Toledo Medical College, ca. 1910.

germ theory, and whether or not germs could cause diphtheria, an epidemic disease that frequently struck Toledo. Not everyone present at the discussion was convinced of the theory, or the need to isolate infected patients to stop contagion. In October of that year, the doctors considered whether antiseptic practices were really necessary. Dr. William Jones stated his belief that "antiseptic measures were fashionable, but not reliable, and that they may have their day then die out." Dr. Samuel Thorn said there was no harm in using antiseptic measures, but he felt they should be tested further.

In 1903, the Toledo Medical Association merged with another medical association in the region, the Lucas County Medical Association, which had been formed in 1893. The merged organization changed its name to the Academy of Medicine of Toledo and Lucas County. It continues its mission to advance medical care in northwest Ohio today.

Early Medical Education in Toledo

The extent of medical knowledge in northwest Ohio in the 19th century reflected the quality of medical education. Medical schools in the 19th century were proprietary and profitable. Because physicians did not have to be licensed, there was little desire to maintain quality by restricting unqualified persons from being admitted. In fact, when medical schools made their admission requirements more stringent, they often lost enrollments to competing schools.

The Toledo School of Medicine was the first medical school in the city, founded in 1878. It was created as a pre-medical school, offering a preparatory curriculum that would allow students to be accepted into established institutions. In 1882, it expanded to become a full-fledged degree-granting medical school, and changed its name to the Northwestern Ohio Medical College. It was located on Lagrange Street.

Also that year, the Toledo Medical College opened as a competitor in a building at the corner of Superior and Monroe streets. The Toledo Medical College sought to fully prepare doctors to practice medicine upon graduation. The school's total assets at its founding consisted of $5000—the minimum required for incorporation—with the money raised by selling bonds to the school's trustees. The trustees hired practicing physicians to teach surgery, obstetrics and gynecology, physiology, anatomy, chemistry and toxicology, materia medica, mental diseases, genito-urinary and venereal disease, histology, dermatology, and medical jurisprudence. While an impressive list of subject areas, the trustees were unable to find instructors to teach all of them.

The school was successful in its early years. In 1884, it sought to improve the quality of doctors by requiring a college or high school diploma for admission, or passage of an entrance exam. Graduates had to be at least 21 years of age, and women were admitted on equal terms with men. Students had to attend lectures for three years to receive their degree. As with most schools in the United States and Europe at the time, actual clinical experience was not required for a degree.

In 1886, the question of the quality of graduates reached a crisis stage when two of the trustees, Dr. A.W. Fischer and Dr. A. Cary, voted against approving that year's graduates because no training was offered in obstetrics. When the two were expelled from the board of trustees as a result of their opposition, Dr. Cary wrote letters to the Ohio State Medical Society and the Illinois Board of Health stating that Toledo Medical College graduates were ill prepared to practice medicine. In 1888, Illinois, one of the few states to police the quality of medical education and doctor qualifications, refused to allow the college's graduates to practice in that state. Quick action by the directors led the Illinois board to reconsider its decision.

When the Northwestern Ohio Medical College closed in 1891, the Toledo Medical College took over its building on Lagrange Street. But by 1894 the college required a larger building, and purchased a lot at Cherry and Page streets for a new building, which was completed two years later. The building had a surgical amphitheatre, lecture rooms, a dissecting room, and laboratories. A dispensary was located on the first floor. The surgical amphitheatre was used as a clinic to treat charity cases referred by local physicians.

By the end of the 19th century, the need to improve medical education and tighten requirements for doctors was apparent as medical practice became more complex and theories better understood. In 1881, Ohio began moving toward licensing doctors, and by 1896 required graduation from an accredited medical college and passage of a state board examination to practice. To improve its reputation, the Toledo Medical College sought affiliation with a local university, and contacted Heidelberg College in Tiffin and St. John's College in Toledo. Neither was interested. The school turned to Toledo University to discuss a possible merger.

A merger was seen as mutually beneficial. It would improve the status of Toledo University (which was struggling with financial woes, questions of ownership and control, and lack of community support) while providing stability to the medical school. In 1904, the two began merger discussions facilitated by Dr. John S. Pyle, who was on the faculty of the Toledo Medical College and on the board of directors of Toledo University. The merger was approved on June 27 of that year, with Toledo University stating in the merger resolution that "careful investigation has disclosed the fact that such a college may be instituted, maintained, and conducted by this university without additional expense." This sentiment sowed the seeds of the college's eventual demise.

Toledo University's catalog began advertising the offerings of its medical department in 1905. It described a four-year program of 32-week sessions, followed by a comprehensive examination. It boasted that the medical department's building at Cherry and Page streets was close to both St. Vincent Hospital and Toledo Hospital. Robinwood Hospital and the Lucas County Infirmary also provided training. Some classes were also held at the Toledo State Hospital. While over 50 faculty taught in the department, only Dr. William MacKendrie Reed, dean of the College of Pharmacy, received a salary.

But the years following the merger were bleak ones for the medical school. It was impossible to improve the quality of education to meet increasingly stringent standards required by state boards without additional resources. Toledo University, caught up in own expensive legal battles over who controlled its board, was barely surviving financially. The university had no additional resources to help save the medical school.

The fortunes of the medical school declined quickly. A report in 1909 by the American Association of Medical Colleges was highly critical of the facilities, particularly the sanitary conditions. One year later, Dr. William J. Gillette, secretary of the medical college board of directors, asked the Toledo University board to take over the building and grounds because the school did not have the funds to pay the mortgage on the building or even the interest. Toledo University failed to make payments on the space in the building that it leased from the medical college, and sought to negotiate a new lease. When Toledo University President Jerome Raymond objected to the new lease because it physically separated the medical and pharmacy colleges from the rest of the university, he was forced to resign.

The situation went from bad to worse. In 1910, Abraham Flexner's report *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching* was published. This report was an effort by the Carnegie Foundation to assess medical schools nationally because "the requirements of medical education have increased enormously."

Flexner surveyed all known medical schools and reached some fundamental conclusions about the state of medical education. Among his findings were: there had been an overproduction of undereducated and ill trained doctors; this overproduction was due to the large number of proprietary schools; while these proprietary schools were very profitable, they lacked essential laboratories and facilities; and the best medical education was provided by schools connected to hospitals. In Flexner's analysis of

the Toledo Medical College, he found it an example of the worst of medical education.

Flexner described the college as "the medical department of Toledo University, a municipal institution of uncertain status and without substantial resources." The report noted that the school had no full-time faculty, required only a high school education or equivalent for admission, and "has nothing that can be fairly dignified by the name of laboratory." The clinical facilities were described as "entirely inadequate," and noted "there is a wretched little dispensary in the college building." He gave the school a rating of "C," the lowest ranking. Toledo's was not alone. Only one of eight medical schools in the state received Flexner's highest rating.

If this was not enough to kill the school, a devastating fire nearly destroyed the building at Cherry and Page on January 9, 1911. The building was rebuilt with insurance money, but enrollments continued to decline. The commencement speaker in May 1912 cancelled because he had read the Flexner report and no longer wanted to speak at the school. In 1913, the American Medical Association produced its own negative report, noting the school's lack of clinical arrangements with local hospitals and its meager budget. In 1914, the Ohio State Medical Board refused to accept credit for any courses taken at the Toledo Medical College that year. The students enrolled in the school met with the directors and demanded to know if it was going to close so they could make other arrangements to finish their education.

William Tucker, chair of Toledo University's board of directors, indicated the university either had to take swift action to save the school, or close it. John Pyle was asked to negotiate with the AMA's Council on Medical Education to see what could be done to save the school. Those efforts were apparently for naught, as the university decided in 1917 to purchase the medical college's building and close the medical school. In January 1918, the university's board of directors expressed their gratitude to the medical school's board for its long association, and the school ceased to exist.

Funds that remained in the school's account continued as an endowment, however. Beginning in 1934, the funds were used for a yearly symposium for Toledo doctors that brought in a national figure to speak on a topic of current interest. The funds continued to grow, and in 1968, with the completion of the Medical College of Ohio at Toledo, the estimated $50,000 left in the endowment account was given to the medical college's foundation. Many of the doctors who were graduates of the Toledo Medical College practiced in Toledo long after the school closed, and as such, its legacy continued long after the school was gone.

Benjamin Rush, *Sixteen Introductory Lectures.* Philadelphia: Bradford and Innskeep, 1811.
From the collections of the Ward M. Canaday Center for Special Collections (hereafter referred to as WMCC). As the foremost physician of his time, Rush was highly influential in the profession. Despite evidence that bloodletting, blistering, and purging did little to cure patients and often made them sicker, Rush continued to lecture on these treatments, as he did in this book used in medical schools of the time.

James Thatcher, *The American New Dispensatory.* Boston: T. B. Watt and Co., 1810. WMCC.
This book contained formulas for drugs used by doctors in the early 19th century, and detailed of how to use them and for which aliments they were best suited. Included is a discussion of calomel, used to purge the systems of patients in order to restore balance to their systems.

Samuel Thomson, *New Guide to Health; or Botanic Family Physician*. Boston: E. G. House, 1825. WMCC.
While many of Thomson's treatises were published by his publishing house in Columbus, this Boston printing shows his reach extended far beyond the midwest. Thomson, a "sect" doctor, advocated treating patients with distillates of vegetable compounds. The book includes many "certified" stories of patients who were cured by Thomsonian medicine.

William Beaumont, *Experiments and Observations on the Gastric Juice and the Physiology of Digestion*. Plattsburgh, NY: F. P. Allen, 1833. WMCC.
This first edition of Beaumont's influential work described his observations on how digestion occurred. Unlike Benjamin Rush, Beaumont based his theories on careful experimentation and observation. His observations were so complete that they continue to serve as the basis for understanding digestion today.

Daniel Drake, *A Systematic Treatise, Historical, Etiological, and Practical, on the Principal Diseases of the Interior Valley of North America*. Cincinnati: Winthrop B. Smith & Co., 1850. WMCC.
Drake's exhaustive study looked at the geography of the interior of the United States and made connections to prevalent diseases. The book included detailed maps and reports of doctors describing the health climate of the region. Drake's description of northwest Ohio painted a bleak picture of the consequences of residing in the Black Swamp.

Frederick Jaeger Patient Log Book, 1847-1861. On loan from the Harris-Elmore Public Library, Elmore, Ohio. MS-2.
One of the earliest extant records of a doctor practicing in northwest Ohio, this log book contains detailed information on Dr. Jaeger's patients and the treatments he offered to them. He would also list the cost of each procedure. Often, patients would pay with commodities such as eggs, honey, or lumber. Jaeger would then trade these for provisions at the Powers & Jaeger General Store in Woodville, owned by Jaeger's son.

Photographs of gravestones in St. Patrick's Cemetery. By Sheryl Stevens, 2011.
This cemetery marks the graves of many cholera victims from the town of Providence. Grieving husband Michael Connolly, whose wife Ann was just 22 years old when she died, had this verse carved on her tombstone:

> Shed not for her the bitter tear
> Nor give the heart to vain regret
> Tis but the casket that lies here
> The gem that filled it sparkles yet

Photographs of Miltonville, Ohio. By Sheryl Stevens, 2011.
A sign along State Route 65 in present-day Middleton Township tells the story of Miltonville and its demise from cholera and floods. All that remains is an aging, hidden cemetery on a bluff overlooking where the town was located.

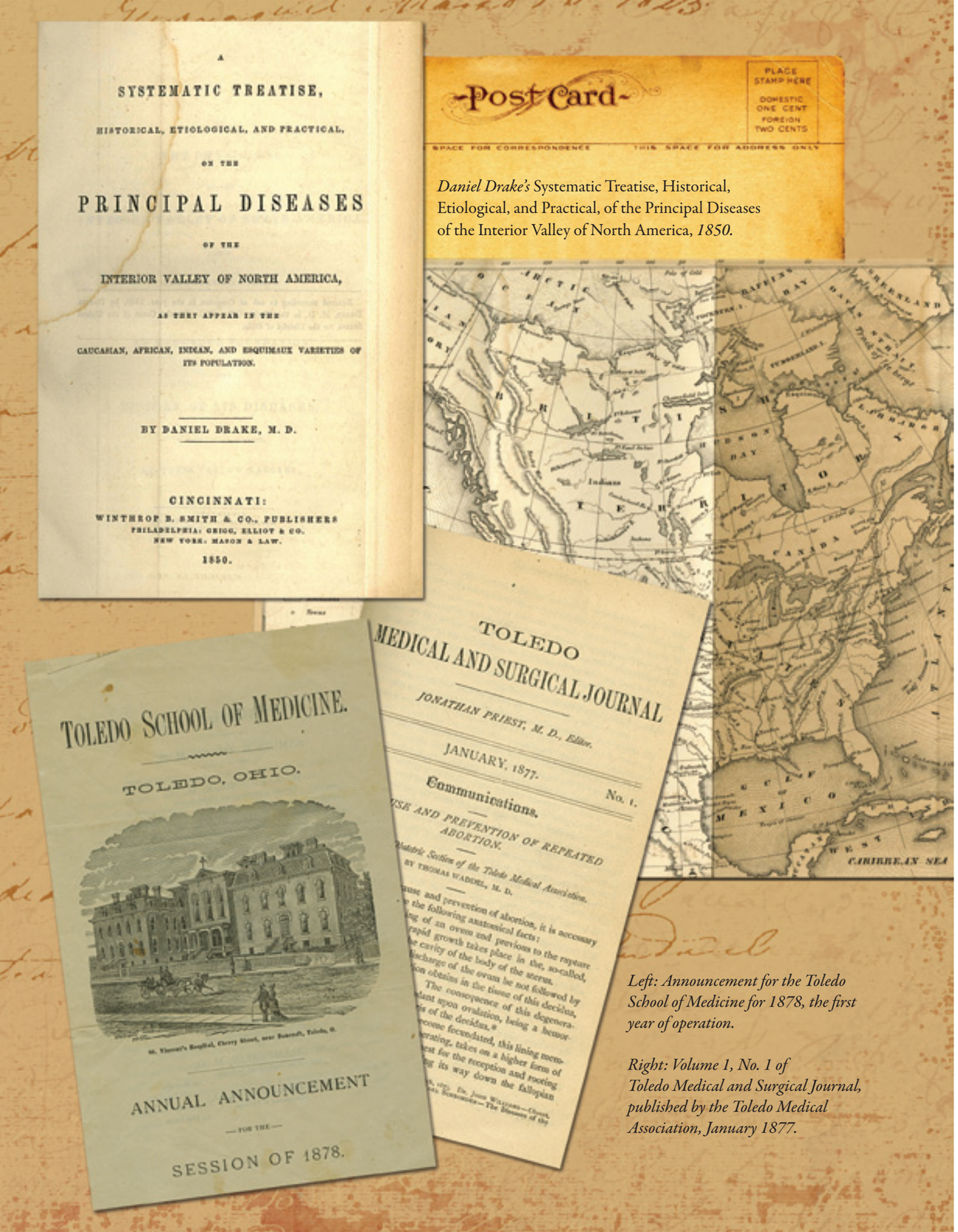
Daniel Drake, *Discourses Delivered by Appointment, Before the Cincinnati Medical Association*, 1852. Cincinnati: More & Anderson, 1852. WMCC.
This book contains lectures by Drake on the early medical history of Cincinnati. The volume was given to the Medical College of Ohio at Toledo by the University of Cincinnati medical library on the dedication of the Raymon H. Mulford Library in 1975.

Facsimile copy, Minutes of the North-Western Ohio Medical Association, 1869-1969. MSS-251, WMCC.
The North-Western Ohio Medical Association encompassed physicians mainly outside of Toledo. It covered a region as far south as Bellefontaine, as far west as Celina and Van Wert, and as far east as Bellevue. Like the Toledo Medical Association, it met regularly to discuss common concerns and medical cases treated by its members. This facsimile edition of the first 100 years of minutes was given to the Medical College of Ohio in 1970 for its library collection.

Minutes of the Toledo Medical Association, 1864-1891. On loan from the Academy of Medicine of Toledo and Lucas County.
At meetings of the association, members would discuss some of their most difficult cases. Today, these minutes provide some of the earliest documentation of medical care in the area.

***Toledo Medical and Surgical Journal* (later *Reporter*). Published by the Toledo Medical Association, 1877. WMCC.**
The first issue of the Toledo Medical Association's journal included an article by Dr. Thomas Waddel on repeated miscarriages. Waddel stated that the primary cause of repeated miscarriages was "nervous development of the mother, rendering the uterus intolerant of the growing ovum."

***Toledo Medical Compend: A Monthly Journal of Medicine, Surgery, and the Allied Sciences,* 1891. WMCC.**
Issues of the monthly journal for 1891 included a continuing series of lectures by Dr. J. H. Pooley, professor of surgery at the Toledo Medical College, on the subject of venereal disease, a major problem in Toledo. Pooley was a highly respected physician, and when he died in 1897, the *American Medical Compend* published his article "A History of Surgery."



Daniel Drake's Systematic Treatise, Historical, Etiological, and Practical, of the Principal Diseases of the Interior Valley of North America, *1850.*

Left: Announcement for the Toledo School of Medicine for 1878, the first year of operation.

Right: Volume 1, No. 1 of Toledo Medical and Surgical Journal, published by the Toledo Medical Association, January 1877.

Minute book of the Toledo Medical College, 1882-1918. UM 68, WMCC.
This book documents the creation and demise of the Toledo Medical College. In addition to the Certificate of Incorporation, the minutes include such events as the directors' response to a fire that swept through the college's building in January 1911. Also included is a resolution from the Board of Directors of Toledo University, signifying the closure of the school in 1918. The directors expressed their hope that some day "in the near future additional funds may be made available to permit of the early operation and maintenance of a school for the teaching of the sciences of medicine and surgery." That would not occur until 1964.

Photographs and documents, the Toledo Medical College, ca. 1900-1915. UM 68, WMCC.
Included are photographs of students and facilities of the Toledo Medical College. Documents record the feud with the Illinois State Board of Health over its refusal to allow graduates to practice in their state in 1892. To support their case for the quality of graduates, the Toledo Medical College faculty hastily prepared a list of operations performed by the students during their training. The patients referred to the hospital's clinic were too poor to pay for treatment by regular physicians. In 1894, the Illinois board reversed its actions.

Max T. Schnitker and Walter H. Hartung Jr., *The History of the Toledo Medical College, 1882-1914*. Toledo, OH: Privately published, ca. 1969. WMCC.
This book details the history of the Toledo Medical College. Copies were given to alumni of the college, as well as spouses and survivors of those who were deceased, at a meeting of the Toledo Medical Library in 1969.

Abraham Flexner, *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching*. Boston: D.B. Updike, The Merrymount Press, 1910. WMCC.
Flexner's work would have a lasting influence on medical education in the United States. It resulted in the closing of inadequate schools and improvements in the quality of those remaining. Among those receiving Flexner's lowest rating was the Toledo Medical College, which closed eight years later. But Flexner's report also resulted in doctor shortages in the United States in the 1960s and 1970s because few new medical schools were built in the fifty years after its publication.

A public health nurse vaccinates a child at the Toledo Health Department, 1954. From the Toledo-Lucas County Health Department.

A physician with the Toledo Health Department checks out a young patient, 1954. From the Toledo-Lucas County Health Department.

CHAPTER 2.

Safe Water, Safe Milk, Safe Children, and Safe Sex:
The Public Health Movement in Northwest Ohio

In the first half of the 19th century, northwest Ohio's development lagged behind other areas of the state and the nation. But the construction of canals and the railroads through the city quickly produced an economy based upon commerce and warehousing. Toledo's port on Lake Erie became even more important during the Civil War when southern ports were no longer available to bring goods into the interior of the country.

The war also stoked the industrial engine of the country. Like many northern cities, the war was a watershed for Toledo, representing the dividing line between a struggling pioneer town and a thriving industrial city. In 1850, Toledo had 38 factories employing 263 people. Ten years later, on the eve of the Civil War, that number had increased to 100 factories employing 885. By 1880, there were 440 factories employing nearly 7000. Toledo's population topped 50,000 that year.

The nation's industrialization and urbanization boom of the late 19th century spurred government leaders and health professionals to campaign for better public health measures. As more people crowded into cities, periodic outbreak of epidemics occurred more frequently, and impacted many more. The experience of the Civil War, when disease killed twice as many soldiers as battlefield injuries, made a lasting impression on the country and also helped spur on the public health movement. Women in particular sought ways to live healthier lives, and advocated for better public hygiene and sanitation. The shocking reports of muckraking journalists of the Progressive Era exposed unsanitary food production and led the public to press for regulations of food and drugs.

But the primary reason public health became a concern was the widespread acceptance of the germ theory. Once physicians understood that microorganisms could carry disease in water, food, and the air, public health regulations became a focus of the medical profession and government. Public health also became an interest of philanthropic organizations led by wealthy businessmen.

The Public Health Movement in Northwest Ohio

The earliest efforts in Toledo to address the public's health involved creating a poor farm outside of the city's limits where the destitute and ill could be housed away from the general population and cared for in a minimal way. The Lucas County Commissioners created the Poor Farm in 1838 at Detroit and Arlington, and appropriated $1000 for its development. It housed the homeless, the infirm, people with disabilities, epileptics, paupers, alcoholics, and anyone else who could not care for themselves. In exchange for the care they were provided, able-bodied residents of the poor farm were required to grow crops and care for livestock that were, in turn, used to feed the residents. The poor farm's infirmary, where the sick were cared for, also housed the mentally ill.

Ohio became more involved in public health matters after the Civil War, and in 1867 the legislature created the Ohio Board of State Charities to regulate public charities like poor farms. In a report of 1868, the state board noted the dismal condition of the Lucas County Poor Farm and County Infirmary. "Ten small rooms, illy ventilated and wholly comfortless in appearance, constitute the full capacity of the Infirmary buildings proper. The insane building is of brick, small, and without the least adaptation to its use. The insane, epileptic and idiotic are kept indiscriminately as to age, sex, or condition." A subsequent investigation three years later noted the vast improvement in conditions at the infirmary. "The repulsive features of the place, reported on a former occasion, have disappeared altogether," the report stated.

Both the city of Toledo and the government of Lucas County had roles in public health matters, and the interactions between the two groups were, at times, difficult and overlapping. The county's health board carried out many of the requirements mandated by the state. Toledo's board was concerned with matters within the city limits. At many times throughout the history of both agencies a merger was discussed and advised. But the two remained independent until 2000.

The first board to oversee public health matters in Toledo was created in 1849 as a result of a cholera outbreak. It consisted of two members elected from each political ward in the city. Five years later, the board had a much larger representation of government officials, with the mayor, president of City Council, and director of the infirmary on the board, along with two citizens. The annual report of the city for 1875 noted the importance of the board: "This department is indispensible in a commercial city like ours, and is deserving of more interest than is usually taken by our citizens. It seeks to protect the life and health of the people, old and young, against the unseen causes of diseases and death."

The health department moved within the city's administrative structure many times. In 1881, the responsibility for public health was put under the Board of Police Commissioners. In 1890, the Board of Health was reconstituted, and in 1916, it moved under the city's Department of Welfare. That year the board opened a contagious disease hospital at Superior and Lafayette streets to treat all infectious diseases except smallpox. The hospital handled over 3000 cases its first two years of operation.

At the state level, Ohio created a bureau of public health under the state board of health in 1913. Six years later, following the tragedy of the Spanish influenza outbreak, Ohio passed one of the strongest and most progressive public health laws in the country, known as the Hughes Law. It gave powers to local public health boards to control disease and required the certification of local health department directors. But conservative politicians in rural areas of the state objected, calling the enforcement measures in the law unconstitutional. As a result, the law was diluted almost as quickly as it was enacted.

In 1931, Ohio's new director of health eliminated the position of state public health nurse, a job with major responsibilities for improving public health. The onset of the Depression reduced funding, and led to major reductions in the number of local public health nurses who were on the front lines in fighting for improved public health. Fortunately, federal money under the New Deal programs revived public health efforts in Ohio. A reorganized state board of health led by Toledoan Dr. Walter H. Hartung reestablished the Division of Public Health Nursing. Hartung appointed another person from Toledo, S. Gertrude Bush, to lead the division.

With the new state initiatives, by 1936 the administrative structure of the public health department in Toledo stabilized. Local physicians supported the improvements. As part of the reorganization, the city hired its first full-time Director of Health, Dr. Millard C. Hanson, who was also the first physician to hold such a post in the city. He reported directly to the city manager. By the 1940s, the duties of the Board of Health had expanded to include: maintaining the accuracy of records of births and deaths, controlling and preventing disease, protecting maternal and child health (including the operation of the school health service), overseeing sanitation, protecting the water and milk supply, ensuring sanitary housing conditions, controlling rodents, regulating safe food handling, and abating public health nuisances. The Toledo Board of Health also supervised a health clinic for indigents, an alcoholics' rehabilitation clinic, a dental clinic, and the contagious disease hospital.

Threats to Public Health

Once the germ theory was accepted as fact, public health officials recognized that a clean water supply was key to limiting the spread of disease in Toledo. The cholera epidemics of 1852 and 1853 were blamed in part on the city's inadequate and unclean water supply. In 1872, voters approved a plan for a new municipal water system that opened the following year. But while the water works supplied an adequate amount of water, it did not always supply clean water. Toledo physicians raised their concern about the cleanliness of the city's water supply in 1896 because sewage from the county infirmary and state hospital was collecting in Swan Creek where, during the summer months, it was stirred up by passing boats. "This vast amount of foul sewage cannot be but fraught with the greatest danger to the health of the people of Toledo,"

a resolution of the Toledo Medical Association stated. In 1902, the issue of safe water again came before the Toledo Medical Association when members presented two papers about bacteria levels in the lake and river. It appointed a committee to confer with the Toledo Water Works Board to help ensure a safe water supply. The city Board of Health repeatedly struggled with citizens who did not empty full privy vaults and allowed them to leak into ground water, complicating efforts to ensure safe wells.

The Toledo Medical Association was also closely involved with efforts to ensure the safety of the city's milk supply. As the city became more urbanized, the distance between dairies and consumers increased. Milk, if not properly stored during shipment, was a breeding ground for bacteria. Some dairies sought to control the growth of such bacteria by adding boric acid and formaldehyde to their milk. A report in the association's newsletter *The Toledo Medical and Surgical Reporter* in 1903 stated that one in 20 deaths of children in the city was due to unsafe milk. Between 1907 and 1910, pasteurization—which involved heating milk to kill bacteria—became widely adopted by dairies. In 1907 the Academy of Medicine appointed a Milk Commission to certify the quality of milk. Some dairies used the safeness of their production processes as a marketing tool. In Toledo, the Babcock Dairy marketed its milk with the advertising slogan "The Safe Milk for the Baby." Despite improvements in production, in the 1920s a survey of milk transportation showed that milk cans were often left in the sun, and milking machines could produce bacterial contamination.

Another concern of public health officials and physicians was maternal and infant deaths. A study released in 1924 by Dr. W. S. Dice showed that Toledo had the highest maternal mortality rates of cities in the midwest between 1919 and 1921. Most deaths were the result of puerperal sepsis. Infant mortality was also high, with 222 stillbirths and 171 babies dying in the first week of life in 1922, and 239 stillbirths and 170 infant deaths in 1923. Dice urged physicians to use strict antisepsis during all stages of labor, and cautioned them to be more careful in the use of forceps in delivery.

But the major public health efforts of the early 20th century in Toledo focused on controlling three diseases in particular: tuberculosis, diphtheria, and syphilis. Much of the money expended on public health during this time went to fighting these diseases.

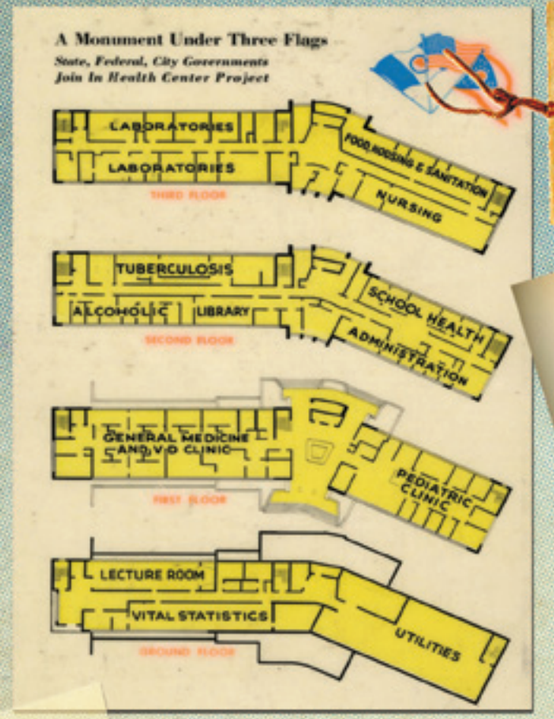
Tuberculosis

Tuberculosis became a serious communicable disease at the turn of the century as increasing numbers of people crowded into cities. The anti-tuberculosis movement began nationally in 1885. In Toledo, the first dispensary for treating the disease was founded in 1901 by the Thalian Tuberculosis Society, a group described as consisting of "university women." The organization raised money for its clinic by holding tag sales. In 1907, the Christmas Seal campaign came to Toledo, and the sale of the stamps became the major source of funds to fight tuberculosis. That year, an article in the *Toledo Medical and Surgical Reporter* advocating for a city-wide anti-tuberculosis campaign declared that there was no disease that carried so many to an untimely grave, caused the dissolution of so many families, or came with such a high economic cost.

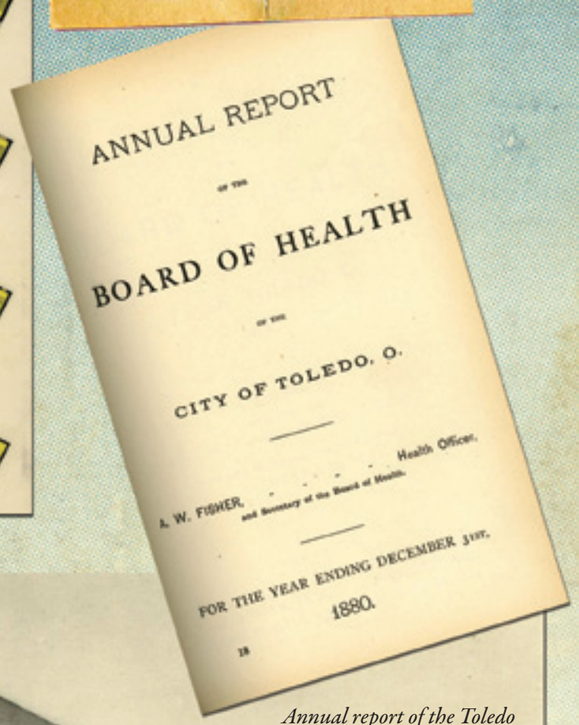
Much of the effort to fight tuberculosis in the city was carried out not by government, but by a private, non-profit organization called the Toledo Public Health Association. The group was formed in 1924 to replace the Committee on Public Health of the Toledo Chamber of Commerce. Typical of the philosophy of the Progressive Era, these wealthy men and women believed that improving the environmental conditions for the poor would create a healthier environment for everyone and reduce the cost of social services.

The Toledo Public Health Association was formalized at a meeting of the Toledo Council of Social Agencies. Its articles of incorporation stated its mission was "for the purpose of promoting the cause of public health in Toledo; to encourage and support legislation for the prevention of disease by the establishment of hospitals, sanatoria clinics, dispensaries, nursing services of every description, in other ways do all things that have as their object the prevention of disease; to study conditions regarding the prevalence of preventable disease, and to disseminate knowledge concerning the prevention of disease." While its early mission stated a broad concern for all public health matters, it quickly became focused on tuberculosis when Christmas Seal funds became available.

Much of the group's work focused on identifying and preventing the disease in children. In the 1920s, it was



Floor plans for the Toledo Health Department building, 1954. From the Toledo-Lucas County Health Department.


ANNUAL REPORT
OF THE
BOARD OF HEALTH
OF THE
CITY OF TOLEDO, O.
A. W. FISHER, - - - - Health Officer, and Secretary of the Board of Health.
FOR THE YEAR ENDING DECEMBER 31ST,
1880.

Annual report of the Toledo Board of Health, 1880.

The new Toledo Health Department building, 1954. From the Toledo-Lucas County Health Department.

believed that fresh air and sunshine were essential for the prevention and treatment of tuberculosis. Fresh air schools and camps were thought to be a way to protect those most susceptible to the disease. To that end, the group sent local children to a nutrition camp called the Harrison Health Camp, located at Presque Isle, Michigan. Among the treatments at the camp reported in 1925 was an hour of time each day where the children played outdoors without clothing to allow for maximum exposure to the sun. By the 1960s, the Toledo Public Health Association had to admit that such exposure to the sun was not without its risks.

In 1925, the Harrison camp was sold, and Toledo children were without a nutrition camp. Sam Davis, a local realtor and businessman, purchased land on Sterns Road just north of the Ohio border for a new camp in 1926. Each year, the Toledo Public Health Association would contact local schools for the names of students who were malnourished, and approximately 150 were selected each year to attend the camp. They would be weighed at the beginning of the camp and again at the end to see if they had gained sufficient weight. The association would contact their teachers in the fall to see if the students' behavior had improved along with their weight.

The camp was called the Sam Davis Health Camp until 1938, when the name changed to Topha Lodge Health Camp, a name derived from the Toledo Public Health Association. While the administrators of the association touted the healthy aspects of the camp, in reality it was often cited by inspectors for the poor quality of the drinking water and other sanitation problems. It operated until 1945 when it was sold for $7500, thus ending the association's 19 years of providing a nutrition camp for underweight Toledo children.

With an unemployment rate said to be as high as 50 percent in Toledo, the economic crisis of the Great Depression increased the circumstances that led to tuberculosis outbreaks. In July 1932, it was reported that 500 families had been evicted from their homes just the month before, and water was shut off in another 100 homes. As a result, many poor families were forced to live together in crowded conditions. The Depression also reduced funding available for vital services offered by the Toledo Health Department. Personnel cuts led to the closing of the Social Diseases Clinic, even though 200 cases of syphilis were under treatment at the time. The new sewage disposal plant just completed at a cost of $7.1 million was also to be closed. The Toledo Public Health Association protested the cutbacks. The association itself was forced to cut back its program that distributed free milk to local schools in 1931, but Henry Page, owner of Page Dairy, stepped in to donate milk to over 600 children. The Toledo Public Health Association took the drastic step in 1932 of requesting a meeting with the county commissioners, Toledo administrators, City Council, the real estate board, and the Chamber of Commerce to develop a plan to provide proper housing, water, and sanitary conveniences to the unemployed. That year, a case of typhoid fever was confirmed in east Toledo.

A letter sent in 1934 to the Toledo Public Health Association by the principal of Newton School, an elementary school at the corner of Broadway and Newton streets, summed up the personal costs of the economic downturn on the school's children. "Perhaps the greatest change in the children's outlook on life was revealed in their Christmas wishes. Instead of the usual gifts requested in the old letters to Santa Claus we find children wishing that their fathers and mothers 'had a job,' that 'everyone had a nice Christmas dinner,' that 'no one would be hungry on Christmas day,' that 'everyone could have at least a little gift on Christmas,' that 'everyone would have money to buy medicine when their children were sick,' and perhaps saddest and most revealing of all—'I wish no one in the world ever had to pay for food.'"

Funding provided under the federal government's New Deal programs made possible the construction of hospitals for treatment of the poor. In 1931, the Lucas County Hospital opened on Arlington Avenue, replacing the contagious disease hospital downtown. The hospital cost $850,000 to build, and had over 250 beds.

But tuberculosis continued to be treated at a separate tuberculosis hospital built in 1911 what was clearly inadequate. In a letter to the R. H. Randall, administrator of the Lucas County Relief Program, Dr. Foster Myers, president of the Toledo Public Health Association, described the hospital in this way: "It consists of two wards and two single rooms to care for

about 100 patients. The patients in the incipient stage of the disease are permitted, in fact obliged, to mingle with those in the later stages." For a city its size, Toledo had the fifth highest death rate from tuberculosis in the nation. For these reasons, the Toledo Public Health Association began to lobby for the construction of a new tuberculosis sanitarium. Federal funding was available to cover 30 percent of the construction costs. In "An Open Letter to All Toledo" aimed at gaining public support for the new hospital, advocates noted that 254 people died of the disease in 1931, 210 in 1932, with over 2002 cases having been identified in 1933. Some 98 percent of all cases were among the indigent. The group pointed out that while there were many other hospitals in the region, most would not accept tuberculosis patients.

Despite opposition from the Academy of Medicine, whose members felt the plans to fund the hospital were economically unsound, construction of the William Roche Memorial Hospital for the treatment of tuberculosis began in 1935 with funds provided by the federal government's Federal Emergency Relief Administration and Works Progress Administration, and it was completed two years later. The hospital was named for a reporter for the *Toledo News-Bee* who was a strong supporter of improving the quality of care at the Lucas County Hospital, and specifically for improving treatment of people with tuberculosis.

The new hospital did not end the problem of fighting tuberculosis in Toledo. In 1940 the Academy of Medicine's Tuberculosis Committee reported that the city's effort at fighting the disease remained weak. There was no one person in charge, there were no funds designated for diagnostic efforts, and the hospital was overcrowded. This meant those who were infected had to remain at home and were spreading the disease to others. The committee asked City Council to consider hiring a tuberculosis director, which was done, and the Health Department assumed coordination of treatment and prevention.

By the 1940s, the primary method of detecting tuberculosis was chest X-rays. The Toledo Public Health Association purchased its first X-ray machine in 1942. In 1946, in recognition that most of its work was aimed at treating tuberculosis and its funding came from the sale of Christmas Seals, the Toledo Public Health Association changed its name to the Tuberculosis Society of Toledo and Lucas County. Throughout the 1950s, it continued to fight high rates of infection in the Toledo community. In 1953, statistics showed over 2000 cases of the disease. Over 15,000 X-rays were taken that year at the organization's clinic on Jackson Street downtown, and portable X-ray machines traveled around the city to factories to screen others. While death rates nationally began to decline in the 1960s due to earlier detection and better treatments, there were still 1500 cases reported in Toledo in 1965, with 239 new cases that year.

Eventually, the Tuberculosis Society expanded its concerns to other respiratory diseases, including lung cancer. In 1963, following the report of the Surgeon General on the dangers of smoking, representatives of the group met with other health organizations to form the Inter-Agency Committee on Smoking and Health of Toledo and Lucas County. The group sought to educate smokers about the dangers of the activity, and influence non-smokers not to begin. The Tuberculosis Society eventually joined with groups with similar missions from Defiance, Henry, Fulton, Williams, and Wood counties to become the Northwestern Ohio Lung Association in 1973.

Diphtheria

Diphtheria is an upper respiratory tract infection spread by direct contact with open sores or by breathing secretions of infected individuals. Largely eradicated today in the United States, it was a serious and deadly disease in the 19th and early 20th century. In the 1920s, there were between 100,000 and 200,000 cases nationally each year, and the disease killed about 15,000—usually children—each year. The disease was rampant in Toledo. In 1921, there were 1500 cases diagnosed, and 92 deaths.

A vaccine was developed in 1920, and between 1923 and 1928, the Toledo Health Department operated a program that immunized about 3000 school children each year. But opposition by private physicians who believed they should provide immunizations ended the program. Instead the city provided the vaccine to doctors and placed the responsibility for promoting vaccination with them. But the economic conditions of the Depression meant few children were seen by doctors, which led to another epidemic of the disease in 1929. The health department reinstituted its school vaccination program that year. An educational program funded by the Lucas County Relief Administration encouraged doctors to educate parents as to the importance of the vaccination, and many social service agencies and private businesses like motion picture theaters supported the campaign. Nurses surveyed the city in an attempt to visit every home to inform parents of the importance of diphtheria immunization. As a result of the campaign, there was only one death from the disease in 1935 in Toledo. By the end of the decade, the disease that had once held such a grip on the city had subsided considerably.

Syphilis

Syphilis had been a problem in Toledo since the 19th century. In 1867, legislation passed in the city gave the board of health the authority to require those who frequented prostitutes to be registered in order to prevent the spread of the disease. In the city's 1890 annual report, it was noted that the cost of treating prostitutes at public clinics was to be charged to "House of Ill-fame or Assignation from which such patient was removed." The city was surprised in 1918 to find that many of its young men were ineligible for the World War I draft due to infection. The Academy of Medicine presented a resolution at its April 1918 meeting stating: "Whereas the spread of venereal disease is the greatest single menace to the efficiency of our national army, and whereas, in Toledo, these demons, existing as they do, are preventing the induction of a large percentage of young men into the national army; and whereas, the facilities of the Division of Health in Toledo are not sufficient to scientifically prevent the great evil, be it resolved that The Academy of Medicine recommends the immediate establishment by the city of an emergency hospital and laboratory for the control of these communicable diseases." The most common disease treated at the new contagious disease hospital that year was syphilis. In another attempt to control the disease, the state passed a law in 1919 that required physicians to report all cases to their local health board.

Despite these measures, the disease continued to infect large numbers of Toledoans, and due to its nature, those impacted rarely reported it or informed their families. For that reason, the Academy of Medicine encouraged its members to try to detect whether their patients had the disease during any physical examination, including conducting a blood test. Syphilis mimicked many other illnesses, including tuberculosis of the joints, and therefore had to be ruled out before proceeding with treatment. Doctors were also encouraged to conduct a blood test on pregnant women so that treatment could start early and the disease would not be passed on to the child. But treatment of the disease was expensive.

The proliferation of prostitution in the city exacerbated the problem. In 1934, the Toledo Social Hygiene Council of the Chamber of Commerce urged Mayor Solon T. Klotz to do something about prostitution because the police were doing little to control it. A survey that year by an unnamed investigator detailed the depth of the problem in the city. Dr. Foster Myers, president of the Toledo Public Health Association, protested to Klotz about cutbacks to the Health Department he felt would lead to an epidemic of the disease.

In 1936, the Surgeon General of the United States started a campaign to end the taboo associated with syphilis so that it could be discussed openly. A symposium on the disease held at the Academy of Medicine the following year again urged all physicians to report cases to the Health Department. The Venereal Disease Committee of the Academy of Medicine conducted an educational campaign again in 1940 that included a film on syphilis that was shown in area schools to students, teachers, and parents. Despite the efforts to end the disease's stigma, it was reported in March of that year that WSPD radio would not allow the word "syphilis" to be used on the air. The Academy of Medicine responded by stating that "after all, it was brought out that other stations throughout the country use the word in their broadcasts, and there is no reason why WSPD should not be educated to the fact that syphilis is no longer a tabooed word."

The use of penicillin in the 1950s improved the treatment of the syphilis dramatically. There was also a steep decline in the number of cases in the city. The Department of Public Health annual report for 1953 reported over 2000 cases were seen by the venereal disease clinic. The department's 1959 annual report noted just 297 cases under treatment.

***Record of Deaths in the City of Toledo, 1858-1871.* On loan from the Toledo-Lucas County Health Department.**

The earliest extant of Toledo's vital records, this book records the name, age, occupation, and cause of deaths reported to the city. This page shows the names of numerous children who succumbed to cholera in 1865.

***Annual Report of the Board of Health to City Council of Toledo,* 1874. WMCC.**

As part of the mayor's annual report, the Board of Health provided a statistical breakdown on the causes of death in the city for each month.

***Annual Report of the Board of Health of the City of Toledo,* 1880. WMCC.**

The board's report for 1880 spelled out regulations concerning prostitution and its role in the spread of syphilis.

Articles of incorporation, Toledo Public Health Association, 1924. American Lung Association (Toledo, Ohio) Records, MS 245. On loan from the Center for Archival Collections, Bowling Green State University.

The association was a private organization that used funds from the annual Christmas Seals campaign to promote public health, especially the prevention and treatment of tuberculosis. The organization's success can be seen in the decline in death rates for the disease. In 1923, before the organization was founded, there were 115.5 deaths per 100,000 citizens in Toledo. By 1955, that rate had been reduced to 6.1 deaths per 100,000.

Commercialized Prostitution Survey, Toledo, Ohio, 1934. MSS-26s, WMCC.

Because of concerns by many, including the president of the Toledo Public Health Association, that prostitution was not being prosecuted sufficiently, Mayor Solon T. Klotz requested an investigation of the business. The report, by an anonymous investigator, describes encounters with prostitutes and pimps. Many in the public health field believed that rampant prostitution helped to increase the incidences of syphilis in the city.

Architectural rendering, Proposed Tuberculosis Hospital, Toledo, Ohio. Federal Emergency Relief Administration, Lucas County, 1934. MSS-249, WMCC.

This rendering details plans for the William Roche Memorial Hospital, which was constructed adjacent to the Lucas County Hospital on Arlington Avenue.

Floor plan of the Roche Memorial Hospital, undated. MSS-249, WMCC.

This drawing shows the arrangement of the facility, including administrative offices and patient rooms. Between the time of its opening in 1937 and 1941, the incidence of tuberculosis increased from 40 to 60 per 100,000 in the local population.

Minutes of the Toledo District Health Board, 1940-1949. On loan from the Toledo-Lucas County Health Department.

These minutes record the actions of the governing board of the city's health department. Included is an investigation of the cleanliness of a city bakery in 1944, regulations on housing standards from 1945, and regulations aimed at stopping the spread of typhus from 1948.

Poliomyelitis statistics, 1944-1953. On loan from the Toledo-Lucas County Health Department.

These charts show the number of polio cases in Toledo. The cases usually peaked during the summer when children played together. Spikes can be seen in 1948 and 1953, reflecting increases in the disease nationally.

Department of Public Health. *Toledo's Health: Annual Summary,* 1953. WMCC.

The annual report of the Department of Public Health showed that syphilis continued to be a serious problem for the city, with 2002 cases treated at the city's Venereal Disease Clinic that year.

Annual Report of the Toledo District Nurse Association, 1953. WMCC.

The District Nurse Association was on the front lines of the public health crusade. Its nurses traveled into the poorest areas of town to help those most in need. This annual report notes that in one year, the nurses made over 43,000 visits to clients.

Publication on the new Toledo Health Department building, 1954. On loan from the Toledo-Lucas County Health Department.

This publication touted the new state-of-the-art facility built to house the city's health department. Built at the height of the Cold War, it was constructed to specifications that would allow it to serve as a fallout shelter in case of nuclear attack.

A dentist at the Toledo Health Department, 1954. From the Toledo-Lucas County Health Department.

Milk inspection conducted by the Toledo Health Department to ensure safety, 1954. From the Toledo-Lucas County Health Department.

The Women's Hospital at the Toledo State Hospital, ca. 1920.
From the Toledo-Lucas County Public Library.

CHAPTER 3.

From Charity to Cutting Edge:
Northwest Ohio's Hospitals

The hospitals of northwest Ohio followed a pattern of development that was common in the United States. For much of the 19th century, the few hospitals that existed in Toledo provided charitable care to the deserving poor in a home-like setting. But by the 1920s, hospitals in the region had moved from being the place where the poor went to die to being centers of caring and curing for all classes of people, staffed by medical professionals and managed by professional administrators. The number of hospitals in the region also grew rapidly. In more recent years, most of these hospitals have consolidated into two major health care systems which compete for patients by providing top-quality care and cutting-edge services.

The Evolution of Hospital Care

Today, it is nearly impossible for a person to avoid spending time in a hospital. Hospitals are where we go to be born, to be treated for medical emergencies, to have life-saving surgery, and, for many, to die. But until the late 19th century, only the "deserving poor" went to hospitals, which were private entities. In order to be admitted, you had to be not just poor, but judged to be deserving of charitable care. Superintendents were often women—particularly women who belonged to religious orders—who served as protectors of the moral life by caring for those who were ill through no fault of their own. Hospital buildings were constructed to look like homes, or were in fact homes that had been converted to hospitals. Both St. Vincent and Toledo Hospital occupied residential houses in their early years of operation.

But between the 1870s and the 1920s, this model of care changed due to two factors: urbanization, which produced more people who needed medical care; and the professionalization of medicine. Decisions to admit to a hospital no longer depended on a judgment of whether one was deserving, but rather on the individual's diagnosis. The move toward aseptic procedures to control disease, the use of technology, and the reliance on laboratory tests meant care had to be provided in a specialized setting according to exacting standards. Middle and upper class people, who were used to being treated at home, came to accept hospitals.

Professionalization impacted all aspects of hospitals. Well-trained and specialized physicians came to expect professional hospital administrators rather than matronly superintendents who ran hospitals as charities. Hospital-affiliated nursing schools in particular helped to professionalize care through their emphasis on precision, cleanliness, and efficiency. Even hospital architecture changed from the residential house model to an institutional model in order to increase ventilation, keep disease from spreading, provide for easier cleaning, and accommodate well-off patients who demanded small rooms rather than large, impersonal wards. Hospitals quickly changed from being perceived as places where the poor went to die to becoming institutions staffed by trained professionals who could cure ailments and help avoid untimely deaths.

As care became professionalized, the costs of hospital stays rapidly increased. In the 1930s, Blue Cross became the first broad-based health insurance plan. Health insurance meant many individuals no longer had to fear what getting sick might cost. Due to its popularity, the availability of health insurance expanded after World War II, and hospitals became more reliant on third-party payments for services. In 1965, the government entered health care with its own sweeping insurance programs—Medicare and Medicaid. All of these changes fueled hospital expansion, but they also led to more external control over services and resources. The issues of advancing technology, highly trained and expensive

The new Maumee Valley Hospital under construction, 1930.

Mercy Hospital, ca. 1920s. From Mercy Hospital.

The solarium at Mercy Hospital. From Mercy Hospital.

staffs, government intervention, competition for patients, third-party insurance, and external control continue today to shape how health care is delivered in hospitals.

The History of Toledo's Hospitals

Mercy St. Vincent Hospital

The cholera epidemics that swept through Toledo in the 1850s not only presented medical challenges for the young city, but also social challenges. The city had no orphanage for the children whose parents succumbed to cholera. In 1855, Father Augustine Campion of St. Francis de Sales Church in Toledo asked Bishop Amadeus Rappe of Cleveland for help in caring for the increasing number of orphans. Bishop Rappe, who was familiar with the Sisters of Charity of Montreal (Grey Nuns), asked Mother Julie Deschamps to send several members of the order from Montreal to care for the orphans. Despite the difficult and dangerous circumstances of life in Toledo, Mother Deschamps sent four Sisters: Sr. Henriette Blondin, Sr. Marie-Therese Brady, Sr. Jane Hickey, Sr. Suzanne Monarque, and a young Irish woman named Eliza Holmes.

But there were few creature comforts and little community support when the Sisters arrived in Toledo on October 1855. For the first few weeks, they lived with several Ursuline Sisters from Cleveland who had come to Toledo to start a school. They then moved into a donated house on Cherry Street and opened the St. Vincent Orphan Asylum. Within five months, the house was too small for the number of orphans in their care. The Sisters moved into a larger donated residence on Erie Street, but quickly outgrew this home as well. Mother Deschamps urged Bishop Rappe to construct a new building, not only for orphans but also to care for the sick. With the help of Father Charles Evrard, pastor of St. Joseph Church, two plots of land on Cherry Street were purchased for $1000 an acre for a hospital.

But there was resistance to the Sisters running a hospital. Father Evrard urged the woman to concentrate first on building a new orphanage. Some Toledo doctors suggested allowing the Sisters to be the administrators of the Lucas County Infirmary; however, Protestant businessmen and political leaders were uncomfortable with a Catholic religious order running the public infirmary. As a result of this opposition, the Sisters took the advice of Father Evrard and began construction of what would become the St. Anthony's Orphanage.

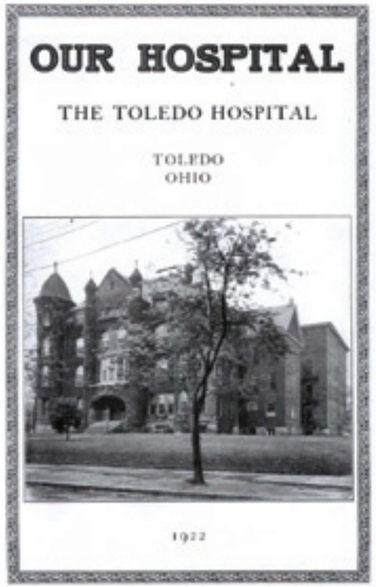
The Sisters of Charity of Montreal helped with the construction of the orphanage, moving bricks, painting walls, and glazing windows. In 1858, the nuns and 47 orphans moved into the three-story building. It quickly filled with more, and the Sisters asked Mother Deschamps for help in persuading the Toledo Catholic congregations to build an addition to the existing structure. While still $7000 in debt over construction of the first building, Mother Deschamps was able to raise money to build a barn with a store room and laundry. But just five days after it was finished in August 1860, it burned down, killing two orphans and a young woman and destroying all of the Sisters' provisions. Although they had been in Toledo five years, the Sisters were convinced they would have to close their mission and go back to Montreal. They were surprised when the community, both Protestant and Catholic, raised donations to build a new wing on the orphanage.

Within 15 years, the charitable work of the Sisters of Charity of Montreal (Grey Nuns) once again exceeded the building they occupied. In 1869 Sister Henriette Blondin went back to Montreal due to ill health, and was replaced by Mother Deschamps. The Sisters were $21,000 in debt, and needed a new building specifically to care for the sick of Toledo to continue their mission. Over the next five years Mother Deschamps paid off the debt and saved $3000 toward the construction of a hospital. Unable to raise what was needed, in 1875, the Sisters of Charity borrowed $45,000 from the Connecticut Life Insurance Company to build the new hospital. It was dedicated June 11, 1876, as St. Vincent Hospital.

ProMedica Toledo Hospital/ProMedica Children's Hospital

In 1870, the Women's Christian Association, an interdenominational group, came together to provide care for the sick, aged, and indigent in Toledo. In early 1873, they decided to establish a hospital, and purchased of a home on North Union Street (12th Street today), hired a matron and warden, and made arrangements with two doctors to provide medical care. The 8-bed hospital was named the City Hospital of Toledo. Two board members were assigned on a rotating basis to oversee hospital management.

Emergency ambulance at St. Vincent Hospital, ca. 1920s. From Mercy St. Vincent Archives.



A promotional publication for The Toledo Hospital, 1922. From ProMedica.

By 1876, managing the hospital had become too much for the organization, and it was incorporated as the Protestant Hospital of Toledo with its own board responsible for management. In spite of measures taken by the hospital to expand the number of beds, it outgrew the Union Street property. With a bequest from the estate of William J. Finlay and sale of the old hospital, in 1888 the trustees bought and renovated the former home of Valentine Ketcham at Cherry and Bancroft streets. Patients were admitted to the new facility in 1889. Within three years, the Ketcham house was found to be inadequate, and a committee was appointed to plan a new 50-bed hospital. The architectural firm of Bacon & Huber drew up the plans, and the hospital was constructed at Cherry and Sherman streets by Michael Rabbit. In 1893, the first patients were admitted to The Toledo Hospital.

In spite of additions, remodeling, and renovations, the hospital could not keep up with advances in treatment that required more space. In 1925 the Board of Trustees began the process of finding a new location for the hospital, and two years later purchased 22 acres of land on North Cove Boulevard across from Ottawa Park. The new 250-bed hospital cost $2.5 million, and opened in early 1930. Although fortunate to have the new facility, the hospital experienced shortages of money, supplies, and staff during the Depression and World War II.

In 1959, the first expansion and renovation of the North Cove campus was completed. This added beds, but also reflected changes in technology and new ideas about patient care. Space was also dedicated for diagnosis and treatment of cardiovascular conditions and the treatment of cancer.

In 1986, a major reorganization of the board resulted in the formation of ProMedica Health Systems (now ProMedica). The parent holding company was founded to optimize patient care in a cost-effective, integrated system with The Toledo Hospital becoming the acute care component of the new corporation.

In recent years, ProMedica Toledo Hospital has received accreditation as a Level I trauma center (1999), constructed a new emergency care center (2002), completed the Renaissance project (2008), and opened ProMedica Wildwood Orthopaedic and Spine Hospital (2011).

ProMedica Toledo Children's Hospital was established as a "hospital within a hospital" in 1994 with recognition by the Ohio Children's Hospital Association. The hospital was an outgrowth of the Toledo's obstetrical and pediatric services that had begun by at least 1947. In 1958, the pediatric department moved into a large space in a new building. With advances in obstetrical care which made possible successful outcomes to high-risk pregnancies, there was a need for specialized intensive care nurseries, and these facilities and services were added. In 1975, the hospital was designated as a Level III regional prenatal hospital.

Over time, it became apparent that while many services could be shared between adult and pediatric patients, pediatric patients also had unique needs. The "hospital with a hospital" concept was seen as a way to offer better service at lower cost, so the Children's Medical Center of Northwest Ohio was created. In 2011, the name changed to ProMedica Children's Hospital.

Above: An operating room at Flower Hospital, ca. 1950. From ProMedica.

Operating room at Flower Hospital, ca. 1930s.

New programs and services included a Child Life Program to address the needs of growing children, and ambulatory and outpatient programs for patients who did not require hospitalization. A family advisory council provides opportunities for family to share ways to improve services. In 2008, the completion of the Renaissance Project provided for a new quarters and a separate entrance for the hospital.

Toledo State Hospital

In addition to caring for physical ailments, medicine in the 19th century began to address the need for mental health care, not only for the sake of those afflicted, but also for the safety of others. Early efforts focused on locking the sick away. In northwest Ohio, some mentally ill were housed at the Lucas County Poor Farm, but too many remained locked in jails in often inhumane conditions. In 1861, the commissioners voted to build an asylum on the grounds of the County Infirmary, saying that they considered it "inhuman and brutal" to continue to keep the mentally ill in jails. A small one-story asylum was constructed by the fall of that year. A new larger building, named the Northwestern Hospital for the Insane, was constructed nearby ten years later, and accommodated 75 to 100 patients.

By 1883, severe overcrowding in state-run psychiatric hospitals led the Ohio General Assembly to appoint a commission to find a suitable site for a new asylum. The commission selected 150-acres at Arlington and Detroit avenues and appropriated $500,000 for a facility to house at least 650 patients. General Roehliff Brinkerhoff of Toledo, a member of the planning commission, was a strong advocate for a new style of asylum built on the "cottage system" of small, family-like homes. He was convinced that they could build such a facility at a lower cost than one based on the traditional Kirkbride design that featured one large building with attached wards. The commission voted to adopt the revolutionary system for the Toledo facility.

Construction on the hospital's buildings, designed by prominent Toledo architect Edward O. Fallis, began in 1883. The original plans called for 34 structures including 20 cottages, each to have a different design in order to create a domestic setting.

The facility opened in 1888 at a cost $750,000, and accommodated 1000 patients. Treatment was based on meaningful employment, diversion, recreation, freedom, and privileges as the best methods for restoring mental health. In 1894, the Toledo Asylum for the Insane officially changed its name to the Toledo State Hospital.

Following World War I, an increase in the awareness of mental illness and new ideas about treatment led to overcrowding at the hospital despite the addition of several new buildings that increased capacity to 1500. In order to cope with the overcrowding problem, neurosyphilis and mental hygiene clinics were started, and a women's hospital was built. These additions increased the institution's capacity to 1600. A nursing school was organized and fully accredited before it was forced to close during World War II because of personnel shortages.

In 1939, the average daily patient population was over 2700 and the Toledo State Hospital had to begin restricting admissions. During the 1950s and 1960s, the patient population peaked at over 3000. Fortunately, a new receiving hospital was completed, and new treatment options using pharmaceuticals allowed patients to be treated at outpatient clinics.

In 1971, the hospital's name was changed to the Toledo Mental Health Center, and during the next 20 years the number of patients dropped to around 300 as a federal policy of deinstitutionalization was implemented. As the number of patients declined and the structures emptied, they were razed. Today, the Northwest Ohio Psychiatric Hospital operates on the site. All of the original buildings of the old state hospital are gone and all that remains are two cemeteries containing the graves of former state hospital patients.

Mercy Riverside Hospital/Mercy St. Anne's Hospital

Riverside Hospital's development followed an unusual path. In 1883, a group of 100 women, most of them members of the Women's Christian Temperance Union, met at Toledo's First Congregational Church and decided to create an organization to help unwed mothers. Named The Retreat, A Home for Friendless Girls, it sought to offer a temporary home to these women outside of public scrutiny so they could return to a virtuous life and gainful employment after the birth of their child. The women also wanted to help the children born to these mothers. The organization rented a house on Broadway, and two doctors from the

St. Vincent Hospital. From Mercy St. Vincent Archives.

The Maumee Valley Hospital complex, which served as the first Medical College of Ohio hospital.

Northwestern Ohio Medical College agreed to provide free medical care to the home's clients. The following year the W.C.T.U. was unable to continue its financial assistance, but a fundraising campaign and a move to a cheaper home saved The Retreat. In 1889, the organization moved again to a new location on Coy Place in Toledo's north end.

The organization changed its name to The Retreat—A Maternity and Foundlings Home in 1895. It also began a nurse training program that specialized in obstetrics. In 1910, the home changed its name again to Maternity and Children's Hospital, and its mission broadened beyond troubled girls to serving all women who wanted to give birth in a modern medical facility.

In 1945, the hospital made one last name change, becoming Riverside Hospital to reflect a mission as a full-service hospital. But it continued to focus on helping the poor and middle class, particularly those in the north side neighborhood where it was located.

Unfortunately, that neighborhood began a rapid decline in the late 1960s, and Riverside faced competition from other hospitals located in more desirable sections of the city. The hospital board considered moving the hospital, but instead attempted to reshape it as a progressive institution that was invested in its neighborhood rather than deserting it. In 1980, Riverside received a major grant from the federal government to help it revitalize the area, and it oversaw several such projects. Riverside was featured in a *Wall Street Journal* article in 1981 as a model for how hospitals could remake themselves and their surroundings. But financial problems continued, and while the hospital had support from those living around it, few outside the area were willing to be treated there. In 1997, the hospital merged with the Mercy hospital system. In 2002, St. Anne's Hospital opened in west Toledo, created through the partnership of Riverside and Mercy.

ProMedica St. Luke's Hospital

ProMedica St. Luke's Hospital was established in 1898 when Dr. William J. Gillette, a surgeon and advocate of aseptic medicine, opened a clinic at the corner of Robinwood Avenue and Virginia Street in Toledo's Old West End. Eight years later, he opened the city's fourth hospital a few blocks from the clinic. Managed by the Lutheran Brotherhoods of Toledo under the name, "Robinwood Avenue Hospital Association," the hospital had one operating room and an associated training school for nurses. After Gillette's death in 1925, responsibility for management of the hospital was assumed by the Federated Lutheran Benevolent Society of Toledo.

A wing was added to the hospital in 1928, expanding it to 90 beds and a nursery for 15. As with many hospitals, Robinwood experienced difficult times during the Depression. Staff members who lived at the hospital had their salaries cut 50 percent, while those who lived elsewhere took 40 percent reductions. To partially compensate for the reductions, the hospital offered free meals to its employees.

In 1940, members of the Lutheran Church conducted a financial campaign to erase the hospital's $43,000 debt and allow for expansion. Between 1943 and 1951 there were several additional expansions which brought the number of inpatient beds to 155. The new and remodeled hospital was rededicated and renamed St. Luke's Hospital.

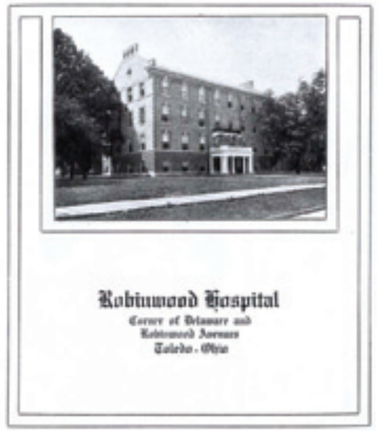
By 1968, in spite of all the improvements and expansion, it became apparent that St. Luke's Hospital needed to look for a new location to build a modern facility. A 46-acre parcel of land on Monclova Road in Maumee was purchased, and a campaign to raise $12 million undertaken. Ground was broken in 1970 for the 206-bed hospital which opened in 1972. Seven years later, a "Phase II" project began, which doubled the size of the hospital and provided space for ancillary and outpatient services. In 1984, "Phase III" construction expanded surgical space, added a pediatric unit, and brought the number of inpatient beds to 295. More recent developments included the opening of the Family Birthing Center in 1997, an ambulatory surgical center in 1999, an oncology center in 2000, and a heart center in 2001. In 2010, St. Luke's Hospital joined ProMedica.

ProMedica Flower Hospital

In 1905, the board of managers of the Woman's Home Missionary Society of the Methodist Episcopal Church rented a 12-bed hospital on Robinwood Avenue which they incorporated in 1907 as the Deaconess Home and Hospital. Learning of the work of the deaconesses, and wishing to provide a fitting memorial to his wife, Stevens W. Flower, a businessman, made

The X-ray machine at the new St. Charles Hospital, 1953.
From Mercy St. Charles Hospital.

A poster advertising the fund drive to build St. Charles Hospital, 1950.



A promotional brochure of Robinwood Hospital, ca. 1920s. From ProMedica.

provisions in his will for the Methodist church to receive $10,000 to build a hospital with the understanding that the church and community would match his donation. Edwin Carey donated nearly all of the required match as a memorial to his daughter. Named for her, the Cindarella Carey Brown Memorial was the first building on Collingwood Boulevard, and accommodated 25 patients. The name of the hospital changed to the Flower Deaconess Home and Hospital after it was learned on Flower's death that he had given an additional $10,000 to the hospital.

In 1912, a second, connected building was added to the hospital, bringing the number of beds to 60. A third building was added in 1924 after a $600,000 fundraising campaign. With this new addition, which increased the number of beds to 150 and included an entire floor for obstetrical care, the name of the hospital changed once again to Flower Hospital.

As with every hospital in the Toledo area, Flower experienced difficult times during the Depression. Financial records for the hospital reveal that few patients could afford the cost of their care, and many made only partial payment or nothing at all. The Board of Trustees exchanged parcels of land with the Northminster Presbyterian Church so that the hospital's campus was not divided. What had been the parsonage became a home for nursing school faculty, and during the Depression, other employees were allowed to live there.

In 1954, the hospital gained national attention with a new "cradle to grave" philosophy of care, the brainchild of chief administrator Victor Bjork. Land was located in Sylvania for senior apartments and a rehabilitation facility. Expansion also continued at the Collingwood location to accommodate new technology, surgical suites, a nuclear medicine department, and a Family Care Center. In 1971, groundbreaking was held for a new hospital in Sylvania on the grounds with the other facilities, and in 1975 patients were moved from Collingwood to the new hospital.

In 1995, Flower Hospital joined ProMedica Health System. Since that time, ProMedica Flower Hospital has continued to provide skilled services in a variety of fields such as sleep medicine, enterostomal therapy, wound care, and orthopedics. In 2008, a new hospice facility opened, and the cancer care center expanded. Today, ProMedica Flower Hospital is a 294-bed facility.

Mercy Hospital of Toledo

At the direction of Bishop Joseph Schrembs, in April 1916 the Diocese of Toledo purchased property on the corner of Madison Avenue and 23rd Street to build a state-of- the-art hospital facility to meet the needs of a growing Catholic population. Bishop Schrembs called upon Sister Mary Bernardine, an old friend from Bay City, Michigan, to oversee the new hospital. Hospital architect Meyer J. Sturm was hired to design it based upon the concepts of efficient service rendered with minimal patient discomfort.

Sturm received his architectural degree from the Massachusetts Institute of Technology. At the time he was studying hospital design, the American Medical Association was pressing for a more professional approach to medicine, and hospitals were changing their design to reflect advancements in the field. In his lifetime, Sturm designed over 160 hospitals in the United States and Canada, served as a consulting architect for a hospital in China, and won awards for his designs. In his many books and articles on the subject, Strum expressed his belief that "hospitals are essentially erected for the saving of lives, every possible means at hand must be employed to this end, and the safe guarding of those who are helpless." He urged developers

to consider nine points when securing the location of a hospital: abundance of sunlight; absence of noise; absence of dust; absence of smoke; proper ventilation; disposition of sewage; safety from fire; possibility for future expansion; and accessibility for patients, their friends, and medical staff. Bishop Schrembs and the Sisters of Mercy followed all nine recommendations.

World War I delayed the opening of Mercy Hospital of Toledo until 1918, just in time for the Spanish influenza epidemic to hit Toledo. Two floors of the new hospital were dedicated to treating flu victims in the first months of operation. Mercy Hospital of Toledo officially closed in 1997. Today the building is used for regional offices and Mercy College of Ohio.

Mercy St. Charles Hospital

Toledo's population expansion into the suburbs in the years following World War II left areas underserved by hospitals. The east side of the city had been without a hospital since the closing of the small East Side Hospital on Oak Street in the 1940s. Herbert VonEwegen, Urban Gradel, and other local businessmen met with Toledo's Most Reverend Bishop Karl J. Alter to discuss the need for a new hospital. One of the justifications for the new facility was that with greater access to hospitalization insurance plans, hospital services, especially maternity services, were in demand.

The Bishop agreed with the businessmen, and a building campaign drive was launched in 1950, led by VonEwegen, Gradel, and the Bishop. The cost of the new hospital was estimated at $3.7 million, with $900,000 to come from the federal government under the Hill-Burton Hospital Construction Act, $2.3 million from the Sisters of Mercy, and $500,000 from the community. The community portion was raised in only six weeks, led by a $50,000 donation from Libbey-Owens-Ford, Inc. Bishop Alter, who was named Archbishop of Cincinnati before the hospital project was completed, donated 12 acres of land at Wheeling Street and Navarre Avenue for its location.

The hospital was dedicated on November 8, 1953. The Sisters of Mercy oversaw the facility, with Sister Mary Eustelle as hospital administrator. The 201-bed hospital included Toledo's first short-term psychiatric care unit.

Maumee Valley Hospital

Maumee Valley Hospital opened in 1931 at Detroit and Arlington as the Lucas County Hospital. It replaced the Lucas County General Hospital, built in 1898, which had replaced the Lucas County Infirmary, established in 1869. All were public facilities built primarily to serve the county's poor and indigent. In 1944, Lucas County Hospital was renamed Maumee Valley Hospital. In 1948, it added a contagious disease hospital just in time for an influx of polio cases. In 1961, the first microsurgery in Ohio was performed at Maumee Valley, and in 1962, the hospital purchased a hyperbaric chamber for treating tetanus, gangrene, and diseases that threatened limbs. The hospital had its own nursing school until 1972. While governed by an autonomous Board of Trustees, it remained county-owned and continued to mainly treat indigent patients (in 1968 over 80 percent fell into that category) and was cash-strapped for most of its existence.

In June 1969, Lucas County signed an agreement with the new Medical College of Ohio designating Maumee Valley as the college's primary teaching hospital. In addition to a 200-bed hospital, Maumee Valley included the former Lucas County Home for the Aged and an unfinished extended care unit. In December 1970, the college purchased the hospital and assumed partial management responsibility, and in November 1971 the hospital changed its name to the Medical College of Ohio Hospital. MCO took over full control in 1973.

When acquired by MCO, Maumee Valley Hospital had a budget deficit of $1 million, outdated infrastructure, and wards with more empty beds than patients. MCO phased out the long-term care unit and renovated the existing buildings. Extensive upgrades were made to ambulatory care clinics, medical and surgical wards, and diagnostic and treatment facilities. MCO opened the first pediatric walk-in clinic in Toledo and a new outpatient clinic. In 1972, MCO surgeons performed the first kidney transplant in northwest Ohio. In 1975, the hospital opened a comprehensive epilepsy treatment center and had construction plans in place for a new radiation treatment center. In 1978, it acquired a computerized axial tomography (CAT) scanner.

While upgrading the old hospital, MCO proceeded with plans to build a new 258-bed hospital on its permanent campus that was taking shape about a mile west. A fundraising campaign helped support construction costs, and in 1975 ground was broken for the new $46 million Medical College of Ohio Hospital. It was dedicated in November 1979.

Medical College of Ohio Hospitals/University of Toledo Medical Center

Expansion of clinical facilities and services rapidly continued following completion of the new teaching hospital. In 1980, MCO opened a new 36-bed Rehabilitation Hospital, and in 1983, it opened the Child-Adolescent Psychiatric Hospital. MCO now began referring to its hospital complex as the MCO Hospitals. In 1988, an $11 million ambulatory center opened, later renamed the Ruppert Health Center. MCO also expanded into the health insurance business that year, purchasing the Toledo Health Plan, a health maintenance organization, from Riverside Hospital.

The main hospital marked numerous milestones during the 1980s: its first intra-operative radiation surgical procedure in 1983, its first heart valve transplant in 1987, and the first heart transplant in northwest Ohio in 1988. Facility improvements and program development continued in the early 1990s. In 1991, the American College of Surgeons approved MCO's cancer program and the following year certified the main hospital as a Level 1 Trauma Center. In 1993, MCO completed a $1 million addition to the hospital's first floor.

That year also marked the beginning of difficult times. MCO's new president, Dr. Roger Bone, proposed a merger with The Toledo Hospital to prepare MCO for changes occurring in health care nationally. While approved by MCO's Board of Trustees, the proposal sparked months of contentious debate between Bone and MCO physicians and faculty. It eventually fell apart. In 1994, MCO got out of the health insurance business, an unsuccessful business venture that was $6.4 million in the red when MCO sold it to Paramount, which was owned by ProMedica Health Systems. In 1998, ProMedica cut ties with MCO after MCO Hospitals and St. Vincent Mercy Hospital agreed to joint operation of a children's hospital on the St. Vincent campus. The strained relations persisted for several years. In 2004, MCO and ProMedica officially resumed their academic ties.

In May 2005, the Medical College of Ohio changed its name to the Medical University of Ohio and MCO Hospitals became the University Medical Center. After the merger with The University of Toledo in July 2006, MUO was renamed The University of Toledo Health Science Campus and the hospital became The University of Toledo Medical Center. Today, orthopedics, cancer, cardiovascular care, neurology, trauma, and transplantation continue to be developed as key featured clinical service areas.

Mercy St. Vincent promotional booklet, 1893. On loan from Mercy St. Vincent Archives.
This booklet describes how the Sisters of Charity of Montreal established the St. Vincent Asylum/St. Anthony's Orphanage despite limited resources and harsh conditions.

Mercy St. Vincent Hospital, National Hospital Day publication, 1921. On loan from Mercy St. Vincent Archives.
This publication highlights the hospital's programs including the X-ray department and free dispensary.

Sisters of Charity of Montreal, 75th Anniversary Jubilee invitation, 1930. On loan from Mercy St. Vincent Archives.
In 1930, the Sisters of Charity of Montreal celebrated their 75th anniversary in Toledo.

Photographs of The Toledo Hospital, 1893 to 2007. On loan from ProMedica.
These photographs show the various locations and buildings which housed The Toledo Hospital, including the large and imposing structure on Cherry Street at Sherman.

Staff composite photograph, The Toledo Hospital, 1922. On loan from ProMedica.
A composite of the physicians on staff of the hospital in the 1920s includes many well-known area doctors.

Annual Reports, Toledo Asylum for the Insane and Toledo State Hospital, 1884 and 1885. WMCC.
Some of the earliest annual reports from the Toledo Asylum for the Insane and Toledo State Hospital, these date back to the beginning of the construction and document its progress through the following years. Later reports detail improvements made, patient activities, and incidents that occurred at the hospital, and provide statistical and financial information.

Photographs, Toledo State Hospital Administration Building, Women's Cottages, and other buildings, ca. 1900. On loan from the Toledo-Lucas County Public Library.
The buildings and park-grounds of the state hospital were so beautiful that they were frequently pictured on postcards, and were often the setting of family picnics and other outings. Each of the patient cottages had a different architectural design to create the feeling of a domestic setting.

Mercy Hospital patient ledger, 1918. On loan from Mercy College Archives.
This ledger from the first year of Mercy's operations shows the effect of the Spanish flu epidemic of 1918 on Toledo. Many of the patients recorded as admitted were suffering from the flu, including soldiers from Camp Perry in Sandusky, a training camp for World War I.

Dr. Louis K. Effler, *Anthology and Medicine*. Toledo, OH: Privately published, 1931. *My Scrapbook of Medicine, Vols. 1 and 2.* Toledo, OH: Privately published, 1937, 1940. *A Doctor's Daily Diary.* Toledo, OH: Privately published, 1942. WMCC.
Louis Effler was on the staff of Mercy Hospital of Toledo for many years, and director of education for the Toledo Academy of Medicine from 1927-1931. In these books, he recorded some of his thoughts on the history of medicine and his personal experiences as a physician.

Dr. Bernhard Steinberg. *It Was My Idea*. Chicago: Armour Laboratories, 1951. WMCC.
Steinberg was a pathologist at The Toledo Hospital from 1927 to 1964, and founder and director of the Institute of Medical Research at the hospital. A respected researcher, he was an early investigator of how to prevent infection and developed Bactragen, a drug that was used to fight infection that predated sulfa drugs. This book was unusual in that it dealt with the topic of medical research in a humorous manner.

Riverside Hospital. *Memories and Progress*, by the Alumnae Association of Riverside Hospital School of Nursing, 1966. WMCC.
This book recounts the early mission of Mercy Riverside Hospital as a home for unwed mothers, and celebrates the many people who played important roles in the hospital's development.

Photographs and publications, Robinwood and St. Luke's Hospital, 1920s-2006. On loan from ProMedica.
These photographs and publications document the transformation of Robinwood Hospital to St. Luke's Hospital, and the hospital's eventual move to its current location in Maumee. Included is a signed photograph from Dr. William Gillette, founder of Robinwood Hospital.

Flower Hospital scrapbook, ca. 1940s. On loan from ProMedica.
This scrapbook documents the evolution of the hospital and patient care at Flower Hospital when it was located in Toledo's Old West End.

Scrapbooks and newspaper clippings, Maumee Valley Hospital, 1940s-1980. MSS-249, WMCC.
Scrapbooks documenting the Maumee Valley Hospital were created by an unknown person or persons, and donated to a committee writing the history of the Medical College of Ohio. The scrapbooks provide documentation of all aspects of the hospital's operations, although many detail budgetary issues.

Images depicting the evolution of Maumee Valley Hospital, Medical College of Ohio, and University of Toledo Medical Center, 1931-2010. On loan from Dr. Peter White and from the collections of WMCC.
These images include the architectural rendering and construction photographs from Lucas County/Maumee Valley Hospital (1931), architectural renderings for the teaching hospital at the Medical College of Ohio (ca. 1976), and photographs of the current Medical University of Ohio (2010).

Special section, *Toledo Blade*, on the dedication of the Medical College of Ohio Hospital, November 25, 1979. WMCC.
An 8-page supplement provided details about the new hospital.

"Movin'West" manual and photographs, 1979. On loan from Dr. Peter White, and from the collections of WMCC.
A detailed manual on moving patients from the old Maumee Valley Hospital building to the new MCO hospital was prepared in consultation with the University of Wisconsin Hospital, which had done a similar move earlier that year. The photograph shows the arrival of MCO's first patient, Marian Iott.

The Toledo Hospital after its move to North Cove Boulevard in west Toledo, ca. 1935. From ProMedica.

St. Luke's Hospital after it relocated to Maumee, ca. 1975. From ProMedica.

Architect's rendering for the new Medical College of Ohio hospital, 1975.

The first graduating class from the St. Vincent School of Nursing, 1896. From Mercy St. Vincent Archives.

CHAPTER 4.

Caring for the Community: Nursing in Toledo

In their book *Nursing in Ohio: A History*, authors James Rodabaugh and Mary Jane Rodabaugh describe the evolution of nursing as nothing less than an epic struggle to advance humanity against prejudice. The authors describe courageous women who had to fight for their own rights and for a better quality of care for their patients. Nurses battled against gender bias, hospitals that sought to exploit them, and those who considered nurses little more than personal servants. While nursing has changed dramatically since the Rodabaughs published their work in 1951, many of these same issues continue today—along with a host of new ones.

In the early 19th century on the frontier, nursing was the work of mothers, wives, and female neighbors who relied on their instincts when caring for the sick. Within cities, most nurses were members of religious orders.

Florence Nightingale was the person most responsible for the professionalization of nursing. Nightingale, who came from a wealthy British family, was inspired by a visit to an early nursing school in Germany to serve as a nurse from 1854 to 1856 in the Crimean War. Faced with overwhelming misery in a field hospital in Scutari where she was assigned, she transformed the poorly ventilated, vermin-infested facility into a clean, well-managed one. Within six months, the death rate fell from 40 percent to 2 percent. After the war, she returned to London and recorded her thoughts about how to improve nursing in a book titled *Notes on Nursing: What It Is, and What It Is Not*, published in the United States in 1860 on the eve of the Civil War. She also founded a school of nursing in London established according to the principles outlined in her book.

Nursing in Wartime

Advances in the nursing profession often resulted from times of war when nurses were in most demand. In many ways, the birth of the modern nursing profession in the United States was a direct result of the circumstances of the Civil War. When the war began in April 1861, the U. S. Army quickly realized it was unprepared. Medical supplies were insufficient, anesthetics were unavailable, and trained nurses did not exist. Secretary of War Edwin Stanton appointed Dorothea Dix as superintendent of nurses for the Army in June 1861. Dix had previously gained national notoriety for her work exposing the appalling conditions of prisons and insane asylums around the country. She asked for volunteer nurses to help with the war effort, and 3000 women responded. Among them was author Louisa May Alcott, who chronicled her experience of being a Union Army nurse in her book *Hospital Sketches*, published in 1863.

War hospitals were wretched places. More men died of disease during the war than from battlefield injuries, despite efforts of the U.S. Sanitary Commission to improve conditions in hospitals and camps. Of the 300,000 Ohioans who volunteered for the war, 11,000 were killed in battle, but 13,000 died of disease. Among those who volunteered as nurses in the war was Lucy Webb Hayes of Fremont, wife of future president Rutherford B. Hayes. Rutherford was injured at the Battle of South Mountain in 1862, and Lucy went in search of him. After she nursed him back to health in Maryland, she volunteered at other hospitals.

After the Civil War, the pressures of a growing urban population and the needs of returning veterans—many disabled as the result of amputated limbs—produced a shortage of hospitals and skilled nurses. Women who had volunteered during the war, particularly those who had helped to fund the work of the Sanitary Commission, advocated for professionalized nurse training along the model of the Florence Nightingale school. According to the Nightingale model, nursing students were to

Ina Lee, a volunteer nurse with the American Red Cross in World War I, ca. 1918. From ProMedica.

be between 21 and 35 years of age, supervised by a matron, and provided with classroom instruction and room and board in exchange for assisting with patient care in the hospitals that sponsored the schools. The first U.S. nursing school to follow the Nightingale model was the Bellevue Hospital Training School in New York.

In less than ten years, Nightingale schools attached to hospitals produced the first professional class of nurses. The careful training of nurses reduced death rates of hospital patients, particularly from infection. Hospitals evolved from being a place where the poor went to die to a place where all classes of people went to be healed.

In Ohio, the first nursing school opened in Cleveland in 1884. Within 16 months, 15 more Ohio hospitals opened schools. But the quality of training varied widely. Some offered little more than "practical" nurse training. Between 1910 and 1920, requirements for nurses training were stiffened. Ohio passed a nurse practice act in 1915 which established an examining committee of the state medical board to certify professional nurses. But there were repeated efforts by hospitals to reduce the requirements for nurse training in order to make it easier to hire nurses. Hospital nursing schools were also notorious for exploiting their young students by making them work long hours. It was not uncommon for nurses to work 58-hour work weeks. Between 1900 and 1920, the number of nursing schools nationally increased from 432 in 1900 to 1775 in 1920.

The military improved nursing education by instituting programs to train and maintain an adequate number of qualified nurses who could be called upon in times of war. Immediately following the Spanish-American War, the Army Nurse Corps was established in hopes of providing a more consistent supply and better training for wartime nurses. In World War I, Robinwood, St. Vincent, Flower, and Lucas County hospitals set up training units through the nurse corps that provided an accelerated educational program. Nurses were in demand not only for overseas field hospitals but also in military training camps with the outbreak of the Spanish influenza. Many Toledo nurses reported to Camp Sherman in Chillicothe to help with the flu outbreak.

After the war, a report by the Rockefeller Foundation in 1920 titled *Nursing and Nursing Education in the United States* was highly critical of the training provided at hospital-affiliated nursing schools. In Ohio, the report said hospital schools failed to connect practical skills to theory, used poor quality textbooks, and made students spend too many hours on duty. The report suggested that if nursing education was to progress, it should be done at universities rather than at hospitals where nursing students were used as cheap and abundant labor.

World War II helped to spur the move from hospital schools to university-based programs. When war was declared, the Ohio Nursing Council for War Service began recruiting nurses under the provisions of the Bolton Act, a bill passed in 1942 named after its author,

Ohio Congresswoman Frances P. Bolton. The act established the U.S. Cadet Nurse Corps, a program which paid all expenses for nursing students enrolled in its accelerated program. In Toledo, the program was established jointly by The University of Toledo and area hospitals. Students received academic training in the biological sciences in classes at the university, and practical training in nursing skills at the hospitals. They were also subjected to intensive basic military training and prepared for action anywhere. Those enrolled in the U.S. Cadet Nurse Corps program could often be seen practicing military drills in front of University Hall under the direction of O. Garfield Jones, professor of political science at UT and veteran officer of World War I. By the time the war ended, Ohio ranked fourth in the number of graduates under the U.S. Cadet Nurse Corps program, and over $10 million was spent training Army nurses in the state. Bolton's act is credited with training 125,000 nurses nationwide and bringing professionalism and consistency to nurse education. Tragically, 11 nurses from Ohio died in service in World War II.

Nurses have also served in Korea, Vietnam, Iraq, and Afghanistan. The visibility of military nurses and their success in serving their country under extreme conditions paved the way for women to play a larger role in all aspects of the military.

Nursing Education in Toledo

Most of the hospitals in Toledo operated their own nursing schools. Students in the programs not only were trained at the hospitals, but lived in dormitories adjacent to them, creating a close-knit community. Most of the programs had some affiliation with The University of Toledo after World War II and the implementation of the U.S. Cadet Nurse Corps program. The hospitals began to close their programs in the 1950s, and closures accelerated in the 1970s when a joint program was developed between The University of Toledo, Bowling Green State University, and the Medical College of Ohio. While gone today, the impact of these hospital nursing schools was significant. Graduates of the programs continued to feel a tie to the programs and a pride in the schools. And the thousands of graduates provided a lasting legacy of care.

A nursing skills class at St. Vincent School of Nursing, ca. 1940. From Mercy St. Vincent Archives.

Nurses from The Toledo Hospital in the hospital's nursery, ca. 1940. From ProMedica.

The History of Toledo's Nursing Schools

The Toledo Hospital School of Nursing

Originally known as The Toledo Hospital Training School for Nurses, this school opened in 1893, just in time for students to help move patients into the new hospital on Cherry Street. The first students may have lived in the hospital or boarded nearby until the old hospital was converted into the school and nurses' residence in 1894. The first program of study was for two years, but was expanded to three years in 1907. Initially, one year of high school was required for admission, but later requirements were more stringent, including being in the top one-third of the high school graduating class. In the early years, students between the ages of 22 and 35 were preferred, and while they could not be married, widows were accepted. For many years, students were dismissed if they were found to be married, but for several years before the school closed, married students were admitted.

Early education was presented by the principal of the school, supplemented by physician lectures. Over the years, new classes were taught as more faculty members were added, and affiliations with specialized hospitals and community organizations were established. In the 1930s, students began to spend a probationary period attending classes at The University of Toledo. It was about this time that the school's name changed to The Toledo Hospital School of Nursing, reflecting Principal Nan B. Ewing's belief that dogs could be trained, but nurses were educated.

When the hospital moved to its current location on North Cove Boulevard, the school of nursing moved into its own building, the Croxton House. It was named for Gertrude Bailey Croxton, who donated money for the nursing school. The new home provided private rooms for students as well as classrooms, a living room for social activities, a library, and auditorium.

For many years, "capping" ceremonies marked the end of probationary training. Students lit small lamps from a larger lamp held by a senior student who portrayed Florence Nightingale. Student activities included sock hops, formal dances, and weekly formal teas. A student government association set rules for the residence.

When the school closed in 1988 due to changes in nursing education, a committee from the school and alumnae association sought ways to commemorate it. A statue was erected, a history of the school published, and the last class graduated.

The Toledo Hospital School of Nursing was the ninth accredited nursing school in the state, and the first in Toledo. Some 2860 students, including 16 men, graduated from the school.

St. Vincent School of Nursing

Established in 1896, the St. Vincent School of Nursing was the first Catholic nursing school in the state. Doctors asked Mother Superior Tasse to organize the school because they needed women who were professionally trained to care for the hospital's growing patient population. Initially most training was received on the hospital floor in a two-hour per week program, although most students worked much longer hours providing patient care. By the early 20th century, nursing education standards had become more stringent, and formal training was increased to two hours per day in addition to the clinical training.

During its 101-year history, the St. Vincent School of Nursing graduated 4415 nurses. Due to a push in the profession for nurses to have degrees instead of diplomas, in 1994 the St. Vincent School of Nursing joined the former Mercy School of Nursing to create Mercy College of Ohio. The college continues to provide nursing education today.

Riverside School of Nursing

In 1895, Riverside Hospital, then known as The Retreat: A Home for Friendless Girls, started a four-month nurse training program specializing in obstetrical care. This specialized training was required because The Retreat was a home for unwed pregnant women. The following year the program was lengthened to twelve months. By 1921, a three-year diploma program was implemented, graduating its first class in 1924. When the hospital changed its name to Riverside Hospital in 1945, nursing education changed as well to reflect more generalized care rather than an emphasis on women and children. A new building for the school was constructed in 1968, and male students were accepted that year. The Riverside School of Nursing closed its doors in 1974.

Robinwood Hospital School of Nursing and St. Luke's Hospital School of Nursing

Robinwood Hospital School of Nursing opened in 1906. The first students lived in the back of the hospital until a residence hall was built around 1917. Early classes completed a one-year course of instruction, but this was replaced with a three-year program when Ohio enacted legislation to regulate nursing education.

Early requirements for admission to the school were less strict, but later requirements called for students to be unmarried, a high school graduate, and between 18 and 30 years of age. By 1952, students could request permission to be married during the last half of their final year.

While early student received instruction from the principal supplemented by doctors' lectures, the curriculum expanded in later years to include preliminary classes at The University of Toledo, and affiliations with The Children's Hospital of Detroit and the Toledo State Hospital expanded instructional opportunities. Riverside participated in the government-sponsored Cadet Nurse program during World War II.

Student activities included Lutheran church services, parties, and dances. Diplomas and school pins were awarded at graduation ceremonies that were usually held in area Lutheran churches. An alumni association was established in 1910.

In 1951, Robinwood Hospital was rededicated as St. Luke's Hospital, and its nursing school changed its name as well. When the nursing school closed in 1954, 484 women had graduated from the program.

Flower Hospital School of Nursing

The Flower School of Nursing was established in 1909 in the 12-bed Deaconess Hospital on Robinwood Avenue in Toledo. The school was relocated when the first building of Flower Hospital opened in 1910, and first 11 students graduated the following year. Until 1915, the training program was just over two years in length. Due to changing state regulations implemented in 1916, the course was extended to three years, making graduates eligible to take the state registered nurse examination.

Early students were required to have completed one year of high school for admission, but this quickly changed to require a high school diploma. Married students were not admitted, and once a student married, she could not remain in the program. By 1960, that changed to allow marriage in the last six months, and by the 1970s, married students were admitted, but were not allowed to live in the nurses' residence.

The curriculum evolved from taking classes in the basement of the hospital to specialized courses in public health nursing, pediatric nursing, and psychiatric nursing. Student activities included a chapel committee, a chorus, and big sister/little sister mentoring.

During the Spanish flu epidemic of 1918, students worked alongside doctors and nurses to care for patients, some of them contracting the disease themselves. In 1922, five of the nine students in the program were diagnosed with tuberculosis. During World War II, the school participated in the Cadet Nurse program.

Flower Hospital School of Nursing closed in 1977, a step taken by the Board of Trustees because of "changing educational concepts in the field of nursing." During its existence, 1110 women and 1 man graduated from the school.

Mercy School of Nursing of Toledo

It was always the intention of the Sisters of Mercy to establish a nurses' training school along with the new hospital. The first class of ten students was accepted

between June and December 1918, just as the Spanish flu epidemic hit the city. Because the school opened after the implementation of new nurse training standards by the state, Mercy School of Nursing students followed the curriculum established by the Ohio State Board of Nursing. On August 30, 1921, ten students, including two members of the Sisters of Mercy order, graduated in the first class. Over the next 76 years, the Mercy School of Nursing graduated 2921 nurses. In 1994, the school merged the St. Vincent School of Nursing, and nursing education continued as a program of Mercy College.

Maumee Valley School of Nursing

The Maumee Valley Hospital School of Nursing was founded in 1905 as the Lucas County Training School at the Lucas County General Hospital. The first class of five students graduated in 1907. But that year the school failed to meet certification requirements of the state. Before 1922, the commissioners of the hospital sought to change the program to provide practical nursing training, which had less stringent state requirements. Under the leadership of Anne V. Houck, director of nursing, the program remained a professional nursing program. In 1922, a three-year program of professional nursing was approved by the state, taught by high school teachers and Houck. She supervised the nursing education program from 1922 to 1948. When the new hospital opened on Arlington Avenue in 1931, it included a home for 70 nurses as well as classrooms, labs, a library, community spaces, and administrative offices.

During World War I, the school housed an Army training unit, and in World War II, the school enrolled students in the U.S. Cadet Nurse Corps. Maumee Valley was among the first nursing schools in the area to admit African-American women (in the early 1950s), men (1959), and students who were married or got married while in nursing school (1967).

In 1970, the Maumee Valley Hospital Board of Trustees announced the closure of the school, acting upon the recommendation of the Nursing School Advisory Committee in response to rising costs, lower enrollments, and the trend in nursing education away from diploma programs to associate and baccalaureate programs. The Maumee Valley Hospital School of Nursing graduated its last class of 26 students on August 25, 1972. In its 67-year history, the school graduated over 800 nurses.

The University of Toledo Nursing Program

The University of Toledo began to offer a "centralized program in nursing education" in 1943 as part of the U.S. Cadet Nurse Corps program. UT's program was affiliated with Flower Hospital, Robinwood Hospital, Toledo Hospital, the Toledo State Hospital, and Women's and Children's (later Riverside) Hospital. The first semester was spent at the university, although students lived in the hospital school dormitory and did their clinical work at the hospitals.

In the 1950s, as the nursing field began to move away from diplomas to associate and baccalaureate degree programs, the affiliation agreements with UT became more formalized. The early degree programs required five years of study, but this was shortened to four years in 1953. When the University Community and Technical College opened in 1968, it offered a two-year associate degree in nursing. As hospital nursing schools closed, UT developed a cooperative program with Bowling Green State University and the Medical College of Ohio in the 1970s. The associate degree program was abolished in 2010.

Florence Nightingale, *Notes on Nursing: What It Is, What It Is Not*. New York: D. Appleton and Company, 1860. First American edition. WMCC.
Nightingale's book was the first work to address the basics of nursing for "women who have personal charge of the health of others." It included chapters on proper ventilation, light, cleanliness, and food. Nightingale cautioned that not every woman was suited for nursing. "It is a commonly received idea among men and even among women themselves that it requires nothing but a disappointment in love, the want of an object, a general disgust, or incapacity for other things, to turn a woman into a good nurse. This reminds one of the parish where a stupid old man was set to be a schoolmaster because he was 'past keeping the pigs.'"

Louisa May Alcott, *Hospital Sketches*. Boston: James Redpath, publisher, 1863. WMCC.
Chapters from this book were originally published in *The Commonwealth* newspaper in Boston. Alcott describes the hospital where she was assigned: "The first thing I as met was a regiment of the vilest odors that ever assaulted the human nose." When her first patient died, Alcott lamented, "For a moment I felt bitterly indignant at this seeming carelessness of the value of life, the sanctity of death; then consoled myself with the thought that, when the great muster roll was called, these nameless men might be promoted above many whose tall monuments record the barren honors they have won."

Clara Barton, *The Red Cross in Peace and War*. Washington, D.C.: American Historical Press, 1899. WMCC.
Many nurses who served in wartime did so as volunteers for the Red Cross. The American branch of the organization was founded by Clara Barton, who worked tirelessly during the Civil War to aid the wounded and bring needed medical supplies to field hospitals. After the war, she identified some 22,000 men reported missing in action. Following a visit to Switzerland in 1869, she was inspired to create the American Red Cross, which she did in 1881. This early history of the organization describes her work during wartime and natural disasters. The book is bound with a patch like those worn on sleeves to signify Red Cross volunteers.

The Toledo Hospital Training School for Nurses, student log book, 1893-1910. On loan from ProMedica.
Records of each student's performance in the school were kept in these log books.

Photographs, Toledo Hospital School of Nursing, 1936-1939. On loan from ProMedica.
These dramatic photographs depict students enrolled in the nursing program.

Nursing caps, ca. 1900 to 1960s. On loan from ProMedica, Mercy Hospitals, and Mercy College.
Caps were awarded to nursing students, often on completion of a probationary period, and the addition of bands or stripes indicated progress toward graduation. Each nursing school had a distinctive cap. The profession of nursing began at a time when women were expected to wear head coverings, and many caps were evocative of a wimple, the headdress worn by members of religious orders. Caps changed to reflect changes in the nursing profession, and today, they are no longer worn.

The pledge taken by nursing students at the St. Vincent School of Nursing, 1896. From Mercy St. Vincent Archives.

Nursing students enrolled in the St. Charles School of Nursing, ca. 1955. From Mercy St. Charles Hospital.

Ohio nursing regulations, 1915. On loan from ProMedica.
The state of Ohio passed its first regulations of the nursing profession in 1915. The new regulations required passage of a state examination. This book describes the new regulations.

***The Mercy Toledoan Yearbook, 1918-1924*. On loan from Mercy College Archives.**
This was the first yearbook written and published by students at the Mercy School of Nursing. It depicts the early years of nurse training at the school.

Golda Kemmerling anatomy notebook, ca. 1929. On loan from Mercy College Archives.
Kemmerling kept meticulous notes from her anatomy class at St. Vincent School of Nursing in this book.

Scrapbook, St. Luke's School of Nursing, 1906-1954. On loan from ProMedica.
This scrapbook documents the nursing school from its beginning to its closure.

Catalogs of courses, Flower Hospital School of Nursing, 1932-1975. On loan from ProMedica.
Courses offered by the school are listed in these catalogs, providing documentation of the evolution of training offered until just before the school closed in 1977.

Photographs of the Toledo U.S. Cadet Nurse Corps, 1943. WMCC.
These photographs show nursing students enrolled in the U.S. Army Cadet Nurse Corps being instructed in military drills as part of their basic training at The University of Toledo.

Cadet nurse uniforms, 1943. On loan from ProMedica.
These uniforms were worn by nurses serving in the U.S. Cadet Nurse Corps during World War II. One was a summer uniform, and the other a winter one.

Scrapbooks, Riverside Hospital School of Nursing, 1942-1945. On loan from Mercy St. Vincent Archives.
These scrapbooks document activities at the Riverside school, including social and ceremonial events.

Bulletin and yearbooks, Maumee Valley School of Nursing, ca. 1944-1972. WMCC.
A bulletin of the World War II era promotes the United States Nurse Cadet Corps, and yearbooks, titled *The Victorian*, document life at the school until its final year in 1972. The yearbook was named after the nurses' dormitory, which was named in honor of Anne Victoria Houck, the long-time director of nursing.

***The New Guide for Nurses*. Albany, NY: Health Education Service, ca. 1950. On loan from Mercy College Archives.**
The Cold War impacted medical care by stressing the need to be prepared for emergencies such as nuclear war. This book, used by a student at the Mercy School of Nursing, explains how to be prepared for nuclear war, how to establish emergency medical services (including what supplies to have on hand), and how to treat radiation illness.

Recruitment poster for careers in nursing, ca. 1960s. On loan from ProMedica.
A promotional item for local schools of nursing, it was meant to attract new students to the programs.

Paulette J. Weiser, *A Legacy of Caring: A History of The Toledo Hospital School of Nursing*. Toledo, OH: The Toledo Hospital, 1988. WMCC.
This history of The Toledo Hospital School of Nursing was written as a tribute to the school, which closed the year the book was published.

National League for Nursing, Department of Baccalaureate and Higher Degree Programs. Consultation Visit and Community Survey for The University of Toledo, 1953. WMCC.
This consultant's report reviewed the affiliated nursing program offered between UT and the various hospital nursing schools. The review was requested to allow the university to move from a five-year nursing program, which attracted few students, to a four-year program.

Nurse Cadets practicing military drills in front of University Hall, 1943.

Soldiers at Camp Sherman in Chillicothe being treated for the Spanish flu, 1918. From ProMedica.

Civil War veterans display their disabilities in the Medical and Surgical History of the War of the Rebellion*, 1871.*

CHAPTER 5.

Military Medicine

The tragedy of war often produced advances in medicine. Doctors overwhelmed by the desperation of thousands of the sick, wounded, and dying were willing to try anything, and they developed new techniques for treatment that might have taken years otherwise. The clinical trials of war allowed doctors to quickly see the impact—both positive and negative—of their efforts, which produced new theories and advanced knowledge. While these new theories improved medicine in the long run, they often came at the price of soldiers' lives on the battlefield.

Physicians from northwest Ohio served their country honorably in all of America's wars. Some, like Dr. William Caldwell of Fremont, were haunted by the horrors of the battlefield. Caldwell served at the bloody battle of Shiloh in the Civil War where he worked non-stop for days helping to treat the wounded, mostly amputating limbs. Others, like Dr. John Howard of Toledo, changed the way medicine was delivered not only on the battlefields of Korea, but in trauma centers all over the world. Nurses, too, served their country, occasionally paying the ultimate price for their service. Glee Pollack of Toledo, who answered the desperate call for nurses to help in World War I camps to fight the Spanish influenza, succumbed herself to the disease.

Medicine in the Revolutionary Era

Some 1400 physicians and surgeons served in the American Revolution, but most did so as soldiers and not as medical personnel. Shortages of supplies, including food, led to three times more deaths in camps and prisons than on the battlefield. The major diseases faced by Revolutionary War soldiers were dysentery, malaria, typhus, and typhoid. Smallpox inoculations were experimental at the time, but outbreaks occurred among concentrations of soldiers. Massive bloodletting remained the primary treatment for ill or wounded soldiers, with physicians removing as much as four-fifths of a wounded soldier's blood in order to "cure" them.

While northwest Ohio had no role in the American Revolution, it was important to the War of 1812 because the region was one of the last holdouts for the British and their Native American allies within the borders of the United States. At Fort Meigs in Perrysburg, General William Henry Harrison's men withstood two sieges in 1813 by the British and their ally, Native American leader Tecumseh. After a skirmish in May 1813, Captain Eleazer Wood recorded in his journal: "The day was extremely wet and cold, and having no comfortable places for our sick and wounded, both seemed to suffer much.... The wounded had hitherto been lying in the trenches, on rails barely sufficient to keep them up out of the water, which, in many places, from bleeding of the wounded, had the appearances of puddles of blood. These poor fellows were many times lying in that state without any other cover or shelter than that of the heavens." In his personal diary, Captain Daniel Cushing described the impact of the Black Swamp on the health of the soldiers in March 1813. "Our men are very sickly; no wonder lying in mud and water and without fire; not less than two or three men die every day, and I expect the deaths to increase unless the weather changes very soon." Among the items listed in the stores of the Fort Meigs were calomel, blistering ointment, and lancets.

A few months after the Fort Meigs siege ended, the Battle of Lake Erie pitted Commodore Oliver Hazard Perry against a larger British fleet, which he managed to capture in September 1813 despite many occurrences of dysentery and fevers among his crew. Perry himself was stricken with "lake fever" in the months before the battle. After the victory one of the ship surgeons, Robert

Barton, came down with the fever while trying to treat the wounded. Two British surgeons from the captured ships pitched in to help.

The Uncivil War

The Civil War was a watershed moment in American medical history. As a result of the war experience, physicians slowly began to recognize the importance of aseptic practices and the validity of the germ theory, theories that had been accepted in Europe years before. Surgeons, tested under extreme circumstances, returned after the war with advanced knowledge of how to practice their craft.

More Americans died in the Civil War than in any other war in U.S. history, and most of them died from disease. On the Union side, those who died of disease outnumbered those killed on the battlefield by a ratio of two to one. On the Confederate side, the ratio was three to one. Disease spread quickly due to a lack of sanitary facilities, little and poorly prepared food, and the fact that many soldiers came from rural areas and had no immunity to many common childhood diseases. Measles, dysentery, typhoid fever, malaria, and pneumonia claimed the lives of many.

The U.S. Sanitary Commission began as a civilian organization concerned with improving conditions in the camps and the welfare of the Union troops. Many of its members were women who were eager to emulate the experiences of Florence Nightingale in the Crimean War. Despite opposition from many in the Army Medical Department, President Lincoln made the commission an official government organization in 1861. Frederick Law Olmsted, the noted landscape architect, was put in charge of the commission. His first activities focused on educating soldiers to the importance of maintaining sanitary conditions in the camps. Olmsted's commission also distributed fresh foods, blankets, and medical supplies.

The Army Medical Department was understaffed because the military commanders assumed the war would only last a few months and did not want to waste limited resources. As the war dragged on, it became obvious that changes were required in the department's operations, and Dr. William A. Hammond was appointed surgeon general to lead it. But in 1863, Hammond angered many when he called for removing calomel and tartar emetic from medical supply lists, both of which were standard treatments of physicians at the time. For this, he was ousted from office. The Confederate medical department was better organized, and they were helped by the fact that most fighting took place on their own soil, which hastened their ability to get help for the wounded.

The physicians who served in the war varied greatly in skill. Because of the lack of licensing requirements, some were barely trained, while most had learned their trade through apprenticeships and a couple of years in medical school. Few were experienced surgeons. The ammunition used during the war, the .58 calibre minie ball, increased casualty rates because its soft lead flattened on contact and shattered bones and ripped tissue. Because of the extensiveness of injury, the best and most successful treatment for a gunshot wound was amputation. While the surgeons did use chloroform and ether as an anesthetic when available, they did not understand antiseptic techniques. Moving from wounded soldier to wounded soldier, they spread infection. Many saw the appearance of pus after surgery as a sign not of infection, but that the healing process was occurring. Some did attempt to apply antiseptics such as iodine, bromine, chlorine, and turpentine to wounds with inconsistent success.

Many doctors from northwest Ohio served in the Union Army. Dr. Joseph Thatcher Woods, chair of surgery at the Toledo Medical College, was appointed surgeon of the 99th Ohio Volunteer Infantry (OVI) and served at the front during the entire war. Dr. Samuel Thorn, a surgeon at St. Vincent Hospital, was appointed surgeon of the 130th OVI in the Army of the Potomac, and served under General Ulysses S Grant. Some Toledo doctors were wounded in the war, including Dr. William W. Hill. Hill enlisted at the age of 15 as a drummer boy in the 84th OVI, and in 1862 became a regular soldier. Two years later he was wounded in the leg, and he never fully recovered, and spent the rest of his life disabled. After the war, he became a surgeon and practiced in Weston. Dr. Harrison Hathaway served under fellow Toledoan General James B. Steedman, hero of the Battle of Chickamauga. Hathaway took at bullet through the lung at the Battle of Jonesboro, and required eight months to recover. But once he did, he returned to his regiment and finished out the war, seeing service in Virginia.

Some northwest Ohio doctors reported from the battlefield in letters to relatives back home. Dr. John B. Rice of Fremont wrote often to his father and his brother, who were both doctors. In a letter to his father of March 1863, he detailed his new method for vaccinating against smallpox, sketching out where on the arm he made small incisions to apply the vaccine.

Dr. William Caldwell, also of Fremont, enlisted in the 72nd OVI as a hospital steward at the age of 25. He eventually became the assistant surgeon and helped treat the wounded at the battle of Shiloh, the bloody standoff in Tennessee in 1862. In a letter to his parents, Caldwell assured them he was safe, "[t]hough I have seen many a Gauntlet for life. I have not taken of[f] my clothes for about one week. Worked night and day with the Hundreds of wounded myself and assisted at numerous operations for amputations." Caldwell added, "It all seems like a shadowy vision. To see hundreds of the dead lying around you with the groans of wounded calling for water and for surgical assistance which then was limited. The road to the spot where the wounded were brought was crowded, and half could not be brought in on the same day that they were wounded and some lay even two days in the rain in the woods before they were found. We made no distinction as to regiment, union men or Rebels in our attendance of the wounded..."

After the war, many of the physicians continued to serve their government as pension examiners. Veterans seeking pensions due to war-related health concerns were required to be examined by a doctor, who had to certify that they were disabled in a way that restricted their ability to earn a living. William Caldwell was one such doctor, and the ailments he observed in veterans had a profound personal impact. In an address before the North-Western Ohio Medical Association in Toledo in 1888, Caldwell decided "to present to this society some wandering thoughts in relation to a subject which, so far as I know, has never been presented to this or any other medical society." In his address, Caldwell described chronic conditions he observed in Civil War veterans, including rheumatism, diarrhea, fevers, respiratory distress, and nervous system afflictions. He noted that statistics indicated the lives of surviving Civil War veterans were shortened on average by 21 years. Of particular concern to Caldwell was the large number of veterans diagnosed with "nervous exhaustion." Caldwell recognized in Civil War veterans what would later be called "shell shock" in World War I, and post-traumatic stress syndrome in more recent times.

Toledo Doctors and Nurses in the World Wars

Unlike previous wars, the wars of the 20th century would be fought on foreign soil and for reasons that sometimes seemed tangential to American interests. The foreign locations and the changing methods of warfare impacted medical responses.

America was largely unprepared for World War I. Political views of the time led the country to believe it could avoid war by avoiding entanglements. But this isolationist view could not be defended in the face of the terrible tragedy that was playing out on the battlefields of France. In the first four months of the war, France lost 300,000 men. But the United States managed to stay clear of the war for nearly four years. When war was finally declared, the Academy of Medicine encouraged physicians up to 55 years of age to enlist. The Academy organized the "Toledo Plan," which raised money for medical equipment and helped support the families of doctors who chose to serve. Over 100 Academy members enlisted. Nurses too were needed, and training units were established in the nursing schools at Robinwood, St. Vincent, Flower, and Lucas County hospitals.

Unfortunately, the country's war buildup coincided with an outbreak of one of the deadliest pandemics in history. As thousands of young men arrived at training camps in October 1918, a virulent strain of influenza broke out. Today, the epidemiology of the Spanish influenza remains a mystery. While the numbers of people infected was not unusual for a flu epidemic, the death rate was much higher, and it was particularly deadly among those aged 20 to 40 years. Symptoms usually started with a headache and chills, and within a few days, the faces of those seriously infected turned blue as they began hemorrhaging from the lungs. Those who succumbed literally drowned in their own fluids within days. Camp Sherman in Chillicothe, where many Toledo soldiers went for training, was hit hard by the flu. In the month of October 1918, over 1000 soldiers died there. While many medical officers wanted to quarantine the camps, the need for soldiers in Europe made this impractical. As a result, transport ships became deadly. On one transport ship alone, 700 men died on the passage to Europe.

The illness quickly spread from the military to the civilian population. Toledo was not particularly hard hit, but it did not escape the pandemic. The first patients began to arrive at area hospitals in October 1918. To control the spread of the disease, public health officials closed schools, libraries, churches, and saloons for three weeks. Mercy Hospital, which had opened just that year, had two floors dedicated to flu victims, treating 1700. Toledo Hospital reported 41 deaths from the disease. Some of those admitted to local hospitals were from the Camp Perry Army training camp near Port Clinton.

Several Toledo medical professionals died of the flu. Dr. James Todd Duncan, a 37-year old doctor, succumbed after treating those suffering from the disease. Dr. Julius Jacobson, who had orchestrated the merger between the Toledo Medical Association and the Lucas County Medical Society, died at the age of 39. Nurses too died, including several who had volunteered with the Army Nurse Corps and the Red Cross at training camps. The Academy of Medicine bulletin reported four Toledo nurses died from the flu. One was Glee Pollock, who volunteered as a Red Cross nurse at Camp Taylor. Pollock worked helping soldiers suffering from the flu literally until the day she died. As the *Bulletin* of the Academy of Medicine noted of her death, "Disease and germs are more deadly than Hun bullets or gas."

In addition to the flu, World War I saw several devastating new methods of warfare including the first large scale use of chemical weapons. Phosgene, chloropicrin, and mustard gas harmed lung tissue, and burned and blistered skin. Many soldiers were casual about the use of gas masks, and often removed them too quickly after an attack. For the first time, the medical profession began to address mental health issues of soldiers that resulted from the horrific conditions in the trenches. Some 30 percent of all non-medical discharges were for "shell shock." The Army and the Red Cross organized hospitals for the exclusive treatment of such patients. The military also stressed occupational training for disabled veterans after the war in what were called "curative workshops." Medical advances included the use of X-rays on a large scale, which allowed doctors to better diagnose and treat wounds to bones. Large scale immunization against typhoid fever were 70-90 percent effective.

The major advances in the years between World War I and World War II were the use of X-rays to diagnose tuberculosis, the understanding of water-borne disease, and the use of anesthesia in surgery. But once again, the outbreak of World War II found the United States unprepared for the medical emergency that would be created by the largest war it had fought to date.

Advances in World War II

World War II produced many advances in medicine with lasting impact, including blood fractionation and storage, blood transfusions and substitutes, widespread use of sulfonamides, and the discovery and mass production of penicillin.

Improvements in treating shock through the use of large amounts of IV fluid and blood that had been developed during World War I were largely ignored in the early years of World War II. Instead, blood fractionation (separating blood into its components) led to an overreliance on the transfusion of reconstituted plasma rather than whole blood. Both the Surgeon General of the Army and the National Research Council believed that the blood of shock victims was thick and had a high percentage of red blood cells, so plasma was a better treatment than whole blood. It was also easier to transport. But the military's use of plasma rather than whole blood led to the unnecessary loss of life. It was not until the African Campaign that the Army realized that plasma was often insufficient.

Plasma kept blood pressure elevated, could be stored for long periods of time, required no compatibility testing, and was easy to transport (during the war, it was dried and sealed in flasks, then mixed with sterile water when needed). In short, it kept wounded soldiers alive until they reached a medical unit. These advantages led military surgeons to conclude that plasma was just as effective as whole blood. Although useful for treating shock–especially that caused by plasma loss–it did nothing to restore the transport of oxygen to the body's tissues.

This problem, along with the difficulty of acquiring whole blood, led to efforts to develop blood substitutes. Sodium chloride and dextrose solutions were two such examples. Other substances, such as pectin and gelatin solution, were also tried, with mixed results. Ultimately, nothing proved capable of completely replacing whole blood when treating severely injured patients.

In 1943, the Army experimented with processing and transfusing whole blood and improving transportation methods and shelf-life. This was expanded by chief surgeon Major General Paul Hawley in preparation for the invasion of northern Europe. Hawley designed a blood bank of refrigerated trucks that traveled with hospital platoons and accompanied divisions into battle. Aircraft were also used to transport fresh blood to the continent. Despite this, treatment remained ineffective because those needing blood outnumbered those able to donate it.

The problems of blood transfusion and supply were illustrated in the autobiographical story *War Without Blood* by Toledo orthopedic surgeon Dr. Joseph Gosman. While serving in an evacuation hospital in the European theater, Gosman was stunned to learn that only patients with a blood count of less than two million red cells per cubic centimeter would receive transfusions. "Anyone down that low is not ready to come onto the operating table. He is on his way out," Gosman wrote. Gosman also dealt with his superiors' decision to forego wound debridement (the removal of dead, dying, or infected tissue). Gosman believed failure to perform this step invited serious infection, "even with the new penicillin." These two problems came together in cases with severely infected wounds, which required more extensive debridement and thus, more blood. Instead of following orders, Gosman decided to debride his patients' wounds and provide transfusions (when possible) anyway. He would continue to do so for the duration of his service, all the while facing severe blood shortages. In one case where whole blood was not available, he drew a pint each from six soldiers with non-life-threatening injuries.

The concerns of blood storage and use were not limited to the front. In 1940, Toledo doctors David Curtis (a surgical resident) and Leubert Doctor (an intern) read an article about blood banks. They approached Sister Mary Farley, the Superior at St. Vincent Hospital, with the idea to establish such a facility. This initial effort led to the formal establishment of the first blood bank in Toledo in 1941.

In Search of "Miracle Drugs"

Medical research in the first half of the twentieth century focused on developing "miracle drugs" to treat infection. Without such drugs, society emphasized "personal" and "social" hygiene as a way to avoid common diseases, which did help to control some epidemics. But this meant that individuals were often blamed when they contracted diseases, especially sexually transmitted diseases such as syphilis. German scientist Paul Ehrlich believed medicine could be administered in such a way as to only target the cause of infection. His work led to the drug Salvarsan to treat syphilis in 1909. But it was only a partial solution: treatment took two years and the drug itself, which was arsenic-based, could be toxic. Nevertheless, it would remain the most effective treatment for syphilis until the 1940s. Ehrlich's research led to two more drugs that proved invaluable during World War II: sulfonamides and penicillin.

Sulfonamides

Sulfonamides, also known as sulfa drugs, were first developed in the 1930s to inhibit the growth of bacteria. The first was sulfanilamide, part of compounds used in dyes, which was synthesized by a German chemist in 1908. It became available commercially in 1932 as Prontosil. It ushered in the age of antibiotics and lead to the creation of thousands of variations of sulfa drugs; by the end of World War II, it was estimated there were over five thousand compounds. Before penicillin, sulfa drugs were often the most effective medicine to treat and inhibit infections.

In the first years of World War II, American soldiers' first-aid kits contained sulfa in both pill and powder forms with instructions to sprinkle the powder into open wounds before applying bandages. For wounds closed by medical personnel, Dr. Donald Rodawig, who served his surgical residency at the Lucas County Hospital, used a procedure known as secondary closure of wounds. It involved "early debridement, sulfanilamide, not making any attempt to close the skin, and letting the wound heal from the bottom up. There is a period [of] about two weeks after the injury when the skin can be closed and will save the soldier many weeks of hospitalization." Prontosil continued to be prescribed as late as the 1960s.

Penicillin

Although penicillin is rightfully hailed as a wonder drug, the use of mold to treat infections had its roots in folk remedies. In the 19th century, scientists observed that some fungi were effective against certain types of bacteria. But a chance discovery by bacteriologist

Alexander Fleming revolutionized the treatment of infections, especially during wartime.

In 1928, Fleming noticed that one of his lab cultures of staphylococci bacteria had become contaminated with mold, but this mold inhibited the growth of the bacteria. Fleming called the discovery penicillin, and found it was effective against other bacteria as well. But he did not pursue this research. It would take another decade and the work of numerous others to develop penicillin as a miracle drug.

In 1938, Oxford scientists began testing penicillin in animals, and three years later, they had produced enough penicillin to successfully treat a small number of humans with serious infections. But war stopped their research, so in 1941, they traveled from England to Peoria, Illinois, to the Department of Agriculture's Northern Regional Research Laboratory, which had expertise in the submerged culture fermentation of penicillin. This process produces greater quantities of penicillin, but mass production still proved elusive, and treatment using it required frequent doses.

During World War II, the demand for penicillin was so high and supplies so low that some, such as Waterville physician Dr. Eugene Hamman, resorted to hoarding it. When the supply on his base ran out, Hamman requested more, but was initially ignored. When his request was finally granted, he only received one vial. But two comrades managed to acquire several additional vials that they hid in their pockets. Hamman and his colleagues were fortunate: during the early penicillin era, some doctors resorted to collecting the urine of patients to harvest the excreted drug. Mass-production, along with the development of semi-synthetic penicillins, eventually ended shortages.

Penicillin was especially useful in treating syphilis, a major medical issue during the war. Dr. Donald Rodawig relayed in a letter to his wife the experience of observing penicillin treatments at a venereal disease hospital in 1944. "The results are unbelievably good. The Doctor in charge has seen over 40,000 cases while in the army and conducted us through the clinic, pointing out the different types of lesions. It is too bad that more G.I.s can[']t see these things, it would make an indelible impression on their minds and feelings [sic] go a long way to improve the sexual hygiene in the Army."

One local doctor involved in experiments with penicillin was Toledo neurosurgeon Dr. Max T. Schnitker. In 1942, Schnitker closed his Toledo practice to accept a position as a major in the Army. He was sent to Bushnell General Hospital in Utah, which specialized in post-combat procedures. He researched the use of penicillin to treat osteomyelitis, a bacterial infection of the bone and bone marrow of the skull, and helped break new ground in treating this infection. Schnitker remained at Bushnell until February 1945, when he was sent to India and Burma.

Shortly after the war ended, penicillin became available for civilian use. Toledo received its first shipment of the product even before hostilities ceased. *The Blade* announced the arrival of 1600 packages of penicillin—the first large shipment to reach the city—on March 13, 1945. It was applied by injection as there was not enough available to use in pills, ointments, or other self-dosing methods.

The First Female Rear Admiral

Nurses, too, served their country during the war, including Alene B. Duerk. Duerk graduated from The Toledo Hospital School of Nursing in 1941. She spent about a year working in the area before entering the Navy Nurse Corps. Her first assignment was as a staff nurse at the U. S. Naval Hospital in Portsmouth, Virginia.

After assignment at several stateside naval hospitals and receiving promotions for her work, Lieutenant Junior Grade Duerk was serving aboard the hospital ship, U. S. S. Benevolence, in Tokyo Bay when the peace treaty ending war with Japan was signed. The ship received more than 1200 servicemen who had been held in the Omori and Shinagawa prison camps.

After the war, Duerk went on inactive reserve status and returned to school at Frances Payne Bolton School of Nursing in Cleveland, where she earned a bachelor's degree. She worked in Detroit, and became active in a group of Navy nurses known as the "Ready Reserve Nurses," who could be called upon to return to naval duty if needed.

Duerk was called to active duty when the Korean War broke out. As a lieutenant, she developed and taught educational programs for Navy nurses and corpsmen. In 1953, she transferred from the Naval Reserve to the U. S. Navy.

In the years between 1950 and 1970, Duerk helped care for the wounded from the Korean War and Vietnam, and developed programs to teach others about military nursing. She served as director of nursing at the San Diego Naval Hospital Corps School and chief of nursing services at Great Lakes Naval Hospital. She helped establish a program in which the Navy paid for the last year of a student's education if the student joined the Navy upon graduation. Duerk also was promoted to captain and later admiral. In early 1970, Duerk was appointed director of the Navy Nurse Corps, and she returned to Toledo to be recognized at a reception in her honor.

While the Secretary of the Navy received permission in 1967 to promote a woman to flag rank of Rear Admiral, it was not until 1972 that it was announced that Duerk had been chosen as the first woman to rise to that rank. Her greatest satisfaction in receiving this promotion was feeling that she had opened new paths for young girls to follow.

Duerk retired from service in 1975, but remained active in social causes and currently lives in Florida. She has received several honorary doctorates including a Doctor of Science from the Medical College of Ohio in 1976, and she was inducted into the Ohio Veterans Hall of Fame in 1999. In 1992, the Navy Nurse Corps Association established the Alene B. Duerk Award to recognize individuals "for significant contributions to the Navy," and an undergraduate nursing scholarship has been established in her name at the University of Central Florida. The uniform she wore as an admiral is part of the collection of the Smithsonian Institution.

Medical Advances from the Korean War

The Korean War began on June, 29, 1950, when troops from North Korea crossed the 38th parallel and invaded South Korea. A United Nations coalition of forces intervened on behalf of South Korea, the new People's Republic of China intervened on behalf of North Korea, and a bloody stalemate ensued. The war (which was undeclared) ended on July 27, 1953, when the United Nations and North Korea signed an armistice agreement.

Like all previous wars it was horrendous and caused untold misery, suffering, and death—over 2 million troops killed, wounded, or reported missing; about a million South Korean civilians killed and several more millions made homeless. Yet like many wars it also led to life-saving medical advances. One was deployment of a system of Mobile Army Surgical Hospital (MASH) units close to the front lines of combat. Another was the introduction of helicopters in 1951 for rapid medical evacuation ("medevac") of injured soldiers from battlefield positions. The idea behind both of these concepts was to provide wounded casualties with the earliest possible treatment, and the end result was fewer deaths: the U.S. Army's fatality rate in Korea dropped to a new low of 2.5 percent from 4.5 percent in World War II. This MASH/medevac model served as a prototype for the modern civilian system of aeromedical transport to the closest Level 1 Trauma Center.

Another major medical advance and undoubtedly the greatest surgical advance resulting from the Korean War was improvement in techniques for repairing damaged arteries in extremities, which dramatically reduced amputation rates to 13 percent from 49 percent in World War II. And for the first time in a combat theater an artificial kidney machine was used to treat acute renal failure. At the time, there were only two such machines in the United States and artificial dialysis was a new and relatively untested treatment option. Methods of collecting and storing blood were also much improved during the Korean War. The transition from glass to plastic containers eliminated loss from breakage during shipment, made it possible to easily prepare multiple blood components from units of whole blood, and decreased septic and clotting complications from transfusions. In addition, a well-organized blood bank system was established which funneled blood products from the U.S. to Korea and kept MASH units supplied with enough to provide the life-saving massive transfusions given to thousands on the front lines.

The U.S. Army Surgical Research Team, under the direction of Dr. John Howard, played a significant role in these accomplishments. Howard would be awarded the Legion of Merit by President Eisenhower for his efforts, become an internationally recognized expert in trauma care and pancreatic surgery, and eventually join the staff of the Medical College of Ohio in 1973. But when he arrived in South Korea in December 1951 at the 8209 MASH (later called the 46th Surgical Hospital), he was a newly minted surgeon, just one year out of residency training at the University of Pennsylvania. His orders

were to organize and direct an Army Surgical Research Team that would improve the care of battle casualties through field research.

In the midst of the mud, blood, horrible wounds, and seemingly non-ending supply of patients, the team he assembled immediately began experimenting with arterial repair surgery, which was in a state of infancy at the time. Their early attempts using standard and "home grown" surgical clamps were unsuccessful. But things changed when they tried a new type of clamp, the Potts ductus vascular clamp, which Howard recalled they received a sufficient supply of only after the Army threatened to break the patent of the manufacturer, who was reluctant to provide them. The team subsequently gathered surgeons from each MASH to practice arterial repair on stray dogs, and then the doctors went back to their units, each having completed the world's first (albeit short) vascular fellowship.

Over the next 18 months, Howard's team would conduct numerous studies on resuscitation, how trauma affected the various body systems, and the clinical management of specific battle injuries. They also established a Renal Insufficiency Center which included a dialysis machine to treat severely wounded soldiers who developed acute kidney failure. Their findings were subsequently published in a comprehensive and still often cited four-volume set entitled *Battle Casualties in Korea: Studies of the Surgical Research Team*, of which Howard was editor-in-chief.

When he returned from Korea, Howard joined the surgical faculty at Baylor University then went on to chair the surgery departments at Emory University and Hahnemann University. In 1966, a report published by two National Research Council committees he chaired stimulated development of the current emergency medicine services system in the United States. He also played a major role in establishing EMS systems in Philadelphia and Toledo. In addition to trauma care, Howard became an internationally recognized expert in pancreatic surgery. He retired from MCO in 1993 but continued to teach, write, and conduct research there until his death in 2011 at age 91.

Vietnam and Beyond

Medicine in the Vietnam War followed closely the advances made in Korea, including the use of helicopters to evacuate the wounded and vascular surgery. The war also produced some unique issues: Agent Orange, a chemical dropped by planes to kill foliage where the enemy hid, affected the health of many veterans; and easy access to illegal drugs led to addiction problems for some American troops. The gruesomeness of the war, and its unpopularity with the American people, produced post-traumatic stress syndrome for many veterans.

Dr. Paul Clark was a second-year resident when he was drafted in 1971. He said his two-year experience of serving as a surgeon in the war provided him more training than he could have experienced in 15 years, including experience with vascular surgery. Clark said that it was not uncommon for soldiers to come in with multiple injuries, and he remembered the case of a single patient who had over 200 wounds. The wounded were brought by helicopter to field hospitals, where they were stabilized enough to allow transport to medical hospitals in the United States, Europe, and Japan. In addition to treating the wounded from both sides of the conflict, Clark also treated civilians. As Clark recalled, "You never knew what was coming through the door next."

Dr. Steven Gale also served in the war, although not as a physician. But it was the experience of the war that inspired him to enter medical school. Like many Vietnam veterans, Gale felt unwelcomed when he returned home, and rather than continue as a soldier, he decided to change careers and apply to medical school. He became a certified vascular surgeon, and has practiced in Toledo for 30 years.

Most recently, Gale has decided to give back to his country through a volunteer program at the Landstuhl Regional Medical Center in Germany. He and other vascular surgeons from Toledo, including Dr. Anthony Comerota, volunteer for two-week periods to work alongside military surgeons providing specialized vascular surgical care to wounded soldiers from Afghanistan. Such specialized care is required because the wounded often suffer from devastating injuries caused by explosive devices.

Harlow Lindley, *ed. Personal Diary of Captain Daniel Cushing, October, 1812-July 1813*. Columbus, OH: The Ohio Historical Society, 1975. WMCC.
This transcribed diary of one of General William Henry Harrison's men at Fort Meigs describes the misery of trying to survive in the Black Swamp.

Civil War field amputation kit, ca. 1861-1865. WMCC.
The kit was made by G. Tiemann & Co. of New York, and includes a Satterlee's capital saw, a metacarpal saw, an amputating scapel, a medium catling, a Liston's amputating knife, and a Liston's long knife.

Civil War surgical kit, ca. 1861-1865. WMCC.
The kit includes a dissecting hook, a folding corn knife, curved needles for suturing, a vaccinating trocar, three scalpels, a tenaculum, and a scalpel lancet.

Charles S. Tripler, A.M., M.D. & George C. Blackman, M.D. *Hand-Book for the Military Surgeon*. Cincinnati: Robert Clarke & Co., 1861. WMCC.
This book explains how to treat various conditions a surgeon might encounter in the field, including camp dysentery; amputations; wounds of the chest, abdomen, head, and arteries; and how to use chloroform.

United States Army, 1875. *The Medical and Surgical History of the War of the Rebellion (1861-65)*, 1871. Washington: Government Printing Office. WMCC.
This multi-volume illustrated set contains an exhaustive study of medicine during the war.

Letter from William Caldwell to his parents, April 10, 1862. William Caldwell Family Papers, LH-71. On loan from the Hayes Presidential Library.
In this letter, Caldwell attempts to convey the horrors of the battle of Shiloh, where he worked as a surgical assistant.

Letter from John B. Rice. John B. Rice Papers, LH-30. On loan from the Hayes Presidential Library.
Father John and sons John B. and Robert Rice were all physicians who practiced in Fremont. John B., who served as surgeon in chief for the 72nd Ohio Volunteer Infantry, wrote to his family often about his war experience, including a letter describing how he inoculated his comrades against smallpox.

Buchanan and MacGahan Military Pension Applications, 1875-1889. MSS-046, WMCC.
To receive military pensions, veterans of the Civil War had to apply and make the case that they were unable to make a living due to injuries received in the war. The Buchanan and MacGahan law firm in Toledo took affidavits from veterans attesting to their injuries. Samuel Berry, a survivor of the horrific Andersonville prison, reported he was "generally disabled, weak and worn out." Dr. J Squire, himself a physician, complained of chronic diarrhea that prevented him from practicing medicine. John Welch, shot through the arm at the Battle of Chickamauga, was described as a "good soldier, and a man of good habits," but he was "unable to furnish medical evidence of his wound."

Address of Dr. Wm. Caldwell before the Northwestern Ohio Medical Association, Toledo, December 13, 1888. On loan from Hayes Presidential Library.
In his address upon retiring as president of the Northwestern Ohio Medical Association, Dr. Caldwell discussed the issue of "nervous exhaustion" that he observed in Civil War veterans.

Diary, photograph, and transport instructions from World War I, 1918-1919. Herbert M. White Papers, MSS-096. WMCC.
Herbert M. White, who would eventually settle in Maumee, served in France during World War I. His mementoes of the war record his time from training camp until return. A photograph from Camp Perry near Port Clinton shows soldiers—who White described as "victims"—receiving vaccinations. His diary from January 1918 in France details how his regiment was quarantined due to outbreaks of smallpox and meningitis. Instructions for returning after the war on the transport ship the U.S.S. Grant detail how to keep the ship safe from disease, including the need to keep the plumbing unplugged. Overflowing latrines presented a serious health problem on the transport over to Europe, and the Army hoped to avoid the issue on the return voyage.

Photographs of Camp Sherman, 1918. On loan from ProMedica.
Many World War I volunteers from Toledo were sent to Camp Sherman in Chillicothe for training. When the Spanish flu epidemic broke out, nurses from area hospitals were called into military service and sent to the camp to help treat the sick.

Ina Lee, World War I memorabilia, 1918. On loan from ProMedica.
These items document the enrollment of nurse Ina Lee in the American Red Cross. Membership in the ARC made nurses eligible for recruitment as nurses in World War I.

Douglas C. McMurtie, *Reconstructing the Crippled Soldier.* New York: Red Cross Institute for Crippled and Disabled Men, 1918. WMCC.
McMurtie's pamphlet encouraged rehabilitation for disabled World War I veterans, who he described as "a human waste product at last coming to be utilized."

Joseph Gosman, Manuscript of *War Without Blood*. On loan from the Gosman family.
In this unpublished manuscript, Gosman described his experience as a doctor during World War II, and often his frustration with the war and his commanders. As he boarded a ship to return home at the end of his service, Gosman noted, "I left as most did. We came with some; got to know some; and left with some;--if we left;--each 'some' different."

Max Schnitker wartime diary, 1945-1946. Max T. Schnitker Papers, MSS-142, WMCC.
In early 1945, Schnitker was transferred from Bushnell Hospital in Utah to the China-Burma-India theater of World War II. He spent much of that time in Calcutta, serving as chief of surgical service at the 142nd general hospital. One of his more interesting cases was that of soldier Robert Brown, who was struck in the forehead by a propeller blade that cut through his frontal lobe. Pictured here are post-op photos of Brown's injury.

"First Aid Kit." *The Air Surgeon's Bulletin*, January 1944, MS 918. On loan from the Center for Archival Collections, Bowling Green State University.
This article contains information and guidelines for a standard-issue first aid kit. In the sidebar is a list of the kit's contents, including two types of sulfa drugs.

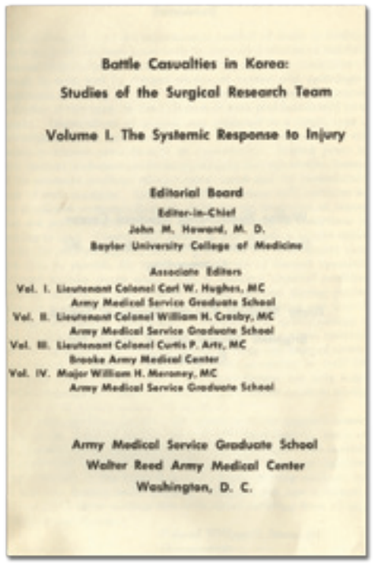
"Narcosynthesis." *The Air Surgeon's Bulletin*, February 1944. MS 918. On loan from the Center for Archival Collections, Bowling Green State University.
Wartime medical innovations were not limited to physical injury. This article details treatment for soldiers suffering from war neuroses.

***Your Body in Flight*, September 1944. MS 918. On loan from the Center for Archival Collections, Bowling Green State University.**
This instructional book provides safety guidelines for pilots, including how to treat wounds.

Alene B. Duerk, photograph and memorabilia. On loan from ProMedica.
These items document the career of Navy nurse Alene B. Duerk, the first women to be appointed to the rank of Rear Admiral for her service as a nurse and educator.

Walter Reed Army Institute of Research (John M. Howard, editor-in-chief). *Battle Casualties in Korea: Studies of the Surgical Research Team*. Washington, D.C.: Walter Reed Army Medical Center, [1955-1956]. WMCC.
Dr. John Howard, director of the U.S. Army Surgical Research Team during the Korean War, served as editor-in-chief of this four-volume set which documented the team's work. He donated this signed copy to the Medical College of Ohio's Mulford Library in December 2000.

Photograph of John Howard and colleagues at the 46th Surgical Hospital Officers' Club in Korea in 1953. On loan from Dr. Peter White.
This photo depicts a MASH hospital in Korea.
From left to right: Col. Curtis Artz, Capt. John Howard, Col. George Hayes, Capt. Alvin Bronwell.


Battle Casualties in Korea:
Studies of the Surgical Research Team
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The title page of Vol. 1 of Howard's four volume work on medicine in the Korean War.

John Howard in Korea at the 46th Surgical Hospital Officers' Club, 1953. From left to right: Col. Curtis Artz, Capt. John Howard, Col. George Hayes, Capt. Alvin Bronwell. From the collection of Peter White.

Max Schnitker's war diary included this photo of him in India, 1945.

A classroom for children with polio at the Opportunity Home in Toledo, ca. 1940.

CHAPTER 6.

Today and Tomorrow: Modern Medicine on the Maumee

Medicine in the United States over the past forty years has seen more advances than in its entire prior history. These advances are due to research, technological innovations, improvement in the overall standard of living, pharmaceuticals, and the expansion of health care's availability. Biomedical research has led to a much better understanding of how the body functions. This has paved the way for technological innovations to monitor these functions, including now-common tools like the stethoscope, electrocardiograph, sphygmomanometer, and X-ray machines. In turn, such devices have educated us about how lifestyle and living conditions impact health, particularly issues like poverty, obesity, smoking, and alcohol and drug use. Pharmaceuticals allow many diseases to be treated without surgical intervention, and vaccines have eliminated some diseases altogether. Lastly, health insurance, particularly government programs like Medicare and Medicaid, have expanded health care to millions, fueling the growth in hospitals, medical education, and diagnostic testing.

But while all of these trends in health care have produced a great leap forward, they have come at a cost—a very steep cost. Health care now accounts for an estimated 16 percent of the nation's gross domestic product. Particularly in difficult economic times, the skyrocketing cost of health care has pushed medicine into the political arena as competing interests fight for limited resources. Health care in the 21st century is as much about politics and economics as it is caring and healing. Today, it is defined as an "industry."

The history of health care in northwest Ohio over the past 40 years is typical of most regions of the country. The two issues that have shaped medicine in our region perhaps more than any others have been the founding of a medical college and the consolidation of most hospitals into two major, competing corporate entities.

Medical Advances in Northwest Ohio

Medical advances in northwest Ohio are of two kinds. There are a few historic "firsts" that the region can claim which impacted medicine nationally and internationally. Then there are advances that, while pioneered elsewhere, were brought here by forward looking health care professionals. These advances, some of them summarized below, helped bring modern medicine to the region.

First Tubal Ligation

There is general agreement that the first documented successful tubal ligation was done by Dr. Samuel Smith Lungren, a homeopath, in Toledo in 1880. Lungren reported early successes in cesarean section operations in 1875, which he attributed to using silver sutures. When doing a second cesarean on the same woman five years after her first, he tried to remove her ovaries to stop future pregnancies, but was afraid of massive hemorrhaging. So instead he tied the Fallopian tubes with strong silk ligature before closing the womb. Historical records do not indicate where Lungren performed this surgery, but given the medical practices of the day, it may have been at the patient's home. Lungren was generally recognized for his outstanding work in uterine surgery.

DeVilbiss Atomizer

Allen DeVilbiss attended medical school at the University of Michigan, and received his medical degree from Miami Medical College in Cincinnati in 1868. After practicing medicine in Indiana, he moved to Toledo in 1887, where he specialized in diseases of the nose and throat. But despite his skill, he found the application of medicine to the throat using cotton swabs caused great discomfort to his patients. While some

atomizers that sprayed medicine were in use, they were generally ineffective, so DeVilbiss began experimenting to produce a better one using a small piece of tubing salvaged from surgical instruments along with a rubber ball and a bottle of medicine. He used a small tip on the tube to adjust the amount of medicine that was sprayed into the throat. Thus he developed a successful, non-irritating method for applying medicine to the nose and throat. He patented his device in 1888, and began producing the DeVilbiss Atomizer in his home on Warren Street in Toledo. Within a few years, he opened a factory to keep up with the demand for the device.

Jobst Elastic Stockings

Conrad Jobst was born in Germany in 1889, and apprenticed in a machine shop. But his real skill was as an inventor. Jobst came to the United States at the age of 22, and found work as a mechanical engineer for the Toledo Automatic Brush Machine Company. Jobst suffered from lower extremity venous insufficiency in his legs from an early age, and was told by the doctors that little could be done. Over time he noticed that standing in water relieved his pain, and he began experimenting with compression bandages. The result was the Jobst stocking, a custom fitted elastic stocking made by his company, The Jobst Institute, Inc., founded in 1950. After his death in 1957, his wife Caroline expanded the business to include ready-to-wear vascular garments, support stockings, anti-embolism stockings, and reconstructive surgery garments. Today the company is part of BSN Medical, Inc. A gift from Caroline Jobst to The Toledo Hospital in 1989 resulted in the creation of the Jobst Vascular Institute.

Dr. Elmer Isaac McKesson and Anesthesiology

Dr. Elmer I. McKesson came to Toledo to intern at The Toledo Hospital in 1906. He became interested in more effective ways to reduce the pain associated with surgical procedures, and he is credited with being the first physician to routinely record vital signs during surgery. In 1910, he modified a device so that he could record the amount of anesthetic given to patients and monitor their vital signs. He founded the Toledo Technical Appliance Company (later the McKesson Appliance Company) to make and market his inventions. As a pioneer in anesthesiology, McKesson became a charter member of the American Association of Anesthetists in 1912. He was an educator at the Toledo Medical College and director of anesthesia at the Lucas County Hospital. He died in 1935. The McKesson Memorial Fund at ProMedica Flower Hospital was established in his memory to perpetuate the study of anesthesia.

Harry W. Dachtler and X-rays

Harry Dachtler moved to Toledo in 1892 to take a job as an accountant. But he was always interested in science. After X-rays were discovered in 1895, he sought to learn as much as he could about this new area of research. He traveled to meet the pioneers in the field and attended lectures at the Toledo Medical College on the application of X-rays to medicine. Perhaps as early as 1898, Dachtler began installing X-ray machines in local hospitals. In 1903, he displayed the first X-ray of a human fetus. He was also one of the first to warn of the dangers of overexposure to X-rays. Dachtler published extensively in journals about the medical applications of X-rays in medicine. In 1950, he was one of two surviving members of the Roentgen Society of the United States. He died in 1962.

Dr. Lewis F. Smead, Surgical Pioneer

Born in Columbus and educated at Johns Hopkins, Smead began a surgical practice in Toledo in 1905. While still a resident at Union Protestant Hospital in Baltimore, he developed a closing technique that helped prevent sutures from breaking open. While he published many articles, none were on the topic of the "Smead stitch," as it was called. It was not until Dr. Thomas Evans Jones published an article on the technique in 1941 that it was discussed in the literature, so it became known as the Smead-Jones technique. It is still used by surgeons, and is often referred to as the "surgeon's knot." Smead died in 1949.

Dr. Nathan Worth Brown, Jr., Cardiologist

Brown was a leader in cardiology in Toledo. Born in Japan where his father was a missionary, he studied there and at Johns Hopkins. He was particularly interested in the use of the Mackenzie polygraph, a machine that could record pulses and respirations. In 1919, he brought the first polygraph to Toledo, and established the Toledo Heart Station at The Toledo Hospital when it was on Cherry Street. When the polygraph was replaced with the electrocardiograph, Brown trained interns to perform tests and interpret the results. He published often and lectured on cardiology. As director of cardiology at Toledo Hospital, he oversaw the development of cardiac catheterization and angiographic programs beginning in 1952. He died in 1962.

Dr. Edward L. Burns and Cancer Research

Burns received his medical degree from Washington University in 1928, where he was a research assistant in the pathology department. In 1945, he became director of pathology at Mercy Hospital of Toledo. His particular interest was in the test developed by George N. Papanicolaou that used vaginal cells to test for cervical cancer. Burns developed a computerized data bank of information gathered from cervical cancer screenings of Toledo women to identify those at high risk for cancer. In 1968, he joined the faculty of the Medical College of Ohio. He also served as president of the American Society of Clinical Pathologists. In the early 1960s, he founded Pathology Laboratories, a private lab for outpatient testing. Burns died in 1974.

Life Flight

The use of helicopters to evacuate wounded soldiers was pioneered in the Korean and Vietnam wars. After Vietnam, the advantages of aero-transport became obvious to physicians who desired ways to quickly transport seriously injured patients. In Toledo, Dr. Frank Foss, a prominent surgeon, realized the need when his own son was severely injured, and there was no way to get him to a major hospital quickly. In 1979, he helped establish Life Flight air ambulance at St. Vincent Hospital, one of the first such services in the United States. While most air ambulances were staffed by a paramedic, Life Flight was the first to carry a physician and a nurse on board, and could transport up to two patients to the most appropriate hospital within a 120-mile radius of Toledo. Some 500 flights were recorded in the first year of service. When the service celebrated its 25th anniversary in 2004, it had flown more than 28,000 flights, employed four full-time helicopters and one back-up, and served a 28-county area. About 70 percent of the flights are transportation between hospitals involving critical patients. The other flights assist on the scene. In more recent years, ProMedica, operating out of Toledo Hospital, has developed its own air ambulance service.

Modern Medicine On the Maumee

The major themes in the medical history of northwest Ohio in the past fifty years include: preparing for an unthinkable nuclear holocaust, the increasing role of government in medicine, fighting epidemics, developing new methods of care for the terminally ill, founding a new medical school, and consolidating hospitals into two major health care systems.

Fighting a Cold War

As the Cold War dominated politics in the 1950s and 1960s, it also impacted medicine. The country worried about the advance of Communism, and feared the use of the atomic bomb. Because of the medical impact of a nuclear war, physicians were included in civil defense preparations. In Toledo, the Academy of Medicine of Toledo and Lucas County established a Defense Committee, which assisted local governments in developing an emergency plan in case of attack.

Doctors were urged to register as part of the civil defense effort so they could be contacted when needed. A plan was developed for evacuating residents of Toledo to a point beyond a 20-mile radius of the city. It called for establishing field hospitals in places such as Bowling Green, Napoleon, and Wauseon. Recognizing that such a disaster would require massive amounts of blood, the Community Blood Bank Service of Greater Toledo was created in conjunction with the Red Cross. The former University Club on Madison Avenue next to the Red Cross headquarters was renovated in 1956 to house the blood center. Some 7000 pints were collected in the first year.

Fighting "Socialized Medicine"

The 1950s also saw a spirited battle develop between the medical establishment—particularly the American Medical Association—and the government over how to provide more and better heath care services at less cost. Northwest Ohio was not immune to the fight, and the Academy of Medicine of Toledo and Lucas County took an active role in representing physician interests in the debate.

The earliest effort to expand U.S. health care system was led by President Theodore Roosevelt, who tried to establish a national health care program for all citizens modeled on what existed in Germany at the time. But his plan fell victim to growing anti-German sentiments

in the early 1900s. Following the devastating effects of the Depression on the health of Americans, interest resurfaced in national health insurance during the presidency of Franklin D. Roosevelt. Congressional leaders Robert Wagner, James Murray, and John Dingell sponsored legislation based on the principles of mandatory health insurance. While the public supported the plan, the American Medical Association opposed the legislation, preferring a "fee for service" model of private health insurance. The AMA started a fierce public relations campaign to fight against national insurance.

The fight continued in 1949 when President Harry Truman incorporated national health insurance in his "Fair Deal" plan. He quickly ran into opposition led by Ohio Senator Robert Taft and the AMA. Those opposed called it "socialized medicine" and defined it as contrary to American free enterprise. The Academy of Medicine of Toledo and Lucas County joined in, and its *Bulletin* editorials urged doctors to become politically active. As a result of opponents' efforts and competing desires of other health-related federal programs such as money for hospital construction, Truman's health insurance proposal was not passed in 1950, and the fight continued into 1952. When Congress again failed to enact a national health insurance system, Truman gave up the fight. Locally, the issue of set fees for services erupted in 1957 when Dr. Edward J. McCormick, a Toledo surgeon who served as president of the AMA, came out in support of a national fee schedule for doctors in an interview in *The Blade*. He went as far as to urge that such a program begin in Toledo. The Academy of Medicine of Toledo and Lucas County quickly distanced itself from McCormick's comments.

After failure to enact national health insurance, Democratic presidents decided on a more piecemeal approach by developing programs to cover the poor and the elderly. Backed by strong party majorities and with the support of labor, President Lyndon Johnson created the Medicare and Medicaid programs in 1965. While the programs provided coverage to millions more Americans, they were built according to a "fee for service" model.

The federal government's role in health care has continued to grow. The Hill-Burton Construction Act provided federal money to construct hospitals. The National Institutes of Health now provide much of the funding for medical research. Regulations on research require the establishment of institutional review boards to ensure proper protocols in human subject research. Similar regulations govern animal research. The Food and Drug Administration governs the approval of pharmaceuticals. And in 2010, sweeping health care reforms backed by the Obama administration will finally bring about a form of national health insurance. Contrary to the past, this time the AMA supported the legislation.

Fighting Epidemics

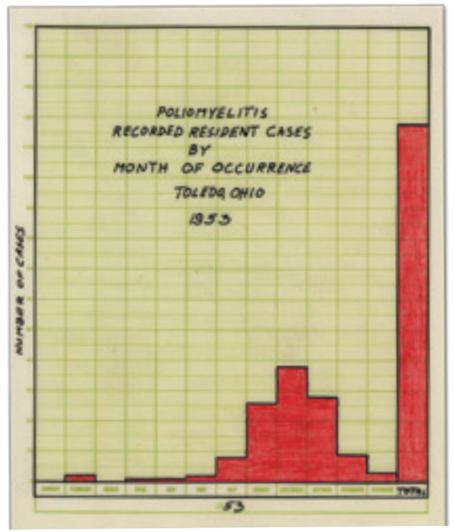
Despite advances in medicine, epidemics continued to inflict suffering in the latter half of the 20th century. Two in particular stand out: polio and HIV/AIDS. One resulted in victory in the form of a vaccine that prevented infection. The other is a continuing struggle focused on medicine to control symptoms but so far without a preventative vaccine.

Poliomyelitis—generally known as polio, or infantile paralysis—is a viral infection spread by fecal matter. For most who contract the disease, symptoms are slight. But if the disease enters the nervous system, it destroys the ability of the nerves to control muscles and results in paralysis or even death. Unlike other crippling epidemics such as tuberculosis, polio was not a disease of the lower class. It could infect a president as well as a pauper.

While polio had periodically broken out in epidemics in the United States, it was the outbreaks of 1946 and 1952 that came to define the country's response to it. In 1946, 25,000 people nationally contracted it, and in 1952, 58,000. Between 1949 and 1952, the Toledo Contagious Disease Hospital treated 468 cases of polio in the city, with 33 deaths. During the crisis, the polio ward at the hospital was understaffed because fearful volunteers stopped reporting for work. In 1953, another 250 cases were reported.

There were few treatments available for those infected. In Toledo, the Rotary Club and the Toledo Society for Crippled Children founded the Opportunity Home as a convalescent center and school for children with polio in 1937.

The most famous polio survivor was President Franklin D. Roosevelt, who contracted the disease in 1921. While he never admitted to the public that he could not walk as a result, he did much to raise money to support research



A graph showing the escalation in polio cases in Toledo during the summer of 1953. From the Toledo-Lucas County Health Department.

into the development of a vaccine through his March of Dimes campaign. In 1954, Jonas Salk became a national hero when he succeeded in developing the first vaccine against the disease. Toledo doctors could not get enough of the vaccine its first year to meet the demand. In 1955, Toledo received 20 percent of all the supply that was available in Ohio. First and second grade children from Birmingham School were the first to be vaccinated on April 22, 1955. In 1962, Albert Sabin developed a competing vaccine, which became more popular than Salk's. That year, the Academy of Medicine and the Toledo Academy of Pharmacy launched Project EPIC, which stood for "Eradicate Polio In the Community." It was the first large-scale immunization project in Toledo's history. More than 300,000 children and adults were vaccinated that year with the Sabin vaccine.

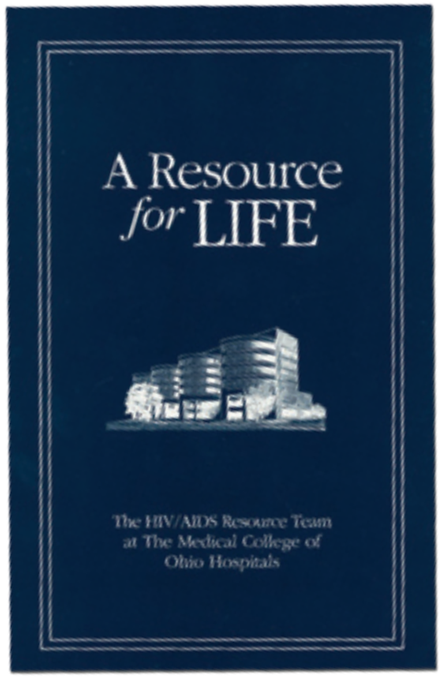
Human immunodeficiency virus/acquired immune deficiency syndrome was first diagnosed as a distinct disease in 1981. When it became clear that the disease spread through bodily fluids and most cases resulted from homosexual sex and risky practices such as intravenous drug use, those with the disease became the victims of discrimination. Being diagnosed with AIDS was not only a death sentence, but it often meant isolation and stigmatization. Paranoia about how the disease spread impacted how those infected were treated, even by the medical profession. The disease led to stringent protocols in health care settings to ensure that doctors and nurses were not accidently infected.

The first AIDS cases reached Northwest Ohio in the early 1980s. In 1985, Lucas County recorded four cases of AIDS, as well as its first AIDS-related death. That was also the year that the Medical College of Ohio opened the first HIV testing clinic in the region when AIDS was still a poorly understood and greatly feared illness.

Soon after the clinic's establishment, other organizations emerged to help people living with HIV/AIDS and their families. Toledo Wellness was founded in 1986 and began with a single support group. Four years later, it had expanded to three support groups of 117 clients. The following year, NOVA, a non-profit grassroots organization, was founded to provide direct services for people with HIV/AIDS. Clients were referred to NOVA by doctors, hospitals, social workers, and clergy, as well as through NOVA's own outreach and education programs. NOVA later merged with David's House Compassion, a residential treatment program. Toledo and Lucas County had one of the highest HIV/AIDS infection rates in the state, and because of the need for services, several other area organizations began to provide education and assistance, including the Toledo Chapter of the American Red Cross, Substance Abuse Services, Inc., VIVA Toledo Development Corp, and the Hospice Association of Northwest Ohio. Although David's House received considerable support and recognition though the 1990s, financial difficulties forced the organization to cut its residential program in 2003, and it ultimately closed in April 2004. New drugs became available to treat the disease, and while they did not cure it, it is not necessarily fatal.

Care When There Is No Cure: Hospice in Northwest Ohio

Hospice is a philosophy of end-of-life care that accepts death as a natural stage of life. It emphasizes palliative not curative treatment focused on making the patient as



A brochure promoting the services of the HIV/AIDS Resource Team at the Medical College of Ohio, ca. 1990.

comfortable as possible. Hospice care also helps family members prepare and deal with their grief. The word "hospice" is derived from the Latin "hospes," which was used to refer to both guests and hosts. The name was first applied to specialized care for dying patients in 1967 by British physician Dame Cicely Saunders, who founded the first modern hospice in England. The concept was introduced in the United States in the early 1970s.

Creating a special hospital in the Toledo area to care for patients with terminal illnesses was first proposed by Dr. Gregor Sido in an editorial published in the *Bulletin* of the Academy of Medicine of Toledo and Lucas County in 1974. In 1978, the Northwest Ohio Cancer Network began efforts to organize a hospice program in the area, and the Northwest Ohio Hospice Association was established.

Initial efforts were aimed at educating caregivers of terminally ill patients in hospitals. By 1979, a pilot program involving The Toledo Hospital and the Toledo District Nurses Association tested the concept of home care for the terminally ill. In 1981, the Northwest Ohio Hospice Association created the first hospice program in Toledo and the first licensed one in Ohio.

The staff of five operated out of donated space in the old Flower Hospital on Collingwood Boulevard. Finances were tight the first few years and the organization relied on contributions and volunteer support. Hospice services were not covered by any health insurance, and the hospice philosophy was considered by many to be outside mainstream medicine.

In 1983—a watershed year for hospice care—Congress ratified the Medicare Hospice Benefit. In 1984, the Northwest Ohio Hospice Association became the first hospice in Ohio to receive Medicare certification. It also negotiated the first coverage through Blue Cross of Northwest Ohio and became a United Way agency. In addition, it began to employ its own nurses.

In 1986, the Hospice Association moved into the old Flower Hospital nursing dormitories. By 1991, the agency was caring for hundreds of patients a year and moved to more spacious quarters at Sunforest Court in west Toledo. That year a 10-bed inpatient unit at Lake Park on the Flower Hospital campus opened. This pilot program was so successful that the association began to plan for a freestanding Hospice Center.

The organization changed its name to the Hospice of Northwest Ohio in 1995. It opened its inpatient facility in the region on East River Road in Perrysburg Township, dedicated to local philanthropists Edward and Marion Knight who donated the land. The center was paid for with private money, including a $400,000 grant from the Kresge Foundation. Its was intended to provide home-like normalcy for patients and families, and even included a therapy dog specially trained by Assistance Dogs of America to "work" and live in a hospice environment.

In 1998, the Hospice of Northwest Ohio was accredited and it established a formal relationship with the Medical College of Ohio to provide end-of-life care education for medical students. It was one of the first such programs in the country. Subsequent partnerships were developed with several other institutions in the area to educate nursing, pharmacy, social work, and ministry students in end-of-life care.

In 2002, hospice trustees approved construction of a second inpatient facility near the medical college at Detroit and Arlington, which opened in 2004. Services continued to expand to include a consulting service to help the seriously ill manage pain, a children's grief program, and a program to train family members in home care skills.

As of 2011, seven hospice programs were operating in northwest Ohio including three run by national for-profit chains, and two by nursing homes. But the non-profit, community-based Hospice of Northwest Ohio remained the largest provider of hospice care in the Toledo area. When it marked 30 years of service in 2011, the Hospice had provided care to more than 40,000 patients.

Medical Education Returns to Toledo

Abraham Flexner's 1910 report *Medical Education in the United States and Canada* succeeded in closing many poor quality medical schools, including the Toledo Medical College in 1918. But by the 1960s, with growing demand for medical care, particularly as a result of government health insurance programs, there was a severe shortage of doctors, including in northwest Ohio.

Consideration of creating a new medical school in the area began in the mid-1950s. The Academy of Medicine of Toledo and Lucas County and the city of Toledo each conducted studies to assess the need and potential support for a medical college. The results of both studies were favorable. In 1960, at the suggestion of Dr. William Carlson, president of The University of Toledo, Mayor Michael Damas appointed a 12-member committee to investigate establishing a medical school in Toledo. The committee hired Dr. William Willard, dean of the new University of Kentucky medical school, to develop a feasibility study. His report dated October 1961 concluded that Ohio needed more physicians and that Toledo was a feasible site for a new medical school, ideally one that would be part of The University of Toledo. In 1962, the study committee was incorporated as the Toledo Area Medical College and Education Foundation and continued to lead the effort to bring a medical school back to Toledo.

At the state level that year, an interim commission on higher education also began evaluating Ohio's medical education needs and determined that existing medical schools should be expanded and new ones added. In late 1962, it recommended that a new medical college be established at The University of Toledo. Finally in September 1964—after a change in governors and the requisite political maneuvering, lobbying, public hearings, and delays—the Ohio Board of Regents approved Toledo as the site of a new medical school. However, the regents specified that this new state-supported college would be separate from UT, then a municipal university. It would take another 40 years before these two institutions came together.

A bill to create a medical school in Toledo was unanimously approved in 1964 and the Toledo State Medical College was born. In 1967, the name was changed to the Medical College of Ohio at Toledo and subsequently shortened (though not officially) to the Medical College of Ohio. It was the fourth medical school in Ohio, the hundredth in the United States, and the first established without a parent university since the turn of the century.

A nine-member Board of Trustees held its first meeting in January 1965, with Paul Block, Jr., co-publisher of *The Blade* and one of the college's earliest proponents, as the first chair. The trustees explored options for a permanent location for the college and by the end of the year had selected a 346-acre site between Arlington and Glendale avenues in South Toledo west of the Toledo State Hospital. The architectural firm of Minoru Yamasaki Associates, Inc. was hired to develop a physical master plan, which was approved in April 1968. It called for four phases of construction, beginning with a basic teaching and research building followed by a library and additional teaching facilities; then a hospital; and finally expansion of buildings as needed. In the meantime, temporary space for classrooms, offices, laboratories, and the library was leased in several buildings on the Maumee Valley Hospital complex, which came to be called MCO's east campus. The hospital itself would be taken over by the college in December 1970 and become the first MCO Hospital.

Dr. Glidden Brooks of Brown University took office as the college's first president in 1966. MCO's charter

Groundbreaking for the first building constructed on the permanent campus of the Medical College of Ohio, 1970. From left to right: Paul Block Jr., Ohio Governor James Rhodes, MCO President Dr. Glidden Brooks, and MCO School of Medicine dean Robert Page.

class of 32 medical students began in September 1969, and included three women and two African-Americans. Construction of the new Health Sciences Building, the first building on the permanent west campus, began in 1970. Also in 1970, the MCO School of Nursing was established and began offering the first baccalaureate degree nursing program in Northwest Ohio. In 1972, the School of Graduate Studies was established followed by the School of Allied Health in 1975.

Dr. Marion Anderson, professor of surgery, succeeded Brooks as president in 1972. He served as president until 1977, when Dr. Richard Ruppert of The Ohio State University became MCO's third president and served until his retirement in June 1993. Dr. Roger Bone of Rush University took office as MCO's fourth president in September 1993 and left in early 1996 due to illness. Dr. Frank McCullough, a Toledo native and long-time MCO physician/administrator, was appointed interim president in 1996. He was named MCO's fifth president in 1997 and served until 2002. Dr. Amira Gohara, School of Medicine dean, took on the additional responsibilities of interim president in 2002 when McCullough went on medical leave. She served as interim president until 2003 when Dr. Lloyd Jacobs of the University of Michigan took office as MCO's sixth (and final) president, and served in that position until July 2006.

In June 2005, the Medical College of Ohio at Toledo was renamed the Medical University of Ohio at Toledo. On March 31, 2006, Ohio Governor Robert Taft signed a bill that merged the Medical University of Ohio with The University of Toledo, and as of July 1, 2006, the two institutions officially became one university. The short-lived MUO was renamed The University of Toledo Health Science Campus. Dr. Jacobs was named president of the combined university.

In 2010, UT and ProMedica Health System established the Academic Health Center Alliance. UT began to manage resident physician programs at all ProMedica venues. The two also collaborate on research and grants.

Mercy St. Vincent Hospital also offers nine competitive residency programs, some of which are offered in cooperation with The University of Toledo.

Since 1972, the Medical College of Ohio, Medical University of Ohio, and The University of Toledo Health Science Campus have awarded more than 4000 doctor of medicine degrees, over 400 doctor of philosophy degrees in biomedical sciences, over 100 doctorate degrees in occupational therapy and physical therapy, and over 1500 master's degrees in biomedical sciences, nursing, occupational health, occupational therapy, physical therapy, and physician assistant studies.

Hospital Consolidation

With the creation of the Medicare and Medicaid government insurance programs in the 1960s, the number of people with access to health care expanded rapidly. So, too, did the cost, with health care costs growing more rapidly than the nation's gross domestic product. In Toledo, the average daily cost of a hospital bed increased from $56 in 1968 to $75 in just two years. The federal government, which was underwriting much of this increase, sought ways to control costs, particularly the duplication of expensive specialized services offered at hospitals.

The Partnership for Health Act of 1966 established a network of voluntary state and regional health planning agencies. In 1968, a new Northwest Ohio Health Planning Association was formed, which included over 100 health-related agencies in 11 counties in northwest Ohio. Funded through a grant from the Department of Health, Education, and Welfare, the Northwest Ohio HPA sought to analyze the supply and type of medical professionals in the region to determine the best balance among specialties. The association was also to review hospital expansion plans to avoid costly duplication of services and oversupply of hospital beds. The goal of the association was to expand coverage while controlling costs.

These efforts were largely unsuccessful. By the 1980s, hospitals sought to control costs not through regional planning, but by consolidating in major networks. In Toledo, two networks were formed: one, of Catholic-affiliated hospitals; and one of those that were Protestant or not religiously affiliated. ProMedica was created in 1986, and currently includes Bay Park, Defiance Regional, Flower, Fostoria Community, Lima Memorial, St. Luke's, Toledo, and Toledo Children's in Ohio, and Bixby and Herrick hospitals in Michigan. In December 1995, St. Vincent, Mercy, St. Charles, Mercy Tiffin, and Mercy Willard hospitals joined together to create the Mercy system. Mercy Children's Hospital, Mercy of Defiance, and St. Anne's hospitals later joined the Mercy system. These two systems compete for patients with The University of Toledo Medical Center, which is not affiliated with either system, though it does have agreements with both through UT's academic programs to provide clinical training to its students. The competition between the two major networks has sometimes been heated, as when both St. Vincent and Toledo established children's hospitals. But through this competition, both networks and UT have improved the quality of health care offered in northwest Ohio by continually upgrading and improving services in order to attract patients.

DeVilbiss Hard Rubber Atomizer No. 127, ca. 1920. On loan from private collector.
An example of the atomizer invented by Dr. Allen DeVilbiss to more effectively apply medication to patients' noses and throats. It included an adjustable tip to regulate the amount of spray dispensed.

Dr. Nathan Worth Brown Jr., *Our Hospital*, with cardiographic laboratory report, 1922; and certificate in cardiovascular disease from the American Board of Internal Medicine, 1947. On loan from ProMedica.
The 1922 publication reports Brown's early work at the Heart Station at The Toledo Hospital. The certificate documents Brown's completion of specialized training in cardiovascular surgery.

***Current Researches in Anesthesia and Analgesia*, Vol. 16, No. 1, January-February 1937. On loan from ProMedica.**
This issue of the major journal in the field of anesthesia commemorates the work of Toledo doctor Elmer I. McKesson, inventor of the "Nargraf" machine and a charter member of the American Association of Anesthetists. The back of the issue included an advertisement for one of McKesson's machines.

Commemorative book, Roentgen Society of the United States, 1950. On loan from ProMedica.
The Roentgen Society, an early organization that promoted the use of X-ray technology, celebrated its 50th anniversary in 1950. The publication recognized one of its founding members, Harry W. Dachtler, who brought X-ray machines to Toledo's hospitals.

Academy of Medicine of Toledo and Lucas County, *Medical Public Relations: A Study of the Public Relations Program of the Academy of Medicine of Toledo and Lucas County, Ohio*, 1951. WMCC
In 1950, the Academy began a public relations campaign as part of its efforts to fight "socialized medicine." The program was seen as a possible model for other medical organizations, and as a result, this study was conducted by faculty from Wayne State University. This study surveyed both doctors and citizens to ascertain their views on issues related to medicine. The results indicated that people believed the quality of medical care in Toledo was good, but the cost was too high. There was no consensus on how to address the problem.

Photographs of the Opportunity Home, ca. 1950. Toledo Rotary Club Records, MSS-145; Ability Center of Toledo Records, MSS-190.
The Opportunity Home was built by the Toledo Rotary and the Toledo Society for Crippled Children (now the Ability Center of Toledo) in 1936 as a convalescent center for children recovering from polio. These photos show children receiving care at the home.

***Alliance Advisor: Newspaper of the Free People's Alliance*, no. 2, 1983. Jan Suter Papers, MSS-059, WMCC.**
A publication aimed at Toledo's gay community contained an early article on Kaposi's Sarcoma, a disease later recognized as HIV/AIDS related disease.

Lucas County Board of Health, HIV Prevention Community Planning documents, 1993. David's House Compassion Records, MSS-188, WMCC.
Due to the high infection rates in the county, in 1993 the Lucas County Board of Health undertook a study of how to prevent the disease from spreading.

Publications from David's House Compassion, ca. 1996. MSS-188, WMCC.
These publications promote the services of David's House, a residential treatment center for AIDS patients.

Lucas County Health Department HIV/AIDS reports, 1997-2000. MSS-188, WMCC.
These reports paint a grim picture of HIV/AIDS infection rates in Lucas County. In 1997, Lucas County had the highest rate of new HIV infections in the state.

***A Resource for Life: The HIV/AIDS Resource Team at The Medical College of Ohio Hospitals*, ca. 1990. On loan from The University of Toledo Medical Center.**
This publication promoted the services offered by HIV/AIDS Resource Team to assist those newly diagnosed with the disease.

Editorial, *Bulletin of the Academy of Medicine of Toledo and Lucas County*, 1974.
The idea of creating a special hospital in the Toledo area to care for patients with terminal illnesses was first proposed by Dr. Gregor Sido in this brief editorial. The hospice concept was little known in the U.S. at the time.

Photograph, Dedication of the Hospice of Northwest Ohio's Toledo Center, 2006.
Dr. Sharon Erel, Virginia Clifford, and Judy Seibenick at the dedication of the Hospice of Northwest Ohio's Toledo Center in 2006. Erel was the agency's first medical director and served from 1981-2006. Virginia Clifford was the first executive director and served from 1981-2000. She was succeeded by Judy Seibenick, one of the organization's first three original nurses.

Hospice of Northwest Ohio Quilt. On loan from Hospice of Northwest Ohio.
This quilt from the Perrysburg center was the first in what is now a collection of 53 "Heart-in-Hand" quilts on display in patients' rooms, hallways, and gathering areas. All were designed and stitched by a volunteer group of quilters (all cancer survivors) who meet there weekly.

Early documents on the creation of the Medical College of Ohio, 1960-1964. On loan from Dr. Peter White.
A letter dated 1960 sent by Toledo Mayor Frank Damas to Dr. Frank Rawlings requests his service on the Toledo Medical School Study Committee, and the front page of the now-defunct *Toledo Times* dated November 12, 1964, documents the day after the Ohio House passed a bill to create a new medical college in Toledo.

Consultant's Report, October 1961. WMCC.
This report by Dr. William Willard was submitted to the Toledo Medical School Study Committee concluded that that Toledo was an appropriate site for a new medical school, ideally one that would be part of The University of Toledo.

Toledo Area Medical College and Education Foundation Promotional Booklet, ca. 1963. WMCC.
This promotional piece made the case for why Toledo needed a medical school and why it should be part of The University of Toledo. It also included conceptual drawings of a medical center on the UT campus.

Photograph, MCO campus on South Detroit and Arlington Avenues, ca. 1965. WMCC.
While awaiting construction of its permanent campus, the college leased temporary space in several buildings on the Maumee Valley Hospital complex, including the old Roche Tuberculosis Hospital.

Photograph, Inaugural Anatomy Class, 1969. WMCC.
Dr. Liberato DiDio, MCO's first faculty member, gives his first anatomy lecture to MCO's charter class of medical students in September 1969 in a Roche Hospital classroom on the temporary east campus.

The first graduating class of the new Medical College of Ohio, 1972.

Photograph, MCO School of Medicine's First Graduating Class, June 1972. WMCC.
The first commencement ceremony was held at the Toledo Museum of Art Peristyle.

Photograph, MCO Health Science Building Groundbreaking, 1970. WMCC.
This photo shows the groundbreaking for the first building constructed on MCO's permanent campus. The building would later be renamed Block Health Science.

MCO Dedication Programs, 1969, 1973. WMCC.
These programs are from the dedication of the new campus and the Health Sciences Building.

Commencement programs, 1972, 2006, 2007. WMCC.
These programs document the evolution from the Medical College of Ohio in 1972, the Medical University of Ohio in 2006, and UT College of Medicine in 2007.

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