

CHAPTER 1

Hospitals: Origins and Growth from Early Times to 1900

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CHAPTER OBJECTIVES

- To overview the development of hospitals through the ages from ancient times up to the beginning of the 20th century.
- To address the transitioning of hospitals from housing for the dying to houses of healing.
- To overview the early development of nursing as a healing occupation.

KEY TERMS

Almshouses
American Medical Association (AMA)

Hippocrates
Pennsylvania Hospital

► The Earliest Years of Hospitals

This introductory chapter explores the various ways in which human beings have sought and received medical care in a more or less organized setting when they experienced illness or injury and examines how organizations and institutions developed over time to provide such care. Hospitals as such—though the term “hospital” was likely not actually attached to the earliest facilities—date back to early civilization and the initial development of the most rudimentary means of caring for the ill and injured. According to medical anthropologists, there were such

organized institutions existing more than 4000 years ago in Mesopotamia, and hospitals existed in Egypt and India even in antiquity. In the great river valleys of the world that were favorable for settlement, families became clans and then tribes and these became empires and civilizations that rose and fell. Hospitals and medicine played an ever-expanding part in the history of the world and have always been intertwined with the political and economic affairs of society and the prevailing social norms of the day. As Christianity and Islam became widespread, hospitals were established in both Christian and Muslim countries (Chilliers & Retief, 2005). During the early years of Christianity, the outreach of the church in general included caring for the sick, feeding the hungry, and caring for the destitute.

To Welcome and Care for Visitors

The term *hospital* seems to have evolved beginning with the Latin word *hospes*, originally meaning a visitor or a host who receives visitors. This led to the Latin word *hospitalia*, a place for strangers or guests. Medieval Latin gave us the term *hospitale*, and then Old French shortened this to *hospital*. The term *hospital*, in fact, derives from the same origins as *hotel*.

Written accounts and archeological conclusions provide a window into the medical care of the time of the great civilizations of Egypt, China, Persia, Greece, and Rome (Risse, 1999). The historian Herodotus described the Egyptians as particularly healthy people with good health practices and gifted physicians. Early medical practices in Egypt and in many other ancient societies were integrated into religious practices, services, and ceremonies. Transcripts identifying certain religious deities with specific healing abilities have been found dating as far back as 4000 BCE. The temples of Greek and Roman gods such as Saturn, and later Asclepius in Asia Minor, were recognized as healing centers. Such centers provided refuge for the sick and offered pleasant vistas, salty air, hot and cold baths, and prescribed medications such as salt, honey, and water from sacred springs—though not always for everyone; there is evidence to suggest that the best of such services usually went to the wealthy or socially prominent. Around 100 BCE, the Romans established hospitals (known at the time as “*valetudinarian*”) for the treatment of their sick and injured soldiers. Providing care for the legions was of paramount importance, as the power of Rome depended on its great army (Risse, 1999).

Ancient Greek writings also describe temples and other healing places. Certain gods were named for their healing powers. Aelius Aristides, a wealthy Roman orator, had purportedly visited a Greek temple to seek healing from the goddess Isis (Risse, 1999). **Hippocrates**, long considered the father of medicine, advocated a rational, nonreligious approach to the practice of medicine. Hippocrates began the practice of auscultation (the act of listening to sounds of organs within the body), performed surgical operations, and kept detailed records of his patients in which he described diseases ranging from tuberculosis to ulcers (Risse, 1999). In the Asclepieion of Epidaurus (Risse, 1999), three large marble slabs that date from 350 BCE preserve the names, case histories, complaints, and cures of about 70 patients who came to the temple with medical needs. These are reported to be among the very first medical records. The surgeries listed in these records, such as lancing of an abdominal abscess or removal of foreign material, could have taken place while the patient was sedated with some soporific substance such as opium that was used at the time (Risse, 1999).

A Growing Concern for Illness

During the early years of Christianity in the Near East, sickness was a source of constant anxiety. Growing population densities and resultant sanitation issues in areas such as Rome and Mesopotamia were responsible for epidemics of infectious diseases that kept mortality rates high during this period (Chilliers & Retief, 2002). The rise of commerce with the Far East along over the Silk Road brought people into frequent contact with foreign populations, and two separate disease pools—east and west—came together with grave consequences for the entire region. Many diseases, such as smallpox, measles, and plague routinely devastated populations. The Byzantine Empire, for example, succumbed to famine and civil unrest brought about by extensive migrations from rural to urban centers where both endemic and epidemic diseases decimated the cities (Chilliers & Retief, 2002).

As it had become in Rome, the practice of medicine in Persia also became widespread. The Persians are credited with preserving the early Greek texts until the time of the Renaissance, and without their efforts, much valuable information would have been lost (Chilliers & Retief, 2002). Three kinds of medicine are described in a passage of the *Vendidad*, one of the surviving texts of the *Zend-Avesta*, not found until the early 1700s: medicine by the knife (surgery), medicine by herbs, and medicine by divine words. According to the *Vendidad*, the best medicine was healing by divine words (Chilliers & Retief, 2002).

The Nursing Tradition Emerges

The establishment of the first hospital in Europe is generally credited to Saint Basil the Great of Caesarea, a Cappodocian Father who lived during the 4th century. Known as the Basiliad, this was a large ministry complex that included a poorhouse and what we would today refer to as a hospital and a hospice.

From religious beginnings, a nursing tradition developed during the early years of Christianity as the benevolent outreach of the church broadened. A growing emphasis on charity continued with the proliferation of monastic orders in the 5th and 6th centuries and extended well into the Middle Ages. Religious orders of monks were the principal providers of nursing care; essentially, the first hospital nurses were the monks. A few such orders provided care for victims of the Black Plague in the 14th century, and about this time, communities began to establish institutions for contagious diseases such as leprosy.

The Seeds of the Voluntary Hospital Movement

So many early hospitals, however, were little more than places where the seriously ill were housed until overtaken by death, or places where victims of contagious diseases either recovered or died. The emphasis of the best of such institutions was on what we would today refer to palliative care, providing comfort as life faded away.

During the Middle Ages and the early Renaissance era, some European universities began to emphasize medical education, expanding upon the notion that with appropriate care, people could recover from disease; that is, that one who fell seriously ill was not automatically assumed to be terminal. During this period, hospitals were transitioning from religious-centered institutions to a central emphasis on medical care.

Also, during the Middle Ages, the hospital movement grew to accommodate the Crusades, which began in 1096. Military hospitals sprang up for the wounded and weary crusaders along all the traveled roads between the Holy Land and the West. However, the most rapid growth in the number of hospitals in Europe occurred during the 12th and 13th centuries. In the 12th century in particular, religiously based monastic hospitals flourished and some became important teaching institutions (Risse, 1999).

The Benedictines established the greatest number of monastic institutions, reportedly more than 2000 altogether. Hospitals were also established in Baghdad and Damascus during that period. The Arab hospitals were notable in that they admitted patients regardless of religious belief, race, or social order. Additionally, the Arab hospital system relied on resources from the community: all treatments were free of charge, and each member of society donated a portion of his or her wealth to support the institution (Risse, 1999).

The organization of hospital-like institutions began to change in the Middle Ages as secular authorities began to support some forms of institutional care. Hospitals served several functions during this period: they were **almshouses** for the poor, hostels for pilgrims, and institutions of learning for physicians in training. This gradual transfer of responsibility for institutional health care from the church to civil authorities continued in Europe after 1540 when Henry VIII dissolved the monasteries. Monastic hospitals had disappeared from England by the late 1600s, leading secular authorities to begin caring for the sick and injured in their communities. Toward the end of the 15th century, many towns and cities supported some type of institutionalized care. There were reportedly some 200 such establishments at this time, indicating a growing social need in Britain (Risse, 1999; Starr, 1982). This was the beginning of the voluntary hospital movement. In France, the first such institution was probably established by the Huguenots around 1718 (Risse, 1999).

By the turn of the 18th century, medical and surgical treatment had become a primary concern; no longer was simple comfort care the principal mission of the hospital. Hospitals had long been primarily religious institutions; they were now becoming true medical institutions. Yet throughout most of the 19th century, it was largely just the socially marginal, poor, or isolated who received care in hospitals; the upper and middle classes were treated at home or in private clinics owned and operated by physicians.

In 1859, at St. Thomas's Hospital in London, Florence Nightingale established her nursing school, essentially formalizing nursing as a healing occupation.

► **Early American Hospitals**

Hernando Cortes built the first North American hospital in Mexico City in 1524; it still stands today. Near the middle of the 1600s, the French established a hospital at Quebec City in Canada. Jeanne Mance, a French noblewoman, built a hospital of ax-hewn logs on the island of Montreal in 1644 (Starr, 1982). The order of the Sisters of St. Joseph, now considered to be the oldest nursing group organized in North America, grew out of this endeavor.

A hospital for soldiers established in 1663 on Manhattan Island was the first hospital in the United States. Almshouses served as early hospitals in the United States; one of the first of these was established by William Penn in Philadelphia in 1713 (Starr, 1982).

It is important to note that in the earlier hospitals, physicians were not a regular presence. Much of the population shunned hospitals, which were seen by many as little more than warehouses for the dying. Those who could afford medical care were often treated in their homes by physicians or in private clinics.

Pennsylvania Hospital and Incorporated Beginnings

The **Pennsylvania Hospital** in Philadelphia was the first incorporated hospital in America. This institution was organized by Dr. Thomas Boyd to provide a place for Philadelphia physicians to treat their private patients. Benjamin Franklin helped Boyd obtain a charter from the crown in 1751 (Starr, 1982). In contrast, in 1769, New York City, with 300,000 residents, still had no hospital; this was remedied when Dr. John Jones formed the Society of New York Hospital and obtained a grant to build a hospital. During the Revolution, however, the New York Hospital fell into the hands of the British who used it as part barracks and part military hospital. Other early hospitals of historic interest include two hospitals, one in Boston, Massachusetts, and one in Norfolk, Virginia, that were established in 1802 by the federal government to provide care for sick and injured servicemen (Starr, 1982).

The first psychiatric hospital was established in Williamsburg, Virginia, in 1773. Massachusetts General Hospital in Boston, one of the pioneer hospitals of modern medicine, admitted its first patient, a 30-year-old soldier, in 1821.

Phases of American Hospital Development

Early hospital systems in America developed in three distinct phases. The first, running roughly from 1751 to 1851, saw the formation of two kinds of institutions: voluntary hospitals operated by charitable boards and public hospitals descended from almshouses—unspecialized institutions that served general welfare functions and only incidentally cared for the sick—operated by municipalities. The second phase began in about 1850, when particularistic (primarily religious or ethnic) and specialized hospitals became established. The third phase saw the development of profit-making hospitals operated by physicians, singly or in partnership, or corporations (Starr, 1982).

Americans were not inclined to seek care from hospitals during most of the early 19th century, and for more than a century thereafter, most Americans gave birth and endured illness and even surgery at home. The reasons for this were multiple: First, the country remained a largely rural society at this time, and few people had ever even seen a hospital let alone had access to one. Second, the indirect cost of visiting a hospital could mean the loss of several days' work and perhaps the crops for that season. And, as noted earlier, hospitals also had a reputation, deservedly so, as death houses. Mortality rates in hospitals during this era were extremely high. Finally, during the Victorian era, when modesty and a desire for privacy prevailed, people preferred to be seen by their physicians at home (Starr, 1982).

Effects of Changing Social Structures

In the United States, the late 19th century was a period of economic expansion and rapid institutional development. Weber described the changing social structure as a

general movement from communal to associative relations. After the industrial revolution, social structures changed and families were no longer able to provide care to family members as they had before. Families no longer lived primarily in large houses with many members; many had migrated to cities, had fewer children, and lived in smaller households. Households and communities gave up their functions to organizations, and these organizations also changed. Hospitals were first almshouses. Almshouses metamorphosed into modern hospitals by first becoming more specialized in their function and then becoming more universal in their use (Starr, 1982).

A Dark Period for Hospitals

Despite the fact that the number of institutions increased during the first half of the 19th century, this era nevertheless stands out as a dark period in the history of hospitals. More surgeries were performed during this time than in any previous period in the history of medicine. However, few of these surgeries were successful, and in contrast to earlier surgeons, who had at least attempted to keep wounds clean, physicians in this era considered the production and discharge of pus (suppuration) to be desirable and encouraged it. The mortality rates reflected the error of this belief (Starr, 1982). Surgeons wore the same operating gowns for months between washings, and the same bed linens served several patients. Gangrene, hemorrhage, and infections infested the wards of hospitals. Mortality rates from surgeries ran as high as 90%. To tolerate the stench of the wards, nurses used snuff and wore perfumed masks.

By the time of the Civil War, however, hospitals had largely managed to overcome much of their reputation for squalor. The Union had established a system of more than 130,000 beds by the last year of the war and treated more than 1 million soldiers. Germ theory was not yet fully formulated, but the influence of Florence Nightingale made the system work better (Starr, 1982).

The Rise of Professional Nursing and Antiseptic Surgery

The contributions of Florence Nightingale during the mid-19th century are unfathomable in today's clean and modern healthcare settings. In the 1830s, Florence Nightingale went to Kaiserswerth on the Rhine to train as a nurse. She wrote disparagingly of her training, especially regarding the hygiene practices, and gained a reputation for delivering effective and efficient nursing care. In 1854, she was sent by the English government to improve the deplorable conditions of the care given to the sick and wounded soldiers of the Crimean War. The appalling conditions she found, including wounded men vermin-infested and lying in dirt, were quickly remedied.

Florence Nightingale brought order and cleanliness to the practice of nursing. She organized kitchens, laundry services, and departments for supplies, often using her own resources to fund her projects. Florence Nightingale brought an organized approach to the operation of hospitals and is considered by many to be the first true healthcare administrator. One of her major contributions was her use of statistics to track infections and determine the real causes of mortality in the Crimean War. This was one of the earliest uses of the scientific method to determine the cause of disease and develop effective treatment plans. Before many of the lifesaving innovations of that time had even been discovered, Florence Nightingale had decreased

the incidence of disease and the ensuing mortality with her hygienic approach to nursing care (Starr, 1982).

In 1859, Florence Nightingale established her innovative nursing school at St. Thomas's Hospital in London. Her approach to nursing education exerted considerable influence on future nurses' training in the United States and elsewhere.

Two additional developments brought about even more pronounced improvements. One was the professionalization of nursing. In 1873, nurse training schools were established in New York, New Haven, and Boston. The training of nurses and oversight of nursing in hospitals were taken up as a cause by upper-class women in New York. Some physicians opposed it, however, some saying that educated nurses probably would not do as they were told. But the women prevailed and nursing became a profession. The other development was the advent of antiseptic surgery in 1867, led by Joseph Lister (Rosen, 1993). Like nursing, surgery enjoyed a tremendous rise in acceptance and prestige in the late 1800s. The discovery of anesthesia made the practice of surgery much easier, and surgeries became slower, more careful, and safer endeavors. Surgery really began to take off in the 1890s and into the early 1900s, increasing in amount, scope, and daring. In 1883, the number of surgical patients exceeded that of medical patients for the first time in Boston hospitals. Hospitals also became more generally accepted and began to serve patients of different social classes. By the early 20th century, the occupational distribution of the adult patient population reflected that of the general population.

The introduction of the scientific method into medicine during this time was an important phase in the development of health care in this country and throughout the world. Louis Pasteur discovered bacteria while trying to help a friend determine why his beer was going bad before he could sell it. He further determined that it was also the cause of disease.

In Europe, early infection control was achieved through the efforts of Ignaz Semmelweis of Vienna, Austria. Appalled at the high rate of mortality among postpartum women in his hospital, Semmelweis used the statistical data he gathered from medical students on the maternity ward to determine the cause of the infections. He boldly informed his colleagues that the high mortality rate from puerperal fever in maternity patients was due to infection transmitted by students who came from the dissecting room to take care of the patients on the maternity ward. The mortality rate was much lower for poorer women who were cared for by midwives, who practiced better hygiene. Semmelweis required the medical students to scrub their hands before seeing patients, and although he made enemies, he also lowered the mortality rate in the Lying-in Hospital's maternity ward. This was the beginning of work on germ theory and, along with the findings of Pasteur and others, the origin of modern bacteriology and clinical laboratories.

Joseph Lister continued Pasteur's work. He noticed that broken bones over which the skin remained intact healed much faster and with fewer complications compared to fractures that were exposed. Lister theorized that some element that was introduced through the wound and then circulated within the body was responsible for the infections. By 1870, surgeons were following a protocol of spraying carbolic solution on both surgeons and patients and in the operating rooms, resulting in fewer surgery-related infections. Two other important developments were the introduction of steam sterilization by Bergmann in 1886 and rubber gloves by Halstead in 1890 (Rosen, 1993).

The end of the 19th century also brought the discovery of anesthesia and antiseptics, two of the most significant influences on the development of modern surgical procedures. One of the final major achievements of the century was the discovery of the X-ray in 1895. Additionally, hospitals began to care for patients with communicable diseases during this time. During the last decade of the century, the tubercle bacillus and malaria parasite were discovered, Pasteur vaccinated against anthrax, and Koch isolated the cholera and tetanus bacilli (Rosen, 1993).

Hospitals Proliferate

The discoveries and events of the 19th century resulted in a great many hospitals being established in a relatively brief period of time. In the United States, by the end of the century, there were 149 hospitals with a total capacity of more than 35,000 beds, and fewer than 10% of these hospitals and beds were under any form of government control (Starr, 1982). After 1900, the elite voluntary hospitals concentrated on acute care and had relatively closed medical staffs and the closest ties to universities. The municipal and county hospitals, usually the largest local institutions in terms of number of beds, cared for a full range of acute and chronic illnesses. The religious and ethnic hospitals were a mixed, intermediate group that rarely had significant endowments and consequently relied on patient fees. The profit-making hospitals were mainly surgical centers; they were usually small and had no ties to medical schools (Starr, 1982).

The **American Medical Association (AMA)** was founded in 1847 under the leadership of Dr. Nathan Smith. Also, during the latter half of the 19th century, women were finally being accepted as physicians following a considerable struggle. Also against considerable resistance, the AMA strove to raise the standards of medical education and professional competency during the early part of the 20th century. The Flexner Report, written by Abraham Flexner, a professional educator, was published in 1910 and proved to be a severe indictment of the system. Among the deficiencies Flexner wrote about were touted laboratories that did not exist, no disinfectant in dissecting rooms, libraries without books, alleged faculty members busily occupied in their private practices, and medical schools routinely waiving admission requirements for those who could pay. Flexner found a great discrepancy between medical science and medical education, and his report brought about great changes in medical education (Starr, 1982).

Overall, hospitals had stepped out on a path that would eventually lead to the healthcare system of today; the stage was now set for the widespread acceptance of the hospital as the apparent center of what would become loosely described as “the healthcare system.”

Brief Chapter Summary

Hospitals began to care for the sick almost incidentally. The earliest hospitals were established for pilgrims, indigents, and plague victims. Later, they became institutions where people from all parts of society could come for diagnosis and recovery.

Early American hospitals were largely founded following the example of European hospitals. However, American hospitals developed rapidly and soon became quite different from their early foreign counterparts.

The hospital as an institution has become dynamic in nature; it exists to meet the needs of the people it serves. Today's hospitals continue to make history by reacting to the changing needs of society and providing better technologies, new services, and greater access.

Questions for Review and Discussion

1. According to medical anthropologists, where and when did hospitals begin?
2. Who is considered the father of medicine, and what was his approach to the practice of medicine?
3. Identify some of the functions of hospitals during the Middle Ages.
4. What is an almshouse?
5. When and where was the first hospital established in the United States, and what was its purpose?
6. What made the Pennsylvania Hospital different from previous hospitals?
7. Name the three phases in the development of hospital systems in America.
8. Why is Florence Nightingale important to the history of hospitals?
9. Discuss early infection-control efforts by Ignaz Semmelweis.
10. What is the AMA and why is it important?

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