THE FRAMINGHAM HISTORICAL SOCIETY
PRESENTS THE EXHIBITION

Zeal for Healing
A Framingham Trait

APRIL 28 - AUGUST 18, 2001

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Foreword

The Framingham Historical Society was founded by local citizens in 1888, to collect, preserve and exhibit articles relating to and illustrating the history of the town, for the benefit of future citizens. Since 1916 the collection has been housed in the old Academy. In the later 20th century members arranged objects in the collection to present a time-line of Framingham's history, and began to open the museum to the public on a regular basis. Funding to present changing exhibitions with a specific focus has only lately been available, and in the past three years we have mounted several on an occasional basis as we plan for a regularly-scheduled exhibition program that will study in greater depth specific areas of this town's long history, and highlight the contributions of its citizens. Now, thanks to generous support from town associations and private citizens alike, we are able to present both the exhibition *ZEAL FOR HEALING: A FRAMINGHAM TRAIT* and this catalogue.

It is not an exaggeration to say that Framingham's medical community has had a world-wide impact. Mention Framingham anywhere in a medical context and the response will be "Oh, yes, the Heart Study," and the Heart Study has a prominent place in this exhibition. But the town's contributions to health began well before that, as Curator Dana Dauterman Ricciardi documents. In the 1830s a Framingham doctor took his medical skills to China; Framingham healers served prominently in the Civil War; and in the early 20th century local citizens agreed to take part in an experimental study to help stop the killing scourge of tuberculosis. These and other aspects of Framingham's zeal for healing are explored in this exhibition, thanks to funding provided by generous donors, and also thanks to those who were willing to lend intrigruing objects from their collections for the benefit of the rest of us. Many volunteers also provided much-needed assistance, especially with research, fund-raising, and installing the exhibition. Heartfelt thanks to all of you, and to our public, we hope you enjoy *ZEAL FOR HEALING*!

Joan Mickelson Lukach
Director

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Introduction

"We have reached, as I conceive, the grandest epoch in the history of medicine; an epoch in which Massachusetts physicians have borne a conspicuous part." Framingham's Dr. Zabdiel Boylston Adams made this statement in a paper presented to the Massachusetts Medical Society in 1860. His words are equally convincing today. He would have taken tremendous pride in knowing how conspicuous a part the town of Framingham has played.

Since the country's independence from Britain, Framingham citizens have been noted for their contributions to medicine. There have been outstanding physicians in every generation. Many of Framingham's leading physicians have also taken an active role in civic affairs, assuring that health issues have never been ignored. Less celebrated, but no less dedicated, have been other health professionals of every kind, from nurses and midwives to laboratory technicians and para-medicals. Few towns in America can boast the zeal for healing which is apparently a common trait among Framingham citizens in all walks of life.

While individual practitioners have traditionally formed the backbone of medical care, they have discovered increasingly the effectiveness of working together, first in hospitals, and later in large-scale, town-wide projects and most recently in networks that transcend Framingham's borders. Concurrently, there has been a movement toward decentralizing medical services, taking them where they reach people directly at school, at work, at community centers or even in their homes.

The subject of healing in Framingham is compelling. The most difficult aspect of treating it, due to limitations of space and time, is the need to be extremely selective. We have chosen a few individual leaders prominent in their time, some eminent organizations, and two major studies to highlight the outstanding medical contribution of one American town. This catalogue presents a selection from the photographs and other images in the accompanying exhibition. The exhibition and catalogue stand as a tribute to them and to the many unnamed medical professionals, support staff and volunteers who have taken part in this contribution.

Dana Dauterman Ricciardi
Curator

Cover Photograph: ***The Clinic at Dennison Manufacturing Co., 1922.*** Dennison's was a corporate leader in caring for those in its employ and making working conditions not only reasonable but attractive. During World War I the firm opened a clinic to meet the needs of employees on site. In 1921 employees had access to a three-room clinic, a rest room, a full-time physician and two nurses – not to mention surgical, throat, dental and opthalmologic services (Armstrong, p. 2).

Dr. John B. Kittridge [sic], 1772 - 1848
Engraving by J.H. Ritchie, first half of the 19th century
FHS Collection

Dr. Kittredge's medical career in Framingham spanned the years 1791 to 1848, earning him a reputation as the leading physician of Middlesex County. He was one of the first doctors in the area to have earned a medical degree. Dr. Kittredge is remembered today not only for his many successes, but also for the smallpox epidemic which plagued Framingham in 1793, and for which he had no cure. In fact, it is said that smallpox may have been transmitted to the community by one of his patients, who had traveled from New Hampshire to seek the good doctor's advice and treatment. The town took the house of Revolutionary War veteran Samuel Angier on Work Hill for use as a "pest house." In what might be called a precursor of Framingham's hospitals, 17 smallpox victims were isolated to prevent further spreading of the disease. Dr. Kittredge could do little to help the 5 who died. They were buried in deep graves (7 feet down in contrast to the usual 3 feet) in a pasture at nearby Thompson's Farm.

Setting an example for many outstanding professionals who followed him, John Kittredge the citizen served the Town of Framingham in the office of Selectman in 1809.

Note: Before the standardization of American spelling (largely a result of Noah Webster's spelling book published in the 1780s and his *American Dictionary*, 1828) variant spellings of names were common.

Dr. Peter Parker, 1804 - 1888
Photograph by Cokell, c. 1859
Lent by the MetroWest Medical Center (#152)

A native of Framingham's Salem End, Peter Parker taught school briefly in Framingham before earning doctoral degrees in both theology and medicine at Yale University in 1834. Ordained as a Presbyterian minister, he was appointed by the American Board of Commissioners for Foreign Missions as the first Protestant medical missionary to China. With the support of American, British and Chinese merchants he opened a hospital in the city of Canton (now Hangzhou), bringing a new commodity to a busy port whose lifeblood was international trade. In a country where Confucianism taught that disfiguring the body was wrong, surgery had been virtually nonexistent. Dr. Parker's first few cases took some persuasion: in one instance, consent was granted by the patient's family only after Dr. Parker agreed they could take his life if the patient did not survive.

The doctor specialized in diseases of the eye, and he removed thousands of cataracts. As the demand grew, he performed growing numbers of other operations, especially the removal of tumors, stones and other foreign bodies. He worked quickly, giving his patients opiates and using strong assistants to restrain the patients before ether (first used in surgery in 1842) or chloroform (discovered 1831) had come into general use. When he left China in 1851, over 53,000 patients had been treated at the hospital. Broadening his original mission, he became American Commissioner and Minister to China in 1855.

Copper sweetmeat fork
Illustrated in the Annual Report of the Ophthalmic Hospital, 1850
FHS Collection

The fork became lodged in the urethra of 40-year-old Chau Sin, during a failed attempt to remove an obstruction, 14 days before his arrival at Dr. Parker's hospital.

Stone found in the patient's prostate gland and bladder
Illustrated in the Annual Report of the Ophthalmic Hospital, 1852
FHS Collection

The stone, measuring 3" by 4", was successfully removed. After full recovery the patient, a 25-year-old fishmonger, presented Dr. Parker with a scroll bearing the following verses:

耶 穌 濟 世 傳 天 下
伯 鮮 奇 方 救 萬 民

"Let the [merits] of Jesus the Savior of mankind be promulgated throughout the world. You deliver from all diseases, and by extraordinary means save myriads of people. Liu Lien-mau presents his compliments."
Annual Report of the Ophthalmic Hospital, 1852
FHS Collection

Dr. Zabdiel Boylston Adams, 1829-1902
Photoprint, FHS Collection

Zabdiel Boylston Adams was a physician, surgeon, scholar, and officer in the Union army during the U.S. Civil War. As a military surgeon he had to cope with the unchecked spread of disease and operate under the most primitive conditions, lacking clean water and supplies of all kinds. He was captured and spent months in Libby Prison with a festering wound in his leg. Army surgeons recommended amputation, but Zabdiel Adams refused. Returning to Massachusetts for medical attention, he recovered completely under the care of Drs. H.J. Bigelow and R.M. Hodges and returned to the front to serve as Brevet Major.

After the war, Dr. Adams moved from Roxbury to set up private practice in the country, in Framingham. He was soon appointed Medical Examiner in the Middlesex District and Chairman of the Board of Health. His war camp experiences sharpened his interest in preventive medicine. As a public-spirited citizen, he worked to minimize the hazards of disease from human exposure to swamps, standing water and sewage. Although Adams' initial proposals were not implemented, Framingham had piped water in1883, and finally solved the problem of waste water in 1888, when a state-of-the-art sewer system was laid out, one of the earliest of its kind in the country.

Zabdiel Adams crusaded to eliminate contamination of the ivory points used in vaccination programs. He championed the cause of physical education in the schools, and presented a paper on that subject to the Massachusetts Medical Society.

Ahead of his time, he was alert to the benefits of setting professional standards and of collaboration. "Selfishness and personal interest should be subordinated to the general good..... Nothing is better than to meet often, trust each other and tell our failures as freely as our successes." (Peabody, 196). Citing the number and severity of train and carriage accidents, Dr. Adams spoke persuasively in 1890 to medical and civic colleagues about the need for a hospital in Framingham. When Framingham Hospital opened in 1893 he served on the board of physicians for the training school as long as his health permitted, resigning in 1895.

Even in his final years, Zab Adams' eager interest in the advances of medicine did not slacken. "'The advance of surgery under asepsis excites the wonder of the world. Nothing now seems impossible,'" he exclaimed. (Peabody, 202). Nearly a century later another Framingham surgeon, Dr. Charles Newton Peabody, wrote Dr. Adams' biography, *ZAB*. [See WORKS CITED, at end.]

Clara Barton, 1821 - 1912
Photograph by Smith, Evanston, Illinois, 1897
Lent by the Sophia Smith Collection,
Smith College

Though Clara Barton was born in nearby Oxford, Massachusetts, her connection with Framingham began when her early ancestors settled here in the 17th century, and remained until about a century before her birth in 1821. Energetic and practical, she shared her family's penchant for practicality combined with a broad humanitarian interest (Curti, p. 103).

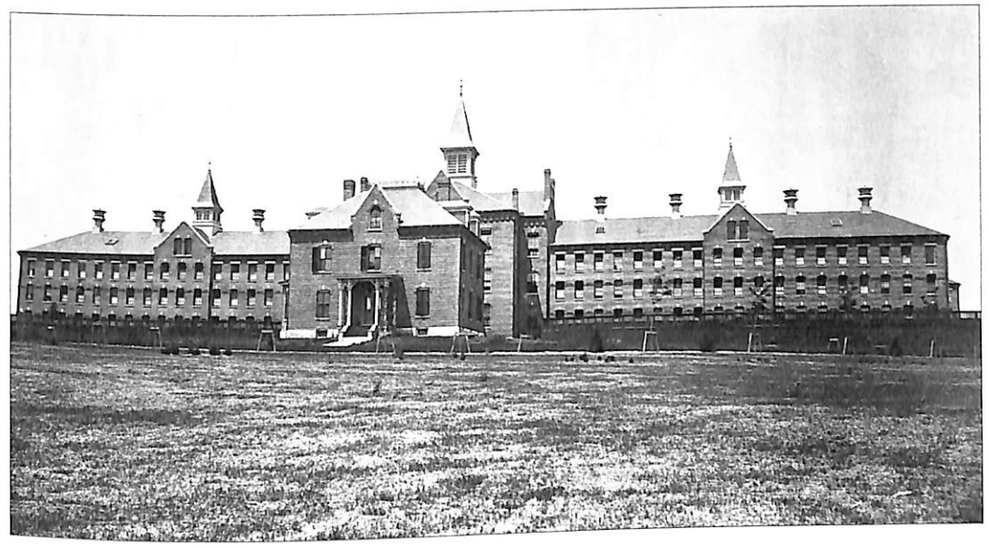
Clara Barton is best known for two things: first, as "the angel of the battlefield," bringing food, medical supplies and other necessaries to the wounded during the Civil War; and secondly, as the founder of the American Red Cross. So successful was her work that one hundred years later, the Red Cross continues, in Framingham and throughout the United States, to carry out her commitment to organized relief, not only in wars, but also in domestic disasters - droughts, floods, fires, and railway accidents.

Less known was her term of 8 months in 1883, when she served, at Governor Benjamin Butler's request, as superintendent of the Woman's Reformatory Prison on land that is now the southeast corner of Framingham.

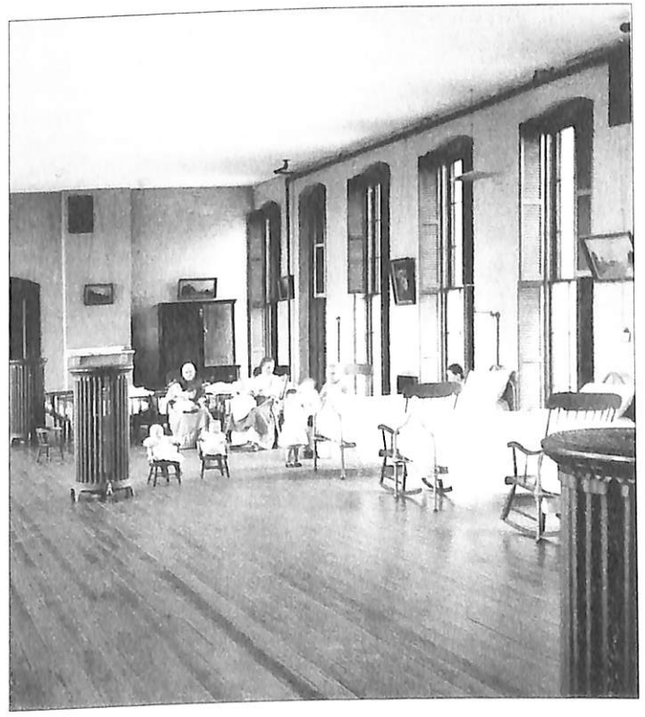
Clara Barton's practical experience as a self-educated Civil War nurse, as well as her work with the International Red Cross Committee, contributed to her ideas on the Reformatory Prison. It came naturally to her to think in terms of health: "The first question might be, What is meant by prison reform? and in what degree? Palliation or cure?" (William Barton, p. 211). Barton addressed both the physical and the mental health of the inmates. She pointed to the role of alcoholism as a key factor in criminal behavior, a factor which must be eliminated. Managing the inmates' diet was important, too: "more of grains, vegetables, and fruit, and less of meat... I would have the food plentiful, but unstimulating, and the cooking wholesome."

She advocated investigation "in all prisons for any possible tendency to insanity on the part of any prisoner. The willful subjection to prison rules ... of those from whose benighted souls the light of reason and the power of self-control have been withdrawn is cruelty inexcusable and accursed in the sight of God and man" (Clara Barton, p. 46).

Reformitory Prison for Women



Exterior of the "Woman's States Prison"
Photograph from "Framingham Illustrated," published by the Lithotype Printing Co., New York, late 19th century
FHS Collection



Nursery in the Prison Hospital
Photograph published in a booklet on the "Reformitory [sic] Prison for Women," late 19th century
FHS Collection

In the *Annual Report*, Clara Barton wrote "the management of the hospital, under charge of Dr. Lucy M. Hall, is beyond commendation from me. The inmates needing the care of a physician or surgeon receive from her hands all the skill, attention and nursing given in the best hospitals of the country" (*Annual Report*, 1883, p. 46).

Framingham Hospital Corporation, 1890-1928

Dr. Lewis M. Palmer
Photograph by Harris V. Ewing, Washington, D.C., c. 1900-1930. FHS Collection

The dynamic and respected Dr. Palmer, known affectionately to his staff as "Daddy Palmer," was the first chairman of the staff, 1898-1901. He also served as the local medical examiner, and as a member of the state legislature. Twenty years later Dr. Palmer and Dr. Bigelow were both members of the Executive Committee of the Framingham Health and Tuberculosis Demonstration.

Before the last third of the 19th century, few hospitals existed outside large metropolitan areas. But medical advances were changing the way hospitals were run, and changing attitudes toward them as well. With the risks of the long trip to Boston for anyone seriously injured or critically ill, Framingham citizens saw the need for a hospital of their own. In 1890 a group of distinguished residents of the town gathered to meet this pressing need. In response to their petition the Commonwealth of Massachusetts issued a charter for the new corporation, authorizing it to hold property (including land, buildings and equipment) "to an amount not exceeding ... $50,000."

Framingham Hospital opened in a converted house in 1893; over the next few years enough funds were raised to construct a more suitable building which was serving patients by 1898. In that year the Hospital admitted 60 veterans returning from the Spanish-American War and treated many of them for the highly contagious and often fatal typhoid fever. Following up on recent discoveries about bacteria as the cause of disease a "contagious ward," in the tradition of the old "pest houses," was set up outdoors under a tent in the summer of 1898. The Commonwealth of Massachusetts recognized the extraordinary effort of caring for the veterans with financial compensation.

Members of the Framingham Hospital's original staff of seven were teaching nursing students before they formed a medical staff for the new hospital. Looking back in 1975, Dr. Joseph Merriam cited these physicians for their foresight and dedication, in *Framingham Medical Reflections* (p. 52). They saw the need for record keeping, demanded from the Trustees recognition for professional work, anticipated the importance of radiology in patient care and diagnosis, and sought to guard against "unjustified and inept surgery."

Dr. Orville W. Collins
Photograph by Bartlett F. Kenney, Boston, c. 1884-1910
Gift of Mrs. O.W. Collins, 1916.822

Coming to Framingham in 1884 as Superintendent of Schools, he chaired the School Committee for many years (Merriam, p. 20). He had studied at the Maine Medical School in Brunswick, and eventually earned his M.D. from Harvard Medical School in 1887. Dr. Collins served as Medical Staff President 1903-1904.

Dr. Enos Bigelow
Photograph by J.E. Purdy & Co., Boston, c. 1890-1920
FHS Collection

Dr. Bigelow was Medical Staff President 1901-1903. He later became Framingham's state representative, and president of the Massachusetts Medical Society.

Rear view of hospital
Post card from 1898 photograph
Gift of Mr. Jay J. Lander, 1996.38.12

The Hospital Corporation raised funds to replace the converted house it occupied on Winthrop Street with this spacious new building on Evergreen Street in 1898.

Like other Massachusetts towns Framingham had always cared for the very poor, providing for their medical needs. The Town's annual reports for the year 1838-39, for example, list $33.60 paid for "medical attendance" as an "expense for supporting the poor." More prosperous citizens, accustomed to being cared for at home or at their physician's office, had traditionally thought of a hospital as a shelter for those who could not afford to pay for medical care. By the late 19th century anesthesia and other medical advances had made hospitals increasingly safe for surgery, and private patients were entering Framingham Hospital in growing numbers. A new wing was added to accommodate them in 1902, but the old prejudices lingered. Dr. Herbert Benner started a separate hospital for private patients at Union Avenue and Lexington Street in 1912. By the mid 1920s pressure on both hospitals for expansion resulted in a merger, however, and the opening of a new facility, the Framingham Union Hospital, in 1928.

The solarium, Framingham Union Hospital
Photograph, c. 1928-40. Courtesy of the Cesare G. Tedeschi Medical Library, MetroWest Medical Center (#216)

Built in1928, the Framingham Union Hospital had an inviting solarium on the second floor. Note the 3-wheel chair at left.

School of Nursing, Founded 1893

A separate effort, led by women (forerunners of the Hospital Aid Association), proposed the founding of an independent training school for nurses. While most of the 8,000 Framingham residents were still cared for at home in the 1890s, the need for a school of nursing seemed far more pressing than the need for a hospital (Merriam, p. 3). "The secretary of the Training School reported at the annual meeting [1894] ... that never before in the history of Framingham has so much interest and kindly sympathy been felt for any one object, all sections of the town ... working together in harmony." (Warren, p. 111).

The school opened in 1893 in conjunction with the hospital, admitting students for a two-month probationary period (extended to six months in 1899) for the two-year course. Matriculating students were presented with a blue "gingham dress, white apron, white kerchief and white cap." (Merriam, p. 59-60). Instructors from the Framingham State Normal School taught anatomy, dietetics and chemistry (p. 72). Dr. Zabdiel Boylston Adams gave the graduation address to the first graduating class in 1895.

School of Nursing graduates, Class of 1898
Photograph, c. 1898. Courtesy of the Cesare G. Tedeschi Medical Library, MetroWest Medical Center (#68)

When Framingham Hospital and Framingham Union Hospital merged in the 1920s, the nursing school prepared to move into a "lovely new building" (Humphrys, p. 87) which was ready in 1928. Two decades later (1948) a new education unit opened, equipped with a lecture room, science laboratory, and a nursing arts demonstration and practice room (author unknown, *Framingham Medical Reflections*, p. 72). Accredited by the National League of Nursing in 1961, the School began to admit men in 1967, and in the same year formalized its affiliation with Framingham State College. It is now administered as the Education Department of the MetroWest Medical Center.

School of Nursing classroom, Day Memorial Hall, 1929
Photograph, 1929
Courtesy of the Cesare G. Tedeschi Medical Library, MetroWest Medical Center (#133)

Students' uniforms were changing: "long sleeves gave way to short about 1937. Black shoes and stockings were changed to white a few years later." (Warren, p. 103)

Woodside Cottages, 1900-1976

Dr. Frank Wallace Patch earned an M.D. from the Boston University School of Medicine, graduating in 1897, the same year as Framingham psychologist Solomon Carter Fuller. Dr. Patch gained recognition as a "pioneer psychiatrist" and an early advocate of occupational therapy (Sereda, p. 12A). He joined the original medical staff of Framingham Hospital in 1898 as the only homeopath (member of the medical discipline that seeks to assist the body's own healing energies rather than override them).

Just two years after the new hospital opened Frank Patch established a "private sanitarium... for persons who were chronically ill, such as with rheumatoid arthritis, diabetes," etc.... (Macdonald, p. 1). He chose the name "Woodside Cottages" for the buildings and land off Prospect Street on Indian Head Hill near Framingham Centre. His idea was "to establish a comfortable, homelike residence with ample individual freedom" where "nervous or convalescent invalids" could enjoy "a simple, natural life... removed from surroundings in which the sickness developed" (Woodside booklet, p. 1, 4). "WOODSIDE life is entirely normal, informal and cheerful" (Woodside brochure, p. 1). Committed mental patients were not admitted, and there was to be no sense of isolation from the outside world.

Treatment options at Woodside included ultra-violet and infra-red lamp therapy, and massage. There was also occupational therapy: gardening, writing, photography and sketching published in the Woodside bulletin; crafts, carpentry, and forestry. And for recreation Woodside offered motion pictures, pool and billiards, lawn games, picnics, bowling, a library, and a radio.

The menu featured fresh vegetables, milk and eggs from Woodside's own farm.

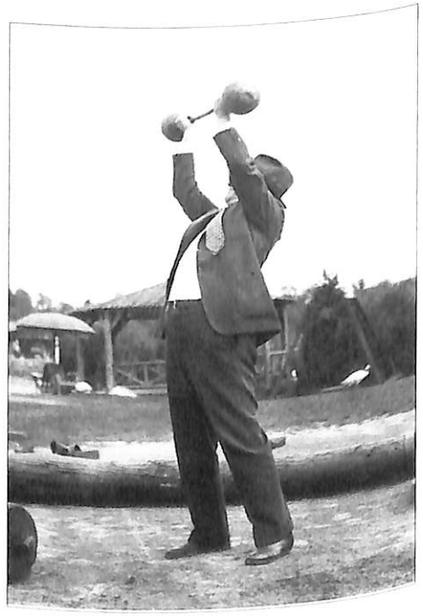
Cottages at Woodside
Photographs, c. 1900-1930
Courtesy of Dr. and Mrs. John Macdonald and FHS Collection

Woodside Cottages enjoyed a naturalistic setting in 18 acres of lawn and woodland.

Woodside nurses
Photograph, c. 1912-13
Courtesy of Dr. and Mrs. John Macdonald

"Neither stimulants, suppressive measures, electricity nor artificial apparatus find a place in treatment at Woodside" (Woodside booklet, p. 6). In keeping with Dr. Patch's homeopathic training, medicines were used only "when required in the simplest form possible and to only a limited extent."

When Dr. Patch died about 1920, his children hired a Medical Director. Dr. Arthur Ward held this position for many years and, based on his work at Woodside, was elected president of the New England Psychiatric Association in 1952. After World War II, Woodside became a nursing home. When Dr. Ward retired, in 1960, the Patch family sold Woodside to B.F. Macdonald, M.D. In 1976 the State "shut [Woodside] down because we did not meet the building codes" (Macdonald).

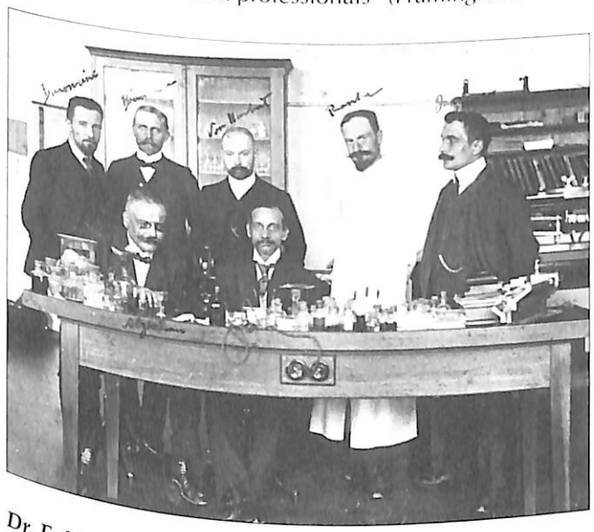


A Woodside patient lifts a dumbbell.
Snapshot from a Woodside scrapbook for 1936
Courtesy of Dr. and Mrs. John Macdonald

"Systematic exercise in the open air is insisted upon and is varied through walks, drives, gardening or games" (promotional brochure, early 20th century).

Dr. Solomon Carter Fuller, 1872-1953

Dr. Solomon Carter Fuller was a distinguished neurologist and psychologist. He was a pioneer in the study of the biological basis of degenerative brain disease, as well as in the use of psychotherapy in the treatment of mental illness. "In addition ... Fuller is credited with helping to pave the way for black professionals" (*Framingham News*, January 17, 1953), not only in the Boston psychiatric community, but in medical institutions throughout the country.



Dr. Fuller (seated, second from the left) with Professor Alois Alzheimer (seated, far left)
Photograph, 1905
Courtesy of Alumni Library, Boston University School of Medicine

Solomon Carter Fuller, whose grandfather had been an American slave, grew up in Monrovia, Liberia. His delight in reading Latin as a boy proved to be excellent preparation for the medical terminology he was to study at the Boston University School of Medicine, where he earned his M.D. in 1897. During an internship at Westborough State Hospital for the Insane "he took over a project to establish a pathology laboratory whose reputation he was to make prominent" (Graves, p. 23). During his first year he made micro-photographic slides of blood and brain tissue samples, using equipment he himself had developed, as a new technique for studying dementia and other mental disorders (McNamara, p. 28).

Dr. Fuller became a faculty member at Boston University Medical School and served on the staff of Westborough State Hospital from 1897 to 1919. Fuller was one of just five students chosen in 1905 to study the pathology of the brain in Germany under Professor Alois Alzheimer (whose name has been given to the disease he studied). "Dr. Fuller published, in 1912, the first comprehensive clinical review of all Alzheimer's cases that had been reported up to that time.... includ[ing] a case that he had himself identified, the ninth such case ever described" (Graves, p. 23).

Solomon Carter Fuller lived with his family at 31 Warren Road, Framingham, from 1908 to 1951. During those years he authored a number of books and articles, and exchanged views with Sigmund Freud and Carl Jung. He also taught at the Framingham School of Nursing. The Solomon Carter Fuller Mental Health Center in Boston (affiliated with the Boston University School of Medicine) was named for him in 1974. Closer to home, the town of Framingham honored both Dr. Fuller and his wife, talented sculptor Meta Vaux Warrick Fuller, by naming the Fuller Middle School for them. Graduates of this school who visit Washington, D.C. should recognize Dr. Fuller's portrait in the office of the American Psychiatric Association, where it hangs alongside those of other great American psychiatrists.

In his later years Dr. Fuller served beyond the hospital walls as a court psychiatrist and was director of the Clinical Society Commission of Massachusetts. He died at Framingham Union Hospital in 1953. Dr. Fuller's papers, study notes, photographs and drawings are at the Francis A. Countway Library of Medicine at Harvard University, where they await further cataloguing.

The Framingham Health and Tuberculosis Demonstration, 1916-1923

Sometimes called "the Framingham Study," this ground-breaking project gathered information on a community-wide basis, and launched remedial measures on a large scale. This study was conducted under the supervision of the National Association for the Study and Prevention of Tuberculosis. Its success paved the way for the choice of Framingham for the nationally sponsored Framingham Heart Study in 1948.

Competing with other communities throughout the country, Framingham was chosen because it was a town of average size, with an average amount of disease, including tuberculosis. It had mixed industries, varied racial groups and a good local health organization. Perhaps most important, officials were impressed by the promise of genuine cooperation on the part of individuals and organizations, both public and private, in the town.

There was good reason for the concern that prompted this study: in the late 19th and early 20th centuries, tuberculosis was a leading cause of death throughout the United States. In Framingham, the Hospital's Annual Report in1894 cited, among the 77 patients treated in that year for all causes, "two cases of tuberculosis, not relieved" (Merriam, p. 45). On the brink of the First World War, about 100 Framingham residents were incapacitated by tuberculosis, and 12 or more died each year from this disease.

With Dr. Donald B. Armstrong as Executive Officer and Dr. Arthur Kingsbury Stone as Administrative Director, the Framingham Health and Tuberculosis Demonstration had three major goals:

1) to analyze the factors that contribute to the spread of tuberculosis; 2) to identify active cases of this disease; and 3) to demonstrate how "community action" can help control and prevent tuberculosis (Armstrong, p. 3). By means of this study, Framingham was to be a model for the rest of the world in preventing deaths, and demonstrating the savings in the cost of treating unnecessary illness.

Fresh air camp
Illustrated in "The Framingham Health and Tuberculosis Demonstration," p.7. Courtesy of the Framingham Public Library

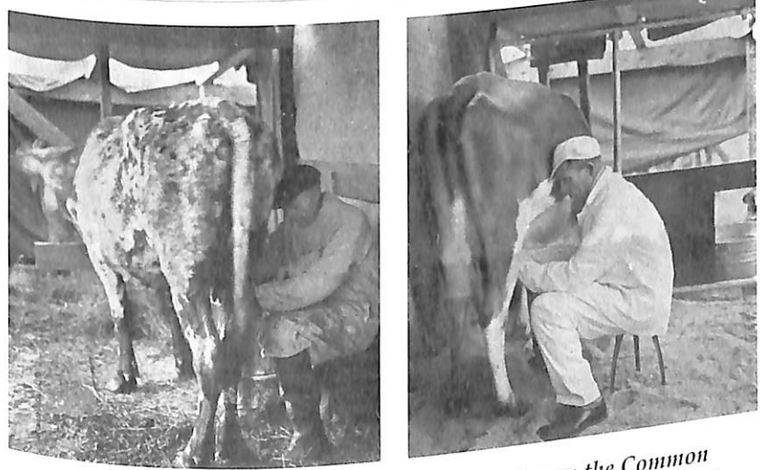
The Demonstration organized summer camps for "delicate children" who were under-nourished and had been exposed to the disease. Malnutrition was known to raise the risk of tuberculosis. The prescription was fresh air, good food, rest and play. The Framingham Park Commission offered the camp open space and a building on the Fair Grounds (Armstrong and Stone, p. 2).

The analysis of factors contributing to tuberculosis began with a two-part study: first, a study of sanitation in schools, factories, food stores, farms and dairies. Second was a study of individual people, by means of a physical exam and a tuberculin survey of all willing Framingham citizens, to identify tuberculosis in the early stages. Nearly 6,600 people were examined in this "sickness census" on an unprecedented scale (Armstrong and Stone, p. 3). Determining standards for diagnosis, classification & treatment, including the keeping of records, was an important aspect of this study.

If a major part of the "Framingham Health and Tuberculosis Demonstration" was a study of the community, its complement took the form of "community action." Measures were taken to insure both treatment of existing disease and prevention of the continued spread of the epidemic.

The treatment or "cure" for infected individuals consisted of large meals, plenty of rest and fresh air, and avoidance of strenuous activity. (The first vaccine, developed in1921, was not yet available.) Prevention was more complicated. It included: (1) instruction in hygiene and healthful living through schools, factories, and public venues; (2) correction of environmental conditions in schools and workplaces as well as farms and dairies, and extending the sewer system to Saxonville and Center Village; (3) setting up a community structure, through the Board of Health and the Civic League, to ensure that the improvements were long-term changes. These two organizations would monitor and enforce standards of sanitation by means of regular inspections. They would also promote healthful practices, such as routine thorough medical examination, and access to standardized health care in schools, factories and out-patient clinics.

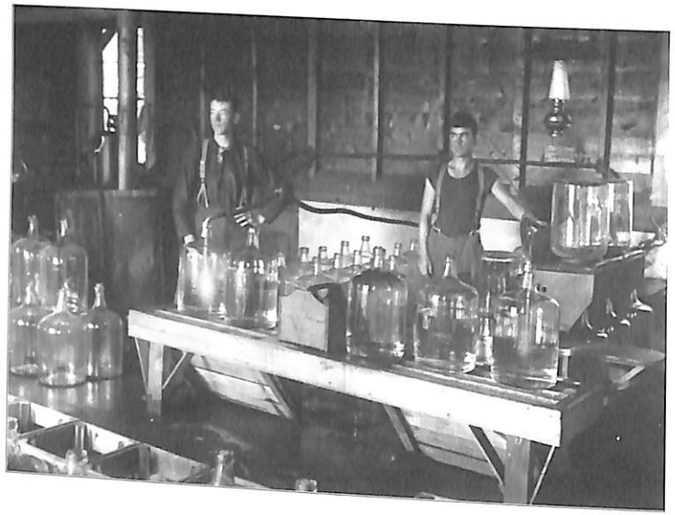
Results were dramatic: by the end of the Demonstration in 1923, 75% of cases of tuberculosis in Framingham were reported in the early stages, up from 45% in 1916. With early treatment and improved sanitation practices in the town during those years, tuberculosis decreased 55%, and the general death rate dropped 6%.



The dirty way and the clean way, a demonstration on the Common
Illustrated in "The Framingham Health and Tuberculosis Demonstration," p. 5. Courtesy of the Framingham Public Library

These demonstrations of milking featured differences in standards of cleanliness and, above all, pasteurization since the tubercle bacilli can be transmitted through the unpasteurized milk of infected cows. From 1916 to 1922 consumption of pasteurized milk in Framingham rose from 15% to about 75% of all milk consumption.

Some Healthful Sites in Framingham



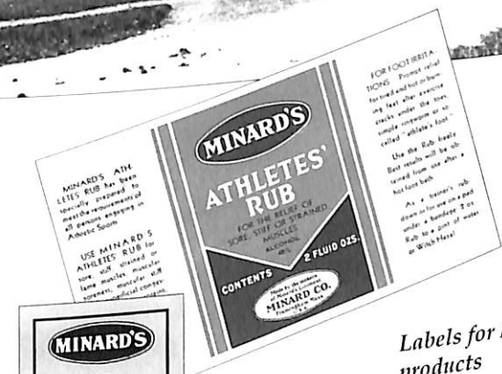
Nobscot Bottling Company, interior view
Photograph
M.S. Evans Collection, # 820, c. 1900
Gift of Harold S. Bacon, 1996.31.12j

Nobscot Bottling Company, exterior view
Print from a glass plate negative by William G. Bacon, M.S. Evans Collection, c. 1900-1920
FHS Collection

Water therapy had been used since the 18th century to treat rheumatism. As early as 1898, "healthful water from a natural spring on Edgell Road, near the Framingham-Sudbury line, was bottled and shipped as far as New York and Philadelphia" (Herring, p. 327). The bottling company was the largest business in the rather rural village of Nobscot. After the Nobscot Bottling Company closed, people regularly filled their own water bottles from the spring at the foot of Nobscot Mountain, until the 1980s when "vandals polluted the area" (*Images*, p. 101).

Minard's Liniment building
Photograph from M.S. Evans Collection, # 209 from Boston Edison series, 1909
FHS Collection

Minard's moved its manufacturing plant from Boston to Summit Street in South Framingham in 1904. The company produced the popular Minard's liniment (a medicated liquid to rub on painful areas), as well as a full line of pharmaceutical preparations, cosmetics and food additives. Many Framingham residents still remember the epithet "King of Pain," spelled out in large letters on the Minard building.



Labels for Minard products
Colored inks on paper, 1939
FHS Collection

Echo Farm Spa
Post card, first half of 20th century
Gift of Harold S. Bacon, 1996.32.13

The flow of clear, potable mineral water from Barometric Spring varied with the barometric pressure. The mouth of the spring, in use since Native American occupation of the area, near the Rugg-Gates house, was broken up to complete the Massachusetts Turnpike. Spring water still flows down the rock face at Exit 12 (*Images*, p. 126).

Framingham Union Hospital / MetroWest Medical Center, 1928-2001

Building on a long and proud tradition, the Framingham Union Hospital has gradually transformed in the 20th century to meet a burgeoning Framingham's changing needs. The last 70 years have been a period of increasing specialization, phenomenal growth and affiliation with a network of other institutions.

A movement toward departmentalization, limiting physicians to their board-qualified specialty, gathered momentum in the 1930s and became policy in the early 1940s. When Framingham Union Hospital moved into a new and larger building in 1953, medicine and surgery were provided as separate services. A full-time anesthesiologist, pathologist and radiologist were added to the staff (Stark, p. 31).

World War II was a catalyst for growth, especially in education. During the war the Hospital and School of Nursing expanded their teaching roles through new affiliations with Tufts Medical School and Massachusetts Memorial Hospital (later University Hospital, Boston), as well as the U.S. Cadet Nurse Corps Program. Nursing school enrollment nearly doubled from 41 in 1943 to 76 in 1945.

Beginning in the 1960s a tremendous growth spurt has continued through the end of the 20th century. Hospital volunteers were officially organized in the early 1960s. In the same decade new affiliations linked Framingham Union Hospital with Boston City Hospital and Boston University Medical Center. By 1968 there were over 12,300 patients. By the late 1970s there were over 280 physicians on the staff, and over 350 nurses.

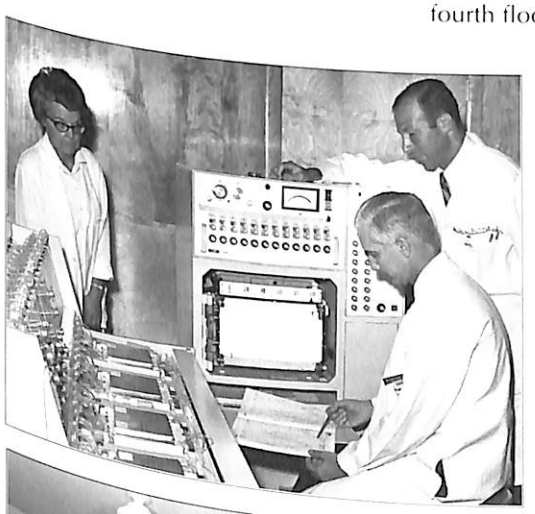
With major advances in medical research in the 1960s and 70s, a new psychiatric unit opened in 1974 and the departments of cardiology and radiology greatly expanded. The work of the Framingham Tuberculosis Demonstration of 1916-1923 had not been forgotten: in 1973 Framingham Union Hospital opened a regional tuberculosis diagnostic and treatment clinic, in conjunction with the State Department of Public Health. In 1979 the Hospital introduced Community Health Education Programs.

The physical plant expanded into a new wing in 1972, and a new main entrance in the early 1980s. Framingham Union Hospital merged with Natick's Leonard Morse Hospital in January 1992 to become MetroWest Medical Center. With the accelerated accumulation of medical knowledge there were 33 specialties at the time of the hospital's centennial in 1998, as well as specialties in nursing. On the brink of a new century, the Medical Center forged affiliations with University of Massachusetts Medical School, Beth Israel Hospital, the Harvard Joint Center for Radiation Therapy, and Children's Hospital to become a part of the sixth largest health care provider in Massachusetts.

Changing Scenes in the 20th-century:

Laboratory
Photograph, c. 1930-40s
Courtesy of the Cesare G. Tedeschi Medical Library, MetroWest Medical Center (#686)

Miss Porter, a lab technician, was engaged in 1926. This photograph is of the laboratory on the fourth floor of the 1928 building.



Laboratory
Photograph, late 1960s
Courtesy of the Cesare G. Tedeschi Medical Library, MetroWest Medical Center (#696)

Added personnel, computers and a conspicuously enlarged supply of equipment brought a new and ever-changing look to the laboratory in the 1953 building. From left to right are Mrs. Davis, chemist James Barlow and pathologist Dr. Luke Tedeschi.

Record keeping
Photograph, 1939
Courtesy of the Cesare G. Tedeschi Medical Library, MetroWest Medical Center (#203)

Hospital record keeping was in force when the original staff set up rules and "Terms of Service" in the 1890s. The rules required "that each physician while on duty write the record of his visit in the Hospital Record Book before leaving the building" (Merriam, p. 48). In 1926 a room was set aside for records, and a records clerk hired (p. 67). In the photograph, Mrs. Helen Collins is seated at the typewriter. The format of hospital records has changed again in the digital age.

Scrubbing in the operating room
Photograph, 1965
Courtesy of the Cesare G. Tedeschi Medical Library, MetroWest Medical Center (#182)

Mrs. Armstrong and Mrs. Fitzpatrick follow a ritual which has changed little since the Hospital's inception. In the 1890s and early 1900s, the operating team scrubbed their hands and forearms, but did not wear caps, masks or gloves (Merriam, 22).

Cushing General Hospital

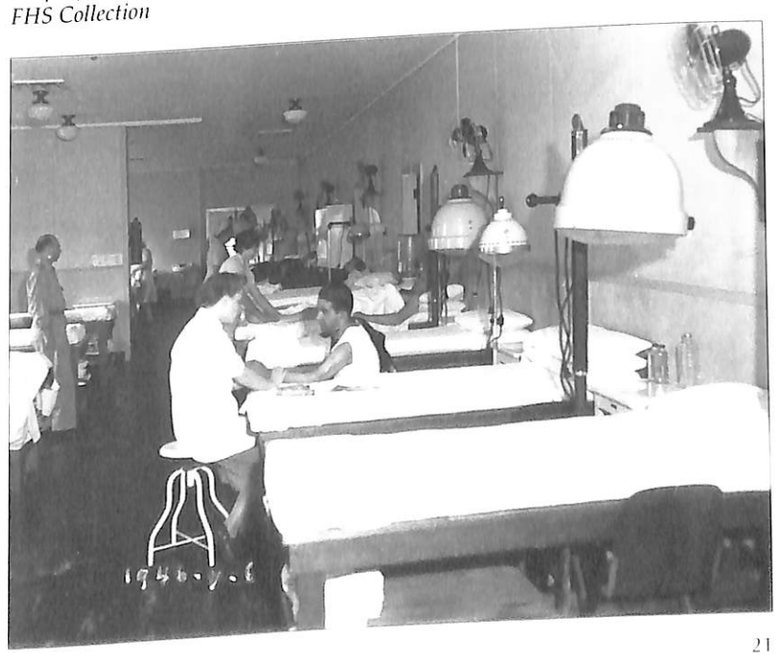
As World War II spawned a medical crisis for Americans at the front, the War Department launched a five-million-dollar project on the west side of Framingham's Farm Pond in 1943. Train tracks were laid to bring wounded soldiers directly to a new military hospital with 1,750 beds and 95 buildings. Opening in 1944 under the auspices of the Medical Department of the United States Army, Cushing General Hospital was designed as "'the most efficient and best equipped hospital in the world'" (Herring, p. 289). War casualties multiplied, and 3,200 patients were accommodated in the winter of 1945-46. While 10 surgical suites operated 24 hours a day, Framingham citizens volunteered to help both as individuals, and through structure of the Red Cross. The Red Cross offered the Hospital and its patients surgical dressings, sweaters, canteen service, and nurses aides, in addition to organizing blood donor campaigns. In all, over 13,000 servicemen were treated at Cushing (Commonwealth of Massachusetts, p.1). Cushing General Hospital was founded as a project of the federal government, but it took the support of Framingham people for Cushing to succeed in meeting medical demands on an unprecedented scale.

With the end of the war in 1946 Cushing became a veterans' hospital in 1946. The army reinstated a portion of it for soldiers seriously wounded during the Korean War in the 1950s. In 1957, it became the first geriatric hospital in Massachusetts, which was to host a pilot program for diagnosis and care of Alzheimer's disease in 1986. But the physical plant, failing due to inadequate maintenance over the years, could no longer support on-going programs, however innovative. In 1991, the state closed the hospital because the buildings had deteriorated beyond repair. Today, only the chapel stands in "Tercentennial Park" as a reminder of a remarkable medical facility.

Administrative building
Snapshot, 1940s
FHS Collection

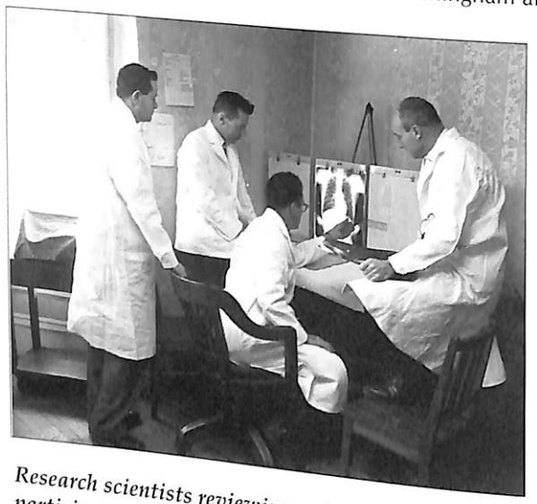
The Cushing General Hospital Staff
Snapshot, 1940s
FHS Collection

Physiotherapy Department
Snapshpot, 1940s
FHS Collection



The Framingham Heart Study

In the post-war period the silent epidemic of heart disease became the country's No. 1 killer with 1 in 4 men age 55 or older developing heart disease (Brink, p. 58-60). When Congress allocated nearly $100,000 in 1948 to the newly created National Heart Institute, the U.S. Public Health Service chose Framingham to help find the cause of heart disease. The town was an attractive choice in part because of the high level of cooperation from citizens and the medical community in the tuberculosis study 3 decades earlier. Framingham also qualified as a small, self-contained community with a stable population, where most residents had local employment and local medical care.



Research scientists reviewing a chest X-ray of a participant in the early days of the Framingham Heart Study.
Photograph, c. 1948-60
Courtesy of the Framingham Heart Study of the National Heart, Lung and Blood Institute and the Boston University School of Medicine

The Study was projected to follow 5,000 to 6,000 subjects over a 20-year period. At the end of this time, additional years of follow-up and evaluation were granted through an affiliation with the Boston University Medical Center (Dawber, p. 28). Not only did Framingham participate through its volunteer subjects, but a local citizens' executive committee and a local physicians' medical committee helped to guide the project. During the first 50 years, the drop-out rate was less than 5% (two-thirds of the original group have now died), and less than 3% in the second generation (Brink, p. 62). Study officials are about to add a third generation of participants.

The Study worked through a clinic and laboratory at the Framingham Union Hospital.

Why is the Framingham Heart Study known throughout the country and around the world? Most important are its methods and pioneering approach to the subject. In the words of Dr. Thomas Royle Dawber, who designed the study, "many physicians and other investigators ... believed that the answer to most of the important questions regarding [heart] disease would come from basic laboratory research, not from study of the disease in man" (Dawber, p. 20). Like portions of the Tuberculosis Demonstration, the Framingham Heart Study was a study in epidemiology, which can be thought of as medical ecology, investigating the relationships between patients, their environment, and agents of disease (Taber's Cyclopedic Medical Dictionary). "In an epidemiology study ... researchers don't intervene; they observe" (Schwade, p. 76-77).

The Framingham Heart Study has broken ground also in focusing on a non-infectious disease. Perhaps most significant of all, no previous study had the scope, the population base (with over 10,000 subjects), and the long tenure of the Framingham program, now in its 53rd year (Callahan, p. 125).

Just four years into the project, there was plenty of evidence for drawing conclusions. "The Framingham Heart Study has shown that smoking is bad for the heart, that high blood pressure is not a normal consequence of aging, and that high cholesterol leads to heart disease'" (Dawber, in *Middlesex News*, 1998, p. A4). Statistics gathered over a longer period showed that women are also at risk for cardiovascular disease, though later in life than men.

Heart Study nurse and patient
Photograph, c. 1948-60
Courtesy of the Framingham Heart Study of the National Heart, Lung and Blood Institute and the Boston University School of Medicine

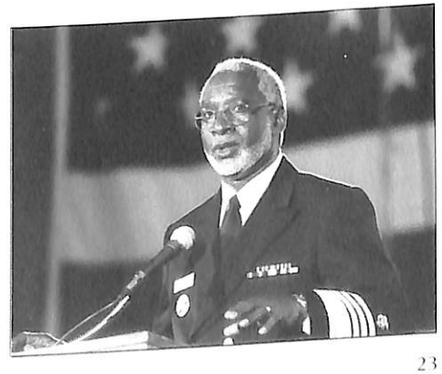
A staff nurse measures body fat on arm of participant using a caliper in the early days of the Framingham Heart Study in order to calculate the percentage of body fat.

"'It became clear that diabetes is a *risk factor* (a term coined by the study), that weight affects blood pressure, and that eating too much saturated fat affects cholesterol'" (Dawber, in *Middlesex News*, 1998). In fact, in more recent years the study has pointed toward dozens of risk factors (such as certain amino acids, yo-yo dieting, genetic codes, exposure to some infections) for heart disease.

As "increased numbers of subjects in the various disease categories permitted more in-depth analysis of the factors under investigation," new information "led to interest in the study of many questions not originally anticipated" (Dawber, p. 27). In 1971 the Framingham Heart Study expanded its field beyond the original participants when it initiated the Offspring Study; more recently, it took on the Omni Study (of 500 from minority communities); it is now on the brink of a study of the third generation.

The Framingham project has already fed a number of offshoots. As one of the first long-term, community-based studies, the Framingham approach has been a starting point for large-scale studies such as a Hawaii heart study on Asian-American men and a Mississippi study on African-Americans (*Middlesex News*, 1998), as well as "the Nurses' Health Study (which warned of the dangers of trans fatty acids in hard margarine), the Physicians' Health Study (which made aspirin a superstar), and the Women's Health Initiative..., the largest study yet, with 167,000 women enrolled" (Schwade, p. 76-77). Other major research efforts continue to trace their roots to Framingham. They include investigations of lung disease, stroke, peripheral artery disease, heart failure, arrhythmias, cancer, dementia, arthritis, diabetes, kidney disease, osteoporosis, eye disease and hearing disorders (*50th*, p. 16). Records from the Heart Study have also led to advances in cardiac care, such as the development of new drugs for treating heart disease.

The findings of the Framingham Heart Study have effected measurable changes: the rate of heart disease in the United States, at 146.2 cases per 100,000 in 1948, peaked at 220.3 cases per 100,000 in 1963, but as information and changes in attitude and lifestyle reached more and more Americans, the rate dropped to 87 cases per 100,000 in 1996. Numbers alone, however, cannot convey the full significance of the Study's impact. "By coining the expression 'risk factor,' the Framingham Heart Study helped to change the practice of medicine. Suddenly, individuals could influence their health status... Just as important, the Study influenced physicians to place greater emphasis on prevention, as well as on detecting and treating risk factors in their earliest stages." (*50th*, p. 10).



Surgeon General Dr. David Satcher
Snapshot, September 17, 1998
Courtesy of the Framingham Heart Study of the National Heart, Lung and Blood Institute and the Boston University School of Medicine

Dr. Satcher honored "the town that changed the face of modern medicine" (Booth, *Boston Globe*, p. A1). The Surgeon General was keynote speaker at the Townwide Tribute to the Participants of the Framingham Heart Study in honor of the 50th Anniversary at Nevins Hall in Framingham.

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Woodside promotional brochure, n.d.

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