Key Contributions to Society

Foundations often serve as society's research and development arm by funding programs to explore new problem-solving approaches that the public and private sectors cannot or will not explore.

> *For a profile of some of these exemplary initiatives from Philanthropy New York members, click here. (http://www.philanthropystories.org/)*

The following are a list of well-known innovations that can be traced to foundation funding over the past 100 years:

Public Libraries

The U.S. library system today is enormous; our 16,000 library outlets are visited nearly 1.5 billion times a year and house a variety of resources, from newspaper articles and research references to adult and children's fiction books, audio and video resources, and internet terminals, all free for public use. Yet less than a century ago, the idea of equal access to books and educational materials was revolutionary and controversial. The vision and action of one man, Andrew Carnegie, helped to create more than 2,500 libraries worldwide during the early 1900s. For Carnegie, the library was the manifestation of one central theme in his philanthropic philosophy – self-betterment – and nearly every community that requested support from Carnegie or the Carnegie Corporation of New York received it. By the 1920s, Carnegie's library gifts surpassed $39 million and had led to the construction of 1,679 public libraries in 1,406 communities in the United States alone. Today, these libraries are an integral part of the nation's public library network**.**

Yellow Fever Vaccine

By the beginning of the 20th century, Boston and Baltimore had experienced a total of 50 yellow fever epidemics. Communities such as Charleston, SC, Galveston, TX, and New Orleans, LA had lost tens of thousands to the illness, and victims were being buried day and night. To eradicate this disease, in 1915 the Rockefeller Foundation launched a 30-year, all-out effort to find a vaccine. Foundation physicians and scientists traveled to the cities and jungles of South America and West Africa, where they set up on-site laboratories and investigated causes of yellow fever. Although many Rockefeller researchers died of the disease during the course of their work, in 1936 their efforts paid off with the development of the first successful yellow fever vaccine. In 1938, more than 1 million people were vaccinated (with a 90 percent success rate) and during World War II, more than 34 million doses were manufactured and distributed free to health agencies and Allied governments. In 1951, foundation scientist Dr. Max Theiler received the Nobel Prize in Medicine for his work on the yellow fever vaccine.

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Modern American Medical Education

In 1909, the Council on Medical Education asked the Carnegie Foundation for the Advancement of Teaching to survey American medical education so as to promote the CME's reformist agenda and hasten the elimination of medical schools that failed to meet the CME's standards. The president of the Carnegie Foundation chose Abraham Flexner, an expert in higher education, to conduct the survey. At that time, the 155 medical schools in North America differed greatly in their curricula, methods of assessment, and requirements for admission and graduation. The resulting report, officially entitled *Bulletin Number 4: Medical Education in the United States and Canada*, was published in 1910 and was harshly critical of the majority of institutions surveyed. Soon after, Rockefeller's Education Board hired Flexner to enact the changes he urged in his bulletin, specifically focusing on replicating the model of medical education at Johns Hopkins University. Later dubbed "the Flexner Report," Flexner's findings and recommendations initiated an explosion of controversy, protest and, ultimately, reform of the entire system of medical education in North America, including admissions requirements, curricula, and the qualifications for teaching faculty.

Insulin to Treat Diabetes

Prior to the discovery of insulin, diabetic patients suffered under radical dietary restrictions and treatment plans with little hope for recovery. In 1916, the Carnegie Corporation of America, still in its infancy, received a project proposal from Dr. Nathaniel Carter for a study of treatment for the disease. It was accepted, and he started his research at Cottage Hospital in Santa Barbara, whose trustees, recognizing the importance of his work, funded the construction of a research laboratory adjoining the hospital. Although Dr. Potter died just three years later, his successor at the Potter Metabolic Clinic, Dr. William Sansum, later oversaw work to improve the insulin extraction process. This led to the administration of the first dose of insulin produced in the United States to an adult patient, in May of 1922. The patient, a fifty-one-year-old man terminally ill with diabetes, lived to age ninety with insulin treatments. Through collaboration with researchers at the University of Toronto who had successfully treated the first child patient, large-scale production of insulin commenced later that year, and by late 1923, insulin began to appear on drugstore shelves. Although diabetes is still a worldwide problem, it is estimated that insulin has saved and elongated the lives of millions of people living with the disease.

Pensions for America's Educators: Creation of TIAA-CREF

At the beginning of the 20th century, higher education faculty in the U.S. received meager salaries and were often forced to keep teaching into old age in order to survive financially. As an

avid supporter of education, Andrew Carnegie would make regular pension payments out of his pocket to faculty members and other individuals whose contributions to the public he deemed worthy of lifetime financial security. In 1905, he formalized his ideas for a more substantial pension program for college faculty through the creation of the Carnegie Foundation for the Advancement of Teaching. In addition to adequately rewarding faculty members for the great value they provided to society during their careers, Carnegie hoped that pensions would promote efficiency in higher education more broadly. At the front end, qualified potential faculty would be more inclined to choose higher education as a lifelong career path, and older faculty of retirement age would have incentive to do so. The Foundation soon created the Teachers Insurance and Annuity Association of America (TIAA), which was incorporated in the State of NY as a stock company in 1918, and funded initially by grants from the Carnegie Corporation. After commissioning a risk-analysis study of investment classes, in 1952 TIAA created the College Retirement Equities Fund (CREF), the world's first variable annuity. In 2004, TIAA-CREF had a total of over $343 billion in assets under management, making it second on Fortune's list of the largest U.S. mutual life and health insurers. Today, more than three million individuals and 15,000 member institutions have been served by TIAA-CREF.

Rocket Science

The development of rocket science was a necessary precursor to space exploration and technologies such as satellite communication, which touches our everyday lives in innumerable ways. Although the NASA program is now government-run, it was private foundation money that initially allowed a scientist to experiment and discover the technology that allowed rockets and humans to go into space. After having built a rocket that could travel in a vacuum, physics professor Robert H. Goddard received a small grant of $5,000 from the Hodgkins Fund of the Smithsonian Institution to build a high-altitude version of the rocket. He succeeded in 1926, when he launched a rocket that flew 41 feet in the air for 2.5 seconds. Subsequent launches caught the attention of neighbors and reporters, who considered his efforts a joke. One well-connected man, Harry Guggenheim, however, took Goddard’s efforts seriously. Guggenheim consulted with Charles Lindbergh on the feasibility of Goddard's ideas, and ultimately Lindbergh persuaded Guggenheim's father, whose wealth came from the family empire in mining, to provide support over a four-year period for Goddard's work. The Daniel and Florence Guggenheim Foundation subsequently funded Goddard's work for 11 years, leading the U.S. to become the first nation to place a man on the moon.

The Pap Smear

Today, cervical cancer is one of the easiest cancers to treat when caught early. Until the 1940s, however, it was the deadliest of all forms of cancer among women, owing in large part to the lack of a simple, inexpensive test for diagnosing the disease. In 1923, Dr. George N. Papanicolaou discovered that cervical cancer could be diagnosed before a woman presented

any symptoms. Although he reported his findings, pathologists dismissed them, unwilling to believe cancer could be detected in individual cells. In 1941, however, the Commonwealth Fund took a chance on Papanicolaou, offering him a $1,800 research grant that was considered "highly speculative." Papanicolaou later wrote, "At a moment when every hope had almost vanished, The Commonwealth Fund ... stepped in." Through this support, Papanicolaou was able to prove that exfoliative cytology revealed cellular irregularities even before they had become cancerous, far earlier than biopsy could. The effect was quick and tremendous, and by 1960 the American Cancer Society estimated that not only had over 6 million American women received Pap tests (named for Dr. Papanicolaou), but that deaths from uterine cancer had been reduced to half of what they would have been otherwise. Pap smears, as they are called today, are now the basic and routine diagnostic technique for detecting cervical cancer.

The Polio Vaccine

In December 1994, the Pan American Health Organization announced that polio finally had been eradicated from the Western Hemisphere. Previously, however, the world lived in fear of the deadly, crippling effects of this disease, and outbreaks reached pandemic proportions in Europe, North America, Australia, and New Zealand during the first half of the 20th century. In 1948, however, Dr. Jonas Salk received a $35,000 grant from the Sarah Scaife Foundation (later known as the Sarah Mellon Scaife Foundation) to establish and equip a virus laboratory at the University of Pittsburgh. By 1952, the now-famous Salk vaccine was developed and on April 12, 1955, this lifesaving discovery was announced to the world. Following the widespread use of the vaccine in the mid-1950s, the incidence of poliomyelitis declined dramatically in many industrialized countries. A global effort to eradicate polio began in 1988, led by the World Health Organization**,** UNICEF**,** and The Rotary Foundation**.** These efforts have reduced the number of annual diagnosed cases by 99%, from an estimated 350,000 cases in 1988 to 1,997 cases in 2006. Currently, polio remains endemic in only four countries: Nigeria**,** India**,** Pakistan**,** and Afghanistan.

White Lines on Highways

After working with Thomas Edison as a teenager, Dr. John V. N. Dorr eventually became internationally known for his innovations in the field of metallurgical engineering. In 1940, he established a foundation in his name with the initial purpose of supporting the fields of chemistry and metallurgy exclusively. By the early 1950s, however, his thoughts had started to shift to more simple solutions to everyday problems. Dr. Dorr postulated that at night and when rain, snow or fog impaired vision, drivers hugged the white lines painted in the middle of highways. Dorr believed this led to numerous accidents and that painting a white line along the outside shoulders of the highways would save lives. He eventually convinced highway engineers in Westchester County, New York and in Connecticut to test his theory along stretches of highway with curves and gradients. The initial results seemed promising, but highway officials were reluctant to pursue Dorr's suggested course of action due to the high cost of shoulder striping, at $150 per mile, as well as some skepticism regarding the true effectiveness of the

initiative. The Dorr Foundation continued to advocate strongly for the cause, however, and after subsequent positive studies in Ohio, New Jersey and Rhode Island – including one which showed a 37% decrease in fatalities and injuries – the highway shoulder line gained universal application and acceptance. Although state funds are now used to paint white lines on the shoulders of the nation's highways, every person who travels in a motor vehicle is indebted to Dorr and his foundation for the implementation of this life-saving discovery.

Public Broadcasting

In December of 1964, the First National Conference on Long-Range Financing of Educational Television Stations called for a study of the role of noncommercial education television in society. The Carnegie Corporation subsequently agreed to finance the work of a 15-member national commission, resulting in the publication of its landmark report, "Public Television: A Program for Action," on January 26, 1967. The report popularized the phrase "public television" and greatly assisted the legislative campaign for federal aid for such an initiative. The **Public Broadcasting Act of 1967**, enacted less than 10 months later, chartered the **Corporation for Public Broadcasting** (CPB) as a private, nonprofit corporation. The law initiated federal aid through the CPB for the operation, as opposed to the funding of capital facilities, of public broadcasting. The CPB initially collaborated with the pre-existing **National Educational Television** system, but in 1969 decided to start the **Public Broadcasting Service** (PBS). A public radio study commissioned by the CPB and the **Ford Foundation** and conducted from 1968-1969 led to the establishment of **National Public Radio**, a public radio system under the terms of the amended Public Broadcasting Act. Today, nearly 89 million people are estimated to watch public television during any given week.

The Development of the Nurse Practitioner and Physician's Assistant Professions

In the years following World War II, as urban populations increased and rural communities continued to rely on inadequate medical infrastructure, the United States suffered from an acute shortage of doctors. The 1960s, however, saw the emergence of two new classes of health care professionals that filled much of this gap in need: nurse practitioners and physician assistants. The first training program to convert registered nurses into nurse practitioners started in 1966 at the University of Colorado and was "principally supported" by a $253,998 grant from the Commonwealth Fund. With a goal to increase the supply of primary care providers in underserved areas, the program trained RNs in clinical care such as testing, routine examination and immunizations so they could free up physicians for those patients who really needed their attention. The first physician's assistant program later began at Duke University, and trained former military medical corps veterans in an intense two-year abbreviated version of medical school, allowing them to perform much of the same role as a doctor while working under a licensed physician's direction. Originally funded by the National Heart Institute, subsequent funding for program expansion and replication came from the Carnegie

Corporation, the Rockefeller Corporation, the Commonwealth Fund and the Robert Wood Johnson Foundation, among others. Taken together, these two groups of clinical health care professionals have improved the quality of care for millions of patients nationwide.

Sesame Street

In an average week, Sesame Street reaches 16 million viewers, and is the most widely viewed children's series in the world. Although the show is self-supporting today, this was not always the case. During the early 1960s, the National Education Association endorsed the idea of making preschool education available to all children, but funds available within school budgets were not sufficient for such programs. In 1966, the Carnegie Corporation of New York underwrote a feasibility study on the use of television for preschool education; the same grantmaker, along with the Ford Foundation, the Corporation for Public Broadcasting, and the U.S. Office of Education then pledged over $6 million in funding to start Children's Television Workshop. On November 10, 1696, Sesame Street premiered on public television to an astonishing 1.5 million viewers during its first week. Today, Sesame Street is understood as one of the most successful television ventures ever, and is seen in more than 120 countries. An estimated 77 million Americans watched the show as children, and it has won more than 118 Emmy awards, the most for any television series.

Emergency 911

Efforts to create a national emergency medical response system began in 1966, when the National Safety Act authorized funds for ambulances, communications and training programs. These efforts were augmented in the early 1970s when the Robert Wood Johnson Foundation provided 44 grants in 32 states for regional emergency medical services – the largest sum of private funds ever allocated for this purpose. The Foundation program demonstrated the concept of a regionalized, systematic approach, and was highly successful at improving outcomes for patients. Following these grants, the federal government stepped in and made a series of grants that resulted in today's nationwide 911 system.

The Hospice Movement

For much of the 20th century, long-term care in the U.S. for the terminally ill was a frustrating and saddening experience for families. As the "death with dignity" movement gathered steam in the 1950s and 1960s, health care professionals began increasingly to doubt the traditional wisdom of the time, which aimed to prolong death for as long as possible, and at any cost. In the 1970s, a group led by Florence Wald, Dean of the School of Nursing at the Yale-New Haven Medical Center, asked foundations to fund a study on the feasibility of opening a hospice in New

Haven, CT. Simultaneous support from the Van Ameringen Foundation, the Ittleson Foundation and the Commonwealth Fund was subsequently used to establish and staff a hospice to care for 100 terminally ill patients in their homes as well as in a 44-bed facility. This hospice model of care – with its emphasis on relieving pain and offering emotional, physical, and spiritual support to dying patients and their grieving families – became a model for hospital and home care of terminally ill patients and a training center for hospice workers. Today, there are an estimated 3,200 operating hospice facilities in the United States.

JSTOR

In the 1970s and 1980s, traditional libraries became burdened with ever-growing purchase and storage costs for the increasing numbers of books and academic journals available to the public. Libraries often could not keep up with the proliferation of such scholarly publications, leading many in the higher education community to feel that they were being priced out of adequate library resources. In 1992, William Bowen, the President of the Andrew W. Mellon Foundation and President Emeritus of Princeton University, formed the idea for a digital library of scholarly journals that would increase access to older journal articles and reduce the costs imposed on libraries and schools by their many journal subscriptions. Called JSTOR – short for "Journal STORage" – the Mellon Foundation gave the University of Michigan a series of grants to develop this groundbreaking database. After originally being tested at just five libraries, JSTOR became available to the public in 1997. Today, the JSTOR archives include over 449 scholarly journals and 2.6 million articles covering a wide range of topics in the humanities, social and natural sciences, business, and mathematics. Members total 2,160, and are found in 86 countries.

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References

Association of Public Television Stations: Frequently asked questions. (2008). Retrieved August 5, 2009, from http://www.apts.org/aboutAPTS/faqs.cfm

Carnegie results: funding matters. (2006). The Carnegie Corporation of New York website. Retrieved August 4, 2009 from http://www.carnegie.org/results/15/page6.html

Does polio still exist? Is it curable? World Health Organization. (2008). Retrieved August 4, 2009, from http://www.who.int/features/qa/07/en/index.html

Great grants. (2008). The Council on Foundations. Retrieved July 1, 2009, from http://classic.cof.org/learn/content.cfm?ItemNumber=607&navItemNumber=2516

Kohler, Scott. Cases for the Foundation: A Great American Secret. *Hospice Care Movement, Commonwealth Fund, 1974.* From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/hospice_care_movement.pdf

Kohler, Scott. Cases for the Foundation: A Great American Secret. *JSTOR, Andrew W. Mellon Foundation, 1992.* From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/jstor.pdf

Kohler, Scott. Cases for the Foundation: A Great American Secret. *Support for the Development of the Pap Smear Test, The Commonwealth Fund, 1941.* From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/pap_smear_test.pdf

Kohler, Scott. Cases for the Foundation: A Great American Secret. *The Development of Insulin to Treat Diabetes, Carnegie Corporation of New York, 1916.* From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/development_of_insulin.pdf

Kohler, Scott. Cases for the Foundation: A Great American Secret. *The Development of the Nurse Practitioner and Physician's Assistant Professions The Commonwealth Fund, Robert Wood Johnson Foundation, Carnegie Corporation of New York, 1965.*

Kohler, Scott. Cases for the Foundation: A Great American Secret. *The Emergency Medical Services Program of the Robert Wood Johnson Foundation, 1973.* From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/emergency_medical_services_program.pdf

Schindler, Steven. Cases for the Foundation: A Great American Secret. *Carnegie Public Libraries for America's Communities, Carnegie Corporation of New York, 1911.* From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/carnegie_public_libraries.pdf

Schindler, Steven. Cases for the Foundation: A Great American Secret. *America's System of Public Broadcasting and Public Radio, Carnegie Corporation of New York, 1965.* From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/public_broadcasting.pdf

Schindler, Steven. Cases for the Foundation: A Great American Secret. *Children's Television Workshop and Sesame Street, Ford Foundation, Carnegie Corporation of New York, 1966.* From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/childrens_television_workshop.pdf

Schindler, Steven. Cases for the Foundation: A Great American Secret. *Pensions for America's Educators: TIAA-CREF, One of the Wealthiest Pension Funds in the World, Carnegie Foundation for the Advancement of Teaching, 1918.* From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/tiaa-cref.pdf

Schindler, Steven. Cases for the Foundation: A Great American Secret. *Preventing Crashes on America's Highways, Dorr Foundation, 1952.* From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/preventing_crashes_on_americas_highways.pdf

Schindler, Steven. Cases for the Foundation: A Great American Secret. *The Transformation of American Medical Education: The Flexner Report, Carnegie Foundation for the Advancement of Teaching, 1906*. From http://www.pubpol.duke.edu/centers/dfrp/cases/descriptive/flexner_report.pdf