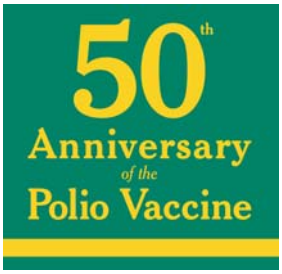

Jonas Salk, M.D.

The 1955 announcement by Jonas Salk that the polio vaccine was safe revolutionized the approach to public health and ended the tremendous fear and anxiety that gripped parents each summer as children by the thousands became infected with polio.

Salk's discovery further opened the eyes of the world to the power of scientific research. Both in the United States and around the world it showed how scientific solutions developed in basic research laboratories could lead to practical applications for complex problems at the core of human health. Salk's internationalist vision led to a worldwide health initiative by the United Nations.

Jonas Salk dedicated his life to helping humankind. It was out of that dedication that he created the Salk Institute for Biological Studies in 1965. The Salk Institute is an independent nonprofit organization dedicated to fundamental discoveries in the life sciences, the improvement of human health and conditions, and the training of future generations of researchers. When Jonas Salk founded the Institute with a gift of land from the City of San Diego and the financial support of the March of Dimes Foundation, it was with the idea of creating a vibrant, intellectual research community that would attract the greatest minds, dedicated to pursuing the kinds of scientific achievements that had made him an international figure only five years before.

Born in New York City, October 28, 1914, Salk obtained his M.D. degree from New York University and was a staff physician at New York's Mount Sinai Hospital. He then joined his mentor, Dr. Thomas Francis, as a research fellow at the University of Michigan. There, he worked to develop an influenza vaccine with the U.S. Army. In 1947 he was appointed director of the Virus Research Laboratory at the University of Pittsburgh School of Medicine. It was there that Salk developed the techniques that would lead to his polio vaccine.

Salk died at age 80 on June 23, 1995. At the time of his death he was deeply involved in a search for a solution to the AIDS virus, and just three hours before his death he was working on a paper explaining new work in the field of neurology. A memorial at the Salk Institute with a statement from Salk captures his vision: "Hope lies in dreams, in imagination and in the courage of those who dare to make dreams into reality."

Albert B. Sabin, M.D.

Few in the history of science and medicine have contributed as much to the well being of the world as Albert Sabin. Recognized everywhere as the developer of the oral polio vaccine, Dr. Sabin spent his entire life at the leading edge of man's evolving quest for scientific and medical knowledge.

Dr. Sabin was born in Bialysock, Poland. His family settled in the United States in 1921. He graduated from New York University College of Medicine in 1931. He began his career at Rockefeller Institute for Medical Research, then served at the University of Cincinnati College of Medicine and the Children's Hospital Research Foundation. During Dr. Sabin's 30 years in Cincinnati, he developed the live, attenuated polio vaccine—the first vaccine ever that could be administered orally instead of by injection.

Physicians in the U.S. began to use Dr. Sabin's vaccine in 1961. It quickly became the dominant polio vaccine owing to its easy, oral administration and its greater strength compared to the earlier, injected vaccine. Soon, the Sabin vaccine became the vaccine of choice throughout the world. It has been at the center of the global polio eradication effort that has had major success around the world and is now taking aim with vaccination of the six countries where polio remains endemic.

At the time of his death in March 1993, Dr. Sabin was actively engaged in research on a new type of measles vaccine that could be administered without injection.

Dr. Sabin passionately believed that scientists must not only achieve in the laboratory, they must strive to translate their discoveries into practical use. "A scientist who is also a human being cannot rest while knowledge which might reduce suffering rests on the shelf," he said.

In recognition of his contributions to humankind, Dr. Sabin received more than 30 honorary degrees from universities throughout the world. He received numerous additional awards including the U.S. Medal of Science.

Thomas Francis Jr., M.D.
July 15, 1900 – October 1, 1969

A physician, virologist, and epidemiologist, Thomas Francis Jr.—T.F. or Tommy to his friends—was born in Gas City, Indiana. The son of a steelworker and part-time minister, Francis grew up in western Pennsylvania, graduated from Allegheny College on scholarship in 1921, and received his medical degree from Yale in 1925. From there he went to the Rockefeller Institute, where he joined an elite research team then preparing vaccines against bacterial pneumonia. Francis soon switched diseases, however, and took up influenza research. He became the first American to isolate human flu virus.

In 1933, Francis married Dorothy Packard Otton, and they had two children. By 1938, he had become a professor of bacteriology and chair of the department of the New York University College of Medicine, where he remained until 1941.

That year, Francis received an invitation from Henry F. Vaughan to join the newly established School of Public Health at the University of Michigan. Earlier in the year, he had also been appointed director of the Commission on Influenza of the United States Army Epidemiological Board. Under the auspices of the commission, Francis took part in the successful development, field trial, and evaluation of protective influenza vaccines.

At Michigan, Francis built a virus laboratory and a Department of Epidemiology that quickly focused on a broad range of infectious diseases. When Jonas Salk came to the University of Michigan in 1941 to pursue postgraduate work in virology, it was Francis who taught him the methodology of vaccine development. Salk's work at Michigan ultimately led to his polio vaccine.

From his Ann Arbor base, Francis gained national and international renown. In 1947, the Regents of the university awarded him one of the first Michigan distinguished professorships, naming him the Henry Sewall University Professor of Epidemiology. In addition to his work at the School of Public Health, Francis joined the pediatrics faculty at the university's Medical School.

By the late 1940s, Francis had extended his studies of viral disease to include studies of enteric viruses, particularly the polio virus. In 1953, he was asked to design, supervise, and evaluate the field trials of the polio vaccine developed by his former protegé, Jonas Salk. A man of exacting standards, Francis insisted on a double-blind means of statistical analysis, so that neither patients nor administering physicians knew whether an inoculation was a vaccine or a placebo. He also demanded a controlled observation trial. Approximately 1.8 million children from 217 areas of the United States, Canada, and Finland took part in the trial. In scope and magnitude, it was unprecedented. On April 12, 1955, Francis announced to an expectant world that the Salk vaccine was "safe, effective, and potent."

Six months later, Francis visited Japan at the behest of the U.S. government's Atomic Bomb Casualty Commission. Charged with determining new objectives and a new strategy for the

commission, Francis authored the “Unified Study Program,” which contained plans to investigate the natural history of a population over its lifespan.

Francis subsequently turned to the study of the epidemiology of chronic disease, and he created the Tecumseh Study. His aim was to build a community laboratory in the town of Tecumseh, Michigan, which could take advantage of geography, history, and local culture to lay the groundwork for accumulated data from which it would be possible over a period of years to draw secure inferences on disease precursors. Through the Tecumseh Study, Francis contributed profoundly to scientists’ understanding of the epidemiology of chronic disease, and furthered his renown as a scientist, investigator, and innovator.

Throughout these years, Francis taught and served as an exemplary administrator at the University of Michigan. He received many honors and awards during his career, notably the Medal of Freedom from the U.S. Army in 1946. About his profession, Francis remarked, “Epidemiology must constantly seek imaginative and ingenious teachers and scholars to create a new genre of medical ecologists who, with both the fine sensitivity of the scientific artist, and the broad perception of the community sculptor, can interpret the interplay of forces which result in disease.” Thomas Francis Jr. died in 1969.