



. . .A few highlights from the VA Research & Development program:

The VA Research program began in 1925, just four years after VA was established. VA Research's original goal was to do "research based on practicability... Our research must eventually result in larger percentages of recoveries and reduced mortality rates of the beneficiaries of the United States Veterans Bureau." (The Veterans Bureau was the first federal agency given the specific mission to meet the needs of America's Veterans. In 1930, the Bureau became the Veterans Administration, which became the Department of Veterans Affairs in 1989.) Eighty-five years later, today's Office of Research and Development, and all VA researchers, still pursue the same goal.

The very first VA research centers were started at VA hospitals in Cincinnati, Ohio, Washington, DC, and in Palo Alto, CA. The centers, called diagnostic centers, were given the responsibility of analyzing the cases of hard-to-diagnose patients at their own hospitals and elsewhere. The first two opened in Washington and Cincinnati in 1925, and the third in Palo Alto in 1928. Each diagnostic center had a "board of consultants," research specialists from the medical communities in their areas who provided guidance and advice, much like today's Research Advisory Councils. Other VA physicians at the three facilities also participated in the centers' work.

VA Research's first journal began publication in 1925, the first year of the research program's existence. The journal was called the *United States Veterans' Bureau Medical Bulletin*, and it published articles reflecting clinical experience, review articles, and statistical studies at VA hospitals. It also included reports of original research by VA physicians. Every VA physician nationwide was asked to submit at least one article for the *Bulletin* every year—and, as early as 1926, the publication was receiving about 75 papers a month for editorial review! The *Bulletin* was published continuously from 1925 through 1944, and some of its papers also appeared in the *Journal of the American Medical Association*.

VA's first three research laboratories studied cancer, psychiatric issues, and cardiovascular (heart and circulation) problems. VA's Hines, IL laboratory studied cancer, and was one of the first to suggest that cigarette smoking was a factor in cancers of the respiratory tract. In the early 1940s, a Hines researcher also discovered that many cancer cells were unusually susceptible to radiation. The Northport, NY laboratory studied neuropsychiatric disorders, and their work in the 1930s helped lead to the development of insulin shock therapy, which was used extensively to treat schizophrenia for many years, before the advent of newer drugs. And a Washington, DC laboratory specialized in

cardiovascular research, and found in 1948 that young men with coronary artery disease were more likely than others to have hypertension and a family history of heart disease.

Forty percent of VA’s first patients had tuberculosis. Because of this, VA researchers made the eradication of this often-fatal disease a major priority. In 1946, VA and the Department of Defense began a systematic study of the effects of the drug streptomycin on tuberculosis at seven VA hospitals and two military hospitals. They found that the drug worked, and later determined the proper dosage to give patients in order to minimize possible side effects while maintaining the drug’s effectiveness. What VA researchers learned in this effort about the use of patients in large-scale studies formed the basis for the Department’s unique Cooperative Studies Program. This program encourages and supports VA investigators to conduct clinical research and data collections across selected research facilities.

A physician who helped develop the atomic bomb founded VA’s groundbreaking nuclear medicine program. Nuclear medicine involves the use of radioactive isotopes in the diagnosis and treatment of disease. Dr. George Lyon, a Naval Officer during World War II, was originally hired by VA to make compensation decisions relating to claims made by Veterans who were made ill by exposure to radiation during nuclear weapons testing in the Pacific. He and others set up a Central Advisory Committee on Radioisotopes, and, by the end of 1946, VA had set up six sites to do medical research on the subject—most of which were staffed by other physicians who, like Dr. Lyon, were part of the Manhattan Project, which designed and built the first atomic bomb. Nuclear medicine, which is used to recognize the presence, size and shape of various abnormalities in body organs without invasive surgery is now considered a physician specialty. VA is considered the “birthplace” of that specialty.

VA research changed the way high blood pressure is treated throughout the world. Before the late 1960s, most physicians believed that hypertension, or high blood pressure, should be left untreated, unless a patient’s symptoms were so severe that he or she was likely to die within the next few years. A VA cooperative study in the 1950s helped establish the most effective ways to control high blood pressure. Another in the 1960s found that patients whose high blood pressure was controlled by medication had far fewer heart problems and a lower risk of having a stroke. Thanks to these and other studies, physicians realized that treating high blood pressure early often prolonged lives. Edward D. Freis, M.D., a researcher at the Washington, DC VA hospital, received the 1971 Lasker Research Award for his work in this area. He was cited for “an exemplary demonstration of the potential of preventive medicine.”

The connection between smoking and disease first emerged from the work of a VA researcher. Oscar Auerbach, M.D., a researcher at VA’s East Orange, NJ hospital, autopsied the lungs of smokers and non-smokers who died of lung cancer, and others who did not. He found that the lungs of most smokers, whether lung cancer was the cause of death or not, showed signs of the disease, and also that heavy smokers were much more likely to die of lung cancer than non-smokers. As a result of tobacco industry criticism, Dr. Auerbach

and a colleague simulated smoking in dogs, and found that a third of the dogs that “smoked” developed the same kinds of cancers humans did. All the nonsmoking dogs had normal lungs. Later on, Dr. Auerbach also determined that smoking could damage the heart.

VA’s award-winning efforts to use computer technology in health care began at the dawn of the computer age. In 1961, VA researchers began to test computerizing information on patients to provide doctors with immediate information on their dietetic needs, laboratory reports, and prescriptions. Research also began developing automated systems for payroll, personnel, management control, clinical applications and other areas. In 1965, the patient-based applications and management applications were combined into a program called the Automated Hospital Information System (AHIS), with the goal of creating a prototype for a nationwide hospital management information system. A pilot program began at VA’s Washington, DC hospital—and although early systems were difficult to use, the program became the wellspring for the Department’s Veterans Health Information Systems and Technology Architecture (VistA), which now supports day-to-day operations at all VA health care facilities.

A VA researcher built the prototype of the first computed tomography (CT) scanner. Dr. William Oldendorf, a neurologist at the West Los Angeles VA Medical Center, conceived the idea for the CT scanner in 1959 as a way to avoid the pain and complications suffered by patients whose brains had to be looked at to detect brain lesions. A CT scanner takes the data from multiple X-ray images of structures within a body and turns them into pictures on a screen. Dr. Oldendorf used his son’s toy train, a phonograph turntable, and an alarm clock motor to build his prototype. Later, other (non-VA) researchers turned Dr. Oldendorf’s idea into reality. Dr. Oldendorf, who also invented a technique of measuring blood flow in the brain, received the Lasker Award in 1975 for his work, and was nominated for a Nobel Prize.

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