John L. Parascandola, Public Health Service, pp. 487-93 in ed. George Thomas Kurian, A Historical Guide to the U.S. Government. New York: Oxford University Press, 1998.

The origins of the United States Public Health Service may be traced to the passage of an Act in 1798 that provided for the care and relief of sick and injured merchant seamen. The leaders of the young American nation recognized that a healthy merchant marine was necessary to protect the economic prosperity and national defense of the country. The 1798 law created a fund to be used by the federal government to provide medical services to merchant seamen in American ports.

The marine hospital fund was administered by the Treasury Department and financed through a monthly deduction from the wages of the seamen. Medical care was provided through contracts with existing hospitals and, increasingly as time went on, through the construction of new hospitals for this purpose. The earliest marine hospitals were located along the Atlantic coast, with Boston being the site of the first such facility, but later they were also established along inland waterways, the Great Lakes, and the Gulf and Pacific coasts. The marine hospitals hardly constituted a system in the antebellum period. Funds for the hospitals were inadequate, political rather than medical reasons often influenced the choice of sites for hospitals and the selection of physicians, and the Treasury Department had little supervisory authority over the hospitals. During the Civil War, the Union and Confederate forces occupied the hospitals for their own use, and in 1864 only eight of the twenty-seven hospitals listed before the War were operational. In 1869 the Secretary of the Treasury commissioned an extensive study of the marine hospitals, and the resulting critical report led to the passage of reform legislation in the following year.

The 1870 reorganization converted the loose network of locally controlled hospitals into a centrally controlled Marine Hospital Service, with its headquarters in Washington, D.C. The position of supervising surgeon (later surgeon general) was created to administer the Service. John Maynard Woodworth was appointed as the first supervising surgeon in 1871, and he moved quickly to reform the system. In 1872 he began publishing annual reports of the Service. He also adopted a military model for his medical staff, instituting examinations for applicants and putting his physicians in uniforms. Woodworth created a cadre of mobile, career service physicians who could be assigned and moved as needed to the various marine hospitals. The uniformed services component of the Marine Hospital Service was formalized as the Commissioned Corps by legislation enacted in 1889. At first open only to physicians, over the course of the twentieth century the Corps expanded to eventually include dentists, sanitary engineers, pharmacists, nurses, and other health professionals.

The scope of activities of the Marine Hospital Service also began to expand well beyond the care of merchant seamen in the closing decades of the nineteenth century, beginning with the control of infectious disease. Responsibility for quarantine was originally a function of the states rather than the Federal government, but an 1877 yellow fever epidemic that spread quickly from New Orleans up the Mississippi River served as

a reminder that infectious diseases do not respect state borders. The epidemic resulted in the passage of the National Quarantine Act of 1878, which conferred quarantine authority on the Marine Hospital Service. Since the Service already had hospitals and physicians located in many port cities, it was a logical choice to administer quarantine at the Federal level. Over the course of the next half century, the Marine Hospital Service increasingly took over quarantine functions from state authorities.

As immigration increased dramatically in the late nineteenth century, the Federal government also took over the processing of immigrants from the states, beginning in 1891. The Marine Hospital Service was assigned the responsibility for the medical inspection of arriving immigrants. Immigration legislation prohibited the admission of persons suffering from *loathsome* or dangerous contagious diseases, those who were insane or had serious mental deficiencies, and anyone who was likely to become a public charge (e.g., owing to a medical disability). Officers of the Marine Hospital Service were assigned to immigration depots to examine immigrants for medical fitness. The largest center of immigration was Ellis Island in New York, opened in 1892, and Service physicians could examine as many as five thousands immigrants on a busy day. Under such conditions the medical examination was necessarily brief and superficial, and the experienced eye of the physician was the best diagnostic instrument at hand. When an immigrants condition aroused concern, he or she was detained for further examination.

The newly emerging science of bacteriology was just beginning to make its impact felt on medicine in the late nineteenth century (e.g., by aiding in the diagnosis of infectious diseases). In 1887 the Service established a bacteriological laboratory at the Marine Hospital at Staten Island. Originally concerned mainly with practical problems related to the diagnosis of disease, the Hygienic Laboratory, as it was called, was later moved to Washington, D.C., and became a center for biomedical research, eventually known as the National Institutes of Health.

Because of the broadening responsibilities of the Service, its name was changed in 1902 to the Public Health and Marine Hospital Service. The Service continued to expand its public health activities as the nation entered the twentieth century. The 1902 law that changed the name of the Service also led to increased cooperation between Federal and state public health authorities. The Surgeon General was charged with convening a conference of state health authorities at least on an annual basis and was also directed to prepare and distribute to state health officers forms for the uniform compilation of vital statistics. This statistical information was published in the Service's journal, Public Health Reports. Service physicians also cooperated with local health departments in campaigns against plague and yellow fever in cities such as San Francisco and New Orleans in the early part of the century.

Another law passed in 1902, the Biologics Control Act, gave the Service regulatory authority over the production and sale of vaccines, serums, and other biological products. Rural sanitation also became central to the work of the Service beginning in 1911, when Dr. Leslie Lumsden was sent to the state of Washington at the request of Yakima County officials to investigate the source of typhoid fever there.

Lumsden identified the cause of the spread of the disease as feces and initiated a campaign for sanitary privies. The rural sanitation efforts of Lumsden and his colleagues spread to other areas of the country and helped to encourage the establishment of county health departments.

The increasing involvement of the Service in public health activities led to its name being changed again in 1912 to the Public Health Service (PHS). At the same time, PHS was given clear legislative authority *to investigate the diseases of man and conditions influencing the propagation and spread thereof, including sanitation and sewage and the pollution either directly or indirectly of the navigable streams and lakes of the United States* (Annual Report of the Surgeon General of the Public Health Service, 1912, p. 9). All types of illness, whatever their cause (including environmental pollution), now came within the purview of PHS.

In the period following the passage of the 1912 law, PHS devoted significant attention to trachoma and pellagra, carrying out surveys, laboratory and field research, and efforts to control these diseases. PHS physician Joseph McMullen worked with state and local health officials to wage a campaign against trachoma, a contagious eye disease that could lead to blindness. He organized a string of temporary trachoma hospitals and clinics, staffed by nurses employed by PHS, for the treatment of the disease. Another PHS physician, Joseph Goldberger, demonstrated that pellagra, a disease that was especially common in the South, was caused by a dietary deficiency and that it could be eliminated by the addition of milk, meat, or eggs to the diet.

The entry of the United States into World War I had a significant impact on PHS. Some PHS commissioned officers were detailed to the Army and the Navy, but most PHS staff were involved in war-related efforts on the home front. The Service was given the responsibility of working with local health departments to keep the areas around military training camps free from disease. Venereal disease was a particular concern to the military, and a PHS Division of Venereal Disease was established in 1918 to control the spread of *social disease*. In that same year the *Spanish influenza* pandemic reached the United States, and PHS was given increased funding and staff specifically to battle this disease.

Following the war PHS was given the responsibility for the care of all returning veterans, leading to a threefold increase in the number of hospitals operated by the Service and an eightfold increase in patients. This situation was short-lived, however, because Congress established an independent Veterans Bureau in 1921, and the following year the responsibility and facilities for the medical treatment of veterans were transferred from PHS to the new Bureau.

The wartime concern with potential industrial hazards for workers served to stimulate PHS activities in the field of industrial hygiene, an area with which the Service had been concerned since about 1910. In the postwar period staff and activities in industrial hygiene were increased, and important investigations were undertaken on the hazards of radiation and toxic chemicals in various industrial settings and lung disease in

miners and granite cutters. PHS also became more actively involved in studies of water pollution in this period.

In the two decades between the two world wars, PHS expanded the population to which it provided health care beyond the traditional categories of merchant seamen and the Coast Guard. In 1921 PHS assumed responsibility for individuals suffering from leprosy when it converted the state leprosy facility in Carville, Louisiana, to a national leprosy hospital. Under PHS the hospital at Carville carried out pioneering research on the nature and treatment of leprosy. In 1928 the Service detailed a commissioned officer to serve as director of health of the Bureau of Indian Affairs of the Department of Interior, as well as assigning a number of other officers to the Bureau to provide medical assistance in the field. This cooperative arrangement continued until PHS eventually took over full responsibility for the health of American Indians from the Department of the Interior almost forty years later. The law creating the Federal Bureau of Prisons in 1930 included provisions for the assignment of PHS officers to supervise and provide medical and psychiatric services in Federal prisons, thus adding another category of beneficiaries to the roster of those served by PHS.

Although PHS had become significantly involved with the issue of mental health in connection with the screening of arriving immigrants, it did not establish a formal organizational unit in this area until 1929. Initially, the Division of Mental Hygiene focused largely on questions of substance abuse, as is suggested by the fact that it was called the Narcotics Division for the first year of its existence. The 1929 law that established the Division also authorized the creation of two hospitals for the treatment of narcotics addicts, and these facilities were opened in Lexington, Kentucky, and Fort Worth, Texas, in the 1930s.

Under the New Deal PHS became more involved in the broader health concerns of the nation. The Social Security Act of 1935 provided PHS with the funds and the authority to build a system of state and local health departments, an activity that it had already been doing to some extent on an informal basis. Under this legislation the Service provided grants to states to stimulate the development of health services, train public health workers, and undertake research on health problems. These programs were to be aided by the Federal government but run at the state and local level, joining the various government units in a public health partnership.

These new authorities were embraced by Thomas Parran, who was appointed as PHS Surgeon General in 1936 and was of a more activist bent than his predecessor. Venereal disease was an area of particular concern to Parran, who sought to focus the battle against syphilis and gonorrhea on scientific and medical grounds, rather than emphasizing moral or ethical views concerning sex. His articles in widely read magazines and his 1937 book, Shadow on the land, were a major factor in breaking down the taboo against the discussion of the subject in the popular press. His efforts were instrumental in leading to the passage of the National Venereal Disease Control Act in 1938. This legislation provided Federal funds to the states through PHS for venereal disease control

programs, as well as supporting research into the treatment and prevention of these diseases.

After being housed in the Treasury Department even since its establishment, PHS suddenly found itself in a new administrative home as the result of a government reorganization in 1939. President Franklin D. Roosevelt aligned PHS along with a number of social service agencies, such as the Social Security Board, in a newly created Federal Security Agency. The reorganization had little effect, however, on the functions and operation of the Service.

As it became obvious that the United States might become involved in World War II, PHS, along with many other American institutions, began to emphasize preparation for war. With the entry of this country into the war, some PHS officers were detailed to the military services. PHS also provided personnel to the United Nations Relief and Rehabilitation Administration to staff medical care and disease prevention programs in refugee camps in Europe and the Middle East. The Coast Guard was militarized in November 1941, and 663 PHS officers served with the Guard during the war.

A concern about a wartime shortage of nurses led to the passage of the Nurse Training Act of 1943, creating a program known as the Cadet Nurse Corps, administered by PHS. The program provided participants with a tuition scholarship and a small monthly stipend while attending a qualified nursing school. In return for this support, the cadets agreed to work after graduation in essential nursing services for the duration of the war, whether in the military or in civilian life. To symbolize their commitment to the war effort, the cadets wore uniforms. Between 1943 and the termination of the Corps in 1948, over 124,000 nurses (including some three thousand African Americans) were graduated, making the Cadet Nurse Corps one of the most fruitful Federal nursing programs in history. The program also marked the beginning of PHS involvement on a large scale in funding the training of health professionals.

The war contributed to expansion in the Services programs and personnel, the latter doubling in size to sixteen thousand employees between 1940 and 1945. It also increased the involvement of the Service in international health activities, leading to the creation of an Office of International Health Relations. Two legislative acts during this period also had a significant impact on PHS. A 1943 law reorganized the Service, consolidating its programs into four subdivisions: the Office of the Surgeon General, the National Institute (later Institutes) of Health, and two new entities, the Bureau of Medical Services and the Bureau of State Services. The 1944 Public Health Service Act codified on an integrated basis all of the authorities on the Service and strengthened the administrative authority of the Surgeon General. This act also allowed PHS to develop a major postwar program of grants for medical research through the National Institutes of Health, building upon the earlier example of the extramural grants for cancer research given by the Services National Cancer Institute since its creation in 1937.

Another legacy of World War II grew out of a wartime program of PHS to control malaria in areas around military camps and maneuver areas in the United States, most of

which were established in the South. Over the course of the war, the Malaria Control In War Areas program, based in Atlanta, expanded its responsibilities to include the control of other communicable diseases such as yellow fever, dengue, and typhus. By the end of the war, the program had demonstrated its value in the control of infectious disease so successfully that it was converted in 1946 to the Communicable Disease Center (CDC). The mission of CDC continued to expand over the next half century, going beyond the bounds of infectious disease to include areas such as nutrition, chronic disease, and occupational and environmental health. To reflect this broader scope of the institution, its name was changed to the Center for Disease Control in 1970. It received its current designation, Centers for Disease Control and Prevention (but retaining the acronym CDC), in 1992.

In 1946 two major legislative acts had a significant impact on PHS. The National Mental Health Act was to greatly increase the involvement of PHS, which administered the programs established by the law, in the area of mental health. The act supported research on mental illness, provided fellowships and grants for the training of mental health personnel, and made available to states grants to assist in the establishment of clinics and treatment centers and to fund demonstration projects. It also called for the establishment within PHS of a National Institute for Mental Health, which was created in 1949. The Hospital Survey and Construction Act, more commonly referred to as the Hill-Burton Act, authorized PHS to make grants to the states for surveying their hospitals and public health centers and for planning construction of additional facilities, and to assist in this construction. Over the next twenty-five years, the program disbursed almost $ 4 billion.

The Federal Security Agency was elevated to cabinet status as the Department of Health, Education, and Welfare (DHEW) in 1953, but this change in status had little direct impact on PHS at the time. The Service did assume several new tasks, however, in the 1950s. For example, it became fully responsible for the health of American Indians in 1955, when all Indian health programs of the Bureau of Indian Affairs were transferred to PHS. A new Division of Indian Health was established to administer these programs. In 1956 the Armed Forces Medical Library became the National Library of Medicine and was made a part of PHS.

The 1960s witnessed continued expansion of PHS. Two agencies that were also housed in DHEW were incorporated into PHS in this decade. St. Elizabeths Hospital, which had begun as the Government Hospital for the Insane in 1855, was brought into PHS in 1967 (although much of the hospitals physical plant and programs were transferred to the District of Columbia in 1987). The Food and Drug Administration was made a part of PHS in 1968, thus involving PHS much more heavily and visibly in the area of regulation.

Undoubtedly many Americans became much more aware of PHS and the Surgeon General with the publication of the famous Surgeon General's Report on Smoking and Health in 1964. Although not the first statement from a PHS Surgeon General concerning the dangers of smoking, the publicity surrounding this Report brought Surgeon General

Luther Terry into the limelight. It led eventually to the now-familiar Surgeon General's warning on cigarette packages.

The major health event of the 1960s, the passage of Medicare and Medicaid legislation, actually had little impact on PHS. When these programs became law in 1965, they were placed elsewhere within DHEW. Thomas Parrans successors as Surgeon General had been much less involved in matters of medical care policy, and many within PHS saw Medicare and Medicaid as essentially insurance programs in which the Service need not involve itself.

While expanding its responsibilities in a number of areas, PHS also saw its activities circumscribed in one field in this period, namely environmental health. In the 1960s water pollution control was moved from PHS to the departmental level, and eventually transferred to the Department of the Interior. The creation of the Environmental Protection Agency (EPA) in 1970 led to the loss of PHS programs in areas such as air pollution and solid waste to the new agency. Although some PHS commissioned officers were detailed to the EPA to assist it in its work, the Service had lost its role as the leader of the Federal environmental movement.

A major reorganization in 1968, prompted by the concerns of some that PHS needed to be more responsive to the policies of elected public officials and more of a modern political bureaucracy, dramatically changed the leadership structure of the Service. From the reorganization of 1870 through the middle of the 1960s, PHS was led entirely by career commissioned officers (who represented less than twenty percent of PHS employees by the 1960s), with no member of the civil service having ever run a bureau. The Surgeon General, although appointed by the President, had always been a career member of the Commissioned Corps. The 1968 reorganization transferred the responsibility for directing PHS from the Surgeon General to the Assistant Secretary for Health and Scientific Affairs (a political appointee position that had been created originally as an adviser to the Department Secretary). For the first time, a noncareer official became the top official in PHS. Although the Assistant Secretary for Health (as the position was later renamed) could come from the ranks of the PHS Commissioned Corps, this has not typically been the case. In general, beginning in this period the heads of PHS bureaus were increasingly not members of the Corps, and were frequently brought in from outside the Federal government. The Surgeon General was no longer responsible for the management of PHS but became largely an adviser and spokesperson on public health matters. Candidates for the position of Surgeon General no longer necessarily came from the ranks of the Corps but were often appointed from outside PHS and commissioned upon their appointment.

A series of further reorganizations over the next three decades continued to reshape the structure, but not the major functions, of PHS. PHS did assume responsibility for the first time for the health of certain members of the general public (as opposed to specific groups such as seamen or prisoners or Indians) with the creation of the National Health Service Corps (NHSC) in 1970. Under this program PHS sent physicians, nurse practitioners, and other health professionals into clinical practice in areas where there

were critical health manpower shortages. Beginning in 1972 PHS could offer health profession students scholarships in exchange for a commitment to serve in the NHSC. A decade later, however, PHS lost another group of patients when the health care entitlement for merchant seamen was terminated. By that time the provision of health care to merchant seamen played only a small part in the work of PHS, but nevertheless the closing of the remaining eight Marine Hospitals and twenty-seven clinics in 1981 represented the end of the activity for which the Service was originally created.

There has been no lack of challenges for PHS since that time, with the AIDS epidemic just one example of health care issues confronting the Service in the 1980s and 1990s. The Service remains a component of the Department of Health and Human Services (DHHS), as DHEW was renamed upon the creation of a separate Department of Education in 1980. A major reorganization in 1995 once again changed the leadership structure of PHS. PHS agencies, by this time numbering eight, no longer reported to the Assistant Secretary for Health, but directly to the Secretary of DHHS. The agencies, now considered Operating Divisions of the Department, are as follows: the Agency for Health Care Policy and Research, the Agency for Toxic Substances and Disease Registry, the Centers for Disease Control and Prevention, the Food and Drug Administration, the Health Resources and Services Administration, the Indian Health Service, the National Institutes of Health, and the Substance Abuse and Mental Health Services Administration. Together with the Office of Public Health and Science (headed by the Assistant Secretary for Health and including the Surgeon General) and the Department's regional health offices, these eight Divisions comprise today's Public Health Service, an organization of some fifty thousand employees.