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Correspondence should be addressed to:  
Hormoz Ebrahimnejad, 183, Euston Road, London NW1 2BE (U.K.).

Articoli/Articles

FROM MARINE HOSPITAL TO PUBLIC  
HEALTH SERVICE

JOHN PARASCANDOLA  
Public Health Service Historian  
U.S. Department of Health and Human Services  
National Library of Medicine  
Bethesda, MD (USA)

SUMMARY

*The United States Public Health Service traces its origin back to an act for the relief of sick and disabled seamen signed into law on July 16, 1798. This paper discusses the evolution of the system of marine hospitals set up under this law into a federal public health agency that was eventually named the Public Health Service in 1912.*

In 1998 the United States Public Health Service celebrated its 200th anniversary. The Service traces its origins back to the passage of an act for the relief of sick and disabled seamen by the United States Congress in 1798. Over the course of the nineteenth century, the system of marine hospitals established to care for seamen under this legislation evolved into an agency concerned with broader problems of public health.

*Hospitals for seamen*

At the end of the eighteenth century, 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. Yet there was no mechanism for providing health care to sick American merchant seamen when their ships docked in American ports. The mariners typically had no friends or family in these ports, nor any relationship with a medical practitioner and issues arose as to who would care for them and, of course, who would pay for the care.

*Key words:* Public Health Service - Marine Hospitals

To deal with this problem, the United States Congress passed an act for the relief of sick and disabled seamen, based on a British precedent. The British had established a marine hospital program following the defeat of the Spanish Armada in 1588, and the practice of providing health care to seamen spread to the British North American colonies in the 18th century. Marine hospitals were set up in several Atlantic ports, such as Charleston, South Carolina, and were funded through a variety of taxation schemes. By the end of the eighteenth century, however, Congress saw the need for a national solution.

The American act for the relief of sick and disabled seamen, which was signed into law by President John Adams on July 16, 1798, 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, like the earlier British plan, was financed through a monthly deduction from the wages of the seamen (20 cents per month per sailor). It represented an early example of a prepaid health care plan in the United States. 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 East Coast, with Boston being the site of the first such facility. The first hospital was established at a barracks on Castle Island in Boston Harbor in July, 1799, with Dr. Thomas Welsh appointed as the first medical officer. A native of Massachusetts, Welsh had been present at the battles of Lexington and Bunker Hill in the Revolutionary War. He was one of the organizers of the Massachusetts Medical Society, and a respected physician.

The Castle Island facility was considered to be a temporary arrangement until a more suitable building could be erected. In 1802, Congress appropriated \$15,000 to build a new hospital in Charlestown, Boston, the first to be erected with money from the Marine Hospital Fund. The building was completed and occupied in January, 1804.

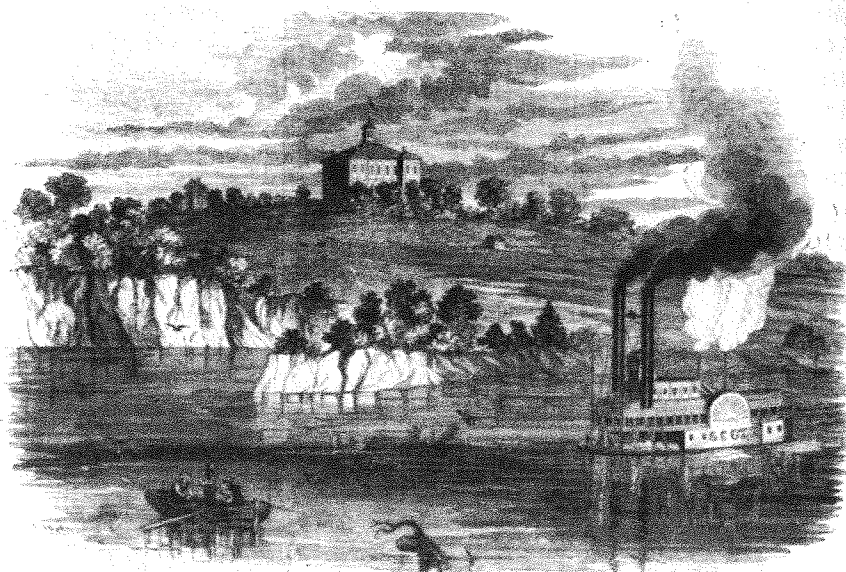
The first physician in charge of this hospital was Dr. Charles Jarvis, but in November, 1807, the renowned Dr. Benjamin Wa-



Fig. 1- This painting, the original of which is at the national Library of Medicine, depicts President John Adams signing the act for the relief of sick and disabled seamen on July 16; 1789; (All photographs courtesy of the national Library of medicine and the Program Support Center, Department of Health and Human Services)

terhouse was placed in charge. Waterhouse, who was Professor of the Theory and Practice of Medicine at Harvard, was well known for his introduction of Jenner's vaccination technique into the United States. He used Charlestown hospital to introduce his medical students to the active practice of medicine, and until the opening of the Massachusetts General Hospital in 1821, the marine hospital remained an important venue for Harvard medical students to acquire medical experience.

The rules of the hospital for 1808 state that the overseer or steward is to go through all the wards in the morning, before the physician visits, and make sure that every man has washed his hands and face and that *nothing offensive be left in the rooms*. Pa-



MARINE HOSPITAL AT ST. LOUIS, MISSOURI.

Fig. 2 - The Marine Hospital at St. Louis, mid- 19th century.

tients were to be shaved every Sunday and Wednesday, and *shirt-ed* every Sunday (or oftener if convenient). Among other offenses for which a patient could be dismissed from the hospital were drunkenness, disobeying the orders of the physician or overseer, throwing away his medicine, feigning a complaint, or leaving the hospital overnight without permission. Gambling was forbidden, as were spitting on the floor and writing on the walls.

Hospitals were also established in a number of other cities on the Eastern seaboard, such as Newport, Rhode Island and Norfolk, Virginia. In time, hospitals were also established along inland waterways (e.g., in Louisville, Kentucky), on the Great Lakes (e.g., in Chicago, Illinois), on the Gulf Coast (e.g., in New Orleans, Louisiana), and finally on the Pacific Coast (e.g., in San Francisco, California). Between 1849 and 1859, Federal marine hospitals opened in some 15 cities. By the 1850s, more than 10,000 mariners were receiving marine hospital benefits each year.

For some two decades, the marine hospitals also provided service to members of the United States Navy. On March 2, 1799, the 1798 act was amended to extend benefits to officers and men of the navy, who also paid 20 cents per month for this privilege. In time, however, the Navy decided to establish its own medical system. An act of February 26, 1811, provided for the establishment of a separate fund and hospital system for the Navy, although Navy sailors remained as beneficiaries of the marine Hospital Fund until the Navy was ready to take over their health care in 1818.

#### *Reforms Create a Marine Hospital Service*

The marine hospitals hardly constituted a system in the period before the Civil War. 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 hospital for their own use, and in 1864 only eight of the 27 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. Woodworth had obtained his medical degree from Rush Medical College in 1862 and then served as a Surgeon in the Union Army during the Civil War. After leaving the Army, he taught at the Chicago Medical College and the University of Chicago, and then served as Surgeon of the Soldier's Home of Chicago and Sanitary Inspector of the Chicago Board of Health.

Soon after his appointment to head the Marine Hospital Service, Woodworth adopted a military model for his medical staff,

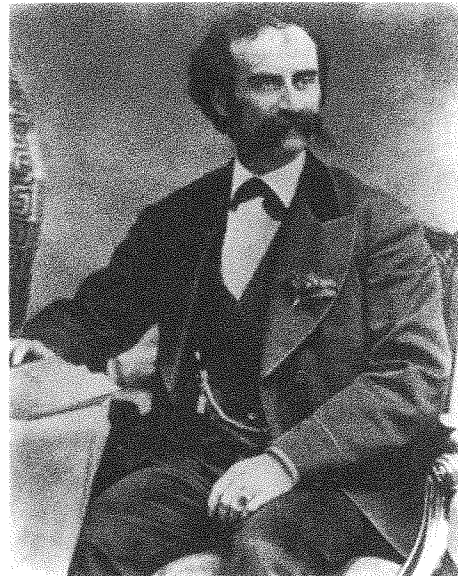


Fig. 3 - John Maynard Woodworth served as the first Supervising Surgeon of the Marine Hospital Service.

instituting examinations for applicants and putting his physicians in uniforms. He created a cadre of mobile, career service physicians who could be assigned and moved as needed to the various marine hospitals. The uniformed service 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.

Woodworth initiated the publication of annual reports of the Service, the first one being for the year 1872. He also designed the original seal of the service, the principal elements of which still comprise the seal of today's Public Health Service. The seal consisted of a fouled anchor, representing a seaman in distress or a stick seaman, and a caduceus of Mercury, symbolizing commerce (hence the Service's relationship to merchant seamen and

the maritime industry). In more recent times, the caduceus has come to be commonly used as a symbol of medicine as well.

#### *Evolution into the Public Health Service*

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 Hos-



U. S. QUARANTINE STATION ANGEL ISLAND SAN FRANCISCO BAY CAL. BOARDING STEAMER GEO M STERNBERG.

Fig. 4 - The boarding steamer George M. Sternberg, based at the Marine Hospital Service's quarantine station on Angel Island in San Francisco Bay.

pital 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 a 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., due 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 would examine 5,000 or more 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 immigrant's condition aroused concern, he or she was detained for further examination. The PHS also operated hospital facilities on Ellis Island to provide care for those arriving immigrants who need to be hospitalized.

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 diagnostic 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 diagnostic of disease, the Hygienic Laboratory, as it was called, was moved to Washington, D.C. in 1891 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 title of its leader was also shortened at that time from Supervising Surgeon General to Surgeon General.



Fig. 5 - Public Health Service physicians examine arriving immigrants at Ellis Island for signs of trachoma, early 20th century.

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.

In 1902, the Service was also assigned another responsibility with the passage of a law regulating the sale of biologics such as vaccines and antitoxins. The legislation was promoted by an incident in St. Louis in 1901 when 13 children died after receiving diphtheria antitoxin that had accidentally been contaminated with the tetanus bacillus. The act established a board consisting of the Surgeons General of the Army, the Navy, and the Public Health and Marine Hospital Service, and gave the board authority (with the concurrence of the Treasury Department) to is-

sue regulations for licensing manufacture of biologics. The Public Health and Marine Hospital Service was granted the authority to inspect the premises of manufacturers of these products, and the Service's Hygienic Laboratory was assigned the responsibility for the administration of the act.

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 example of cooperation with local authorities occurred in 1911, when PHS medical officer 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 identifies 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 country 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, the 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*. Thus any kind of illness, whatever the cause (including environmental pollution) now came within the purview of the PHS.

#### Conclusion

Over the course of the twentieth century the PHS continued to expand in size and scope. The Hygienic Laboratory evolved into the National Institutes of Health (NIH). A World War II malaria control program led to the creation of what is now known as the Centers for Disease Control and Prevention (CDC). In 1955, the PHS became responsible for the health care of American Indians and Alaska Natives, a program today known as the Indian Health Service (IHS). The Food and Drug Administration (FDA) became a part of the PHS in 1968.

The Service today, with some 56,000 employees, is a component of the Department of Health and Human Services. The

eight PHS operating divisions e.g., NIH, CDC, IHS, FDA) report directly to the Secretary of Health and Human Services. Together with the Office of Public Health and Science (headed by Assistant Secretary for Health and Surgeon General David Satcher) and ten Regional Health Administrators, these divisions comprise the Public Health Service. As the new millennium approaches, the PHS has entered its third century of service to the American people.

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Correspondence should be addressed to:  
John Parascandola, 18-23 Parklawn Building, 5600 Fishers Lane, Rockville - MD 20857, USA.