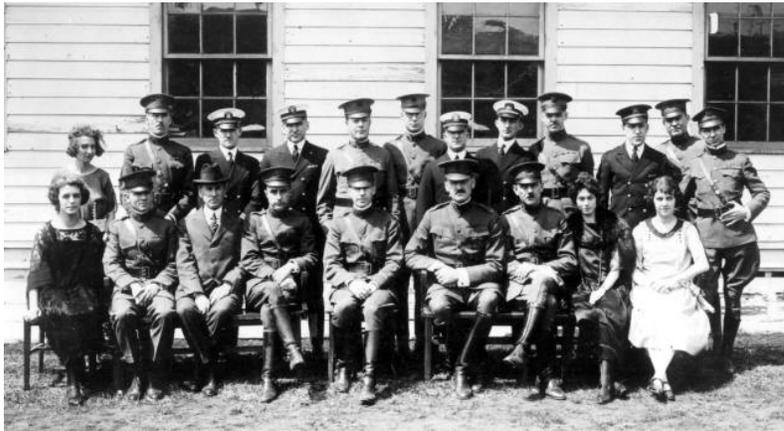


## Louis Hopewell Bauer and the First Federal Aviation Medical Examiners

Eighty-five years ago, on February 28, 1927, the Department of Commerce's Aeronautics Branch published a list of the first 57 physicians qualified to give medical examinations for pilot licenses. Scattered over the United States, these physicians (soon to be known as aviation medical examiners) had been selected and qualified by Aeronautics Branch Medical Director Louis H. Bauer.

The passage of the Air Commerce Act on May 20, 1926, had, for the first time, made civil aviation safety a federal responsibility. The act instructed the Secretary of Commerce to foster air commerce; designate and establish airways; establish, operate, and maintain aids to air navigation (but not airports); arrange for research and development to improve such aids; license pilots; issue airworthiness certificates for aircraft and major aircraft components; and investigate accidents. In August, William MacCracken, Jr., took the oath of office as the first Assistant Secretary of Commerce for Aeronautics.



1918, U.S. Army School of Aviation Medicine  
Instructor Louis Bauer seated in front row center

MacCracken selected Louis Hopewell Bauer, M.D. (1888-1964) as the first medical director in November 1926. The medical office became a part of the Air Regulations Division.

Bauer came with extensive experience for the job. He had earned his medical degree at the Harvard School of Medicine in 1912. On

August 25, 1913, Bauer joined the Medical Corps of the U.S. Army as a first lieutenant and graduated from the U.S. Army Medical School in 1914. After World War I he served as a medical officer in the Philippines, and then was reassigned to Kelly Field, San Antonio. He graduated from the U.S. Army School of Aviation Medicine in 1920. Rising to the rank of Major, Bauer later served as the head of the military aviation research laboratory and served as the commandant of the Army's school of aviation medicine. He graduated from the U.S. Army War College in 1926. Immediately prior to his Department of Commerce appointment, he published the most authoritative book on aviation medicine to date, *Aviation Medicine*. He resigned his commission to accept the Aeronautics Branch position, but joined the Army's Medical Reserve Corps where he earned the rank of Lt. Colonel.

At the Aeronautics Branch, Bauer quickly went to work to help define the first federal physical standards and examination frequencies for determining the medical fitness of

civilian pilots. He did not believe the standards should be identical to then current military standards, because the military requirement related not only to flying but also to carrying out other military duties. He, however, firmly believed that “There is no occupation in which physical condition is of such paramount importance as flying.”

With the help of other medical experts, Bauer identified disqualifying conditions that could cause sudden incapacitation or death while at the controls of an airplane or could compromise a pilot’s ability to operate an aircraft at an acceptable level of safety. On December 31, 1926, the Aeronautics Branch issued the first air commerce regulations, which included Bauer’s medical standards. Those standards included three levels of physical standards, one for each class of pilot: private; industrial; and transport. The Branch added a fourth class, limited commercial in March 1927. Under the new regulations, transport and limited commercial pilots had to undergo a physical examination every 6 months and industrial and private pilots had to renew their medical certificates every 12 months. In addition:

- Private pilots had to have an absence of organic disease or defect which would interfere with safe landing of an airplane; visual acuity of at least 20/40 in each eye; less than 20/40 might be accepted if the applicant wore a correction in his/her goggles and had normal judgment of distance without correction; good judgment of distance; no diplopia (double vision) in any field; normal vision fields and color vision; and organic disease of eye, ear, nose, or throat.
- Industrial pilots could not have any organic disease or defect which would interfere with safe landing of an airplane; visual acuity of not less than 20/30 in each eye, although in certain instances less than 20/30 might be accepted if the applicant wore a correction to 20/20 in his/her goggles and had normal judgment of distance without correction; good judgment of distance; no diplopia in any field; normal vision fields and color vision; and no organic disease of eye, ear, nose, or throat.
- Transport and limited commercial pilots were to have a good past history; sound pulmonary, cardiovascular, gastrointestinal, central nervous and genito-urinary systems; freedom from material structural defects or limitations; freedom from diseases of the ductless glands; normal central, peripheral, and color vision, normal judgment of distance; only slight defects of ocular muscle balance; freedom from ocular disease; absence of obstructive or diseased conditions of the ear, nose and throat; no abnormalities of the equilibrium that would interfere with flying.

In the case of trained, experienced flyers, the Secretary of Commerce could grant waivers for physical defects designated as disqualifying by the regulations when, in his opinion, the experience of the pilot compensated for the defect.

Under the new civil air regulations, a Department of Commerce official had to flight test every pilot applicant. The applicants, however, would not be examined by a Department doctor. The Department realized that even if it could hire the requisite number of physicians the cost would be prohibitive. The alternative was use physicians in private

practice as medical examiners. They would receive no pay from the federal government, but would collect a fixed fee from each applicant they examined.

Bauer initially wanted a designated medical examiner in each major city in the United States and wanted to select personally each examiner. He turned, naturally, to his former colleagues – the military flight surgeons he had trained and served with in World War I. By February 1927, he had selected the first 57 doctors. In doing so, he disregarded an order by his boss, William MacCracken, Jr., not to hire his father, Dr. William MacCracken, Sr., who became one of the original core of examiners. By the end of June 1927, Bauer had selected approximately 125 physicians as examiners – a number that increased by six-fold by the turn of the decade.



Louis Hopewell Bauer

Bauer saw aviation medicine as an expanding and evolving field. Although he expressed concern early in his tenure in the Department of Commerce whether or not the airplane could surpass a speed that a pilot could endure, and if the human factor would be the eventual limit of an airplane's velocity (*Popular Science*, October 1927), he worked to advance the field. Bauer explained the purpose of aviation medicine "is largely preventive in nature. It involves the selection and care of the pilot and his protection against the physical forces acting upon him in the air, all with a view to preventing accidents from a physical cause" (*Annals of Internal Medicine*, January 1, 1943).

To advance this new field of aviation medicine, Bauer established the Aero Medical Association in 1929 (now the Aerospace Medical Association) and started the organization's *Journal of Aviation Medicine* in 1930 (now *Aviation, Space, and Environmental Medicine*). Though he left the Aeronautics Branch in November 1930 and went into private practice, he continued his relationship with the organization he founded by becoming an aviation medical examiner. He subsequently served as president and chairman of the American Medical Association. During his later years, he helped found and then served as Secretary General of the World Medical Association, and later joined United Medical Service, Blue Shield Plan of New York as Chairman of the Board.