

# Clinical Instruction in Marine Hospitals in the 19th Century

**T**HE FIRST United States Marine Hospital was opened at the port of Boston in 1799. A few years later the physician in charge began using the institution as a teaching hospital for the instruction of young men in the arts of medicine and surgery. As marine hospitals opened in other maritime ports and in inland river towns, many found double use: as hospitals for treatment of sick and injured sailors and as schools for practical instruction of medical students.

It seems to me that present members of the Public Health Service, the descendant of the old Marine Hospital Service, have no conception of the widespread use of marine hospitals as teaching hospitals during the 19th century. Perhaps to the old marine physicians the practice was so ordinary that none of them thought it worthwhile writing about, and with the passage of the years it has been forgotten.

It is now difficult to discover which hospitals admitted students, when, the method of instruction (haphazard or formal) at a given time, conditions of admission, regulations, and other things. The surgeons, seamen, and students are long gone. Many of the records have disap-

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*Dr. Miles is the historian for the National Institutes of Health, Public Health Service. The illustrations were supplied by the National Library of Medicine.*

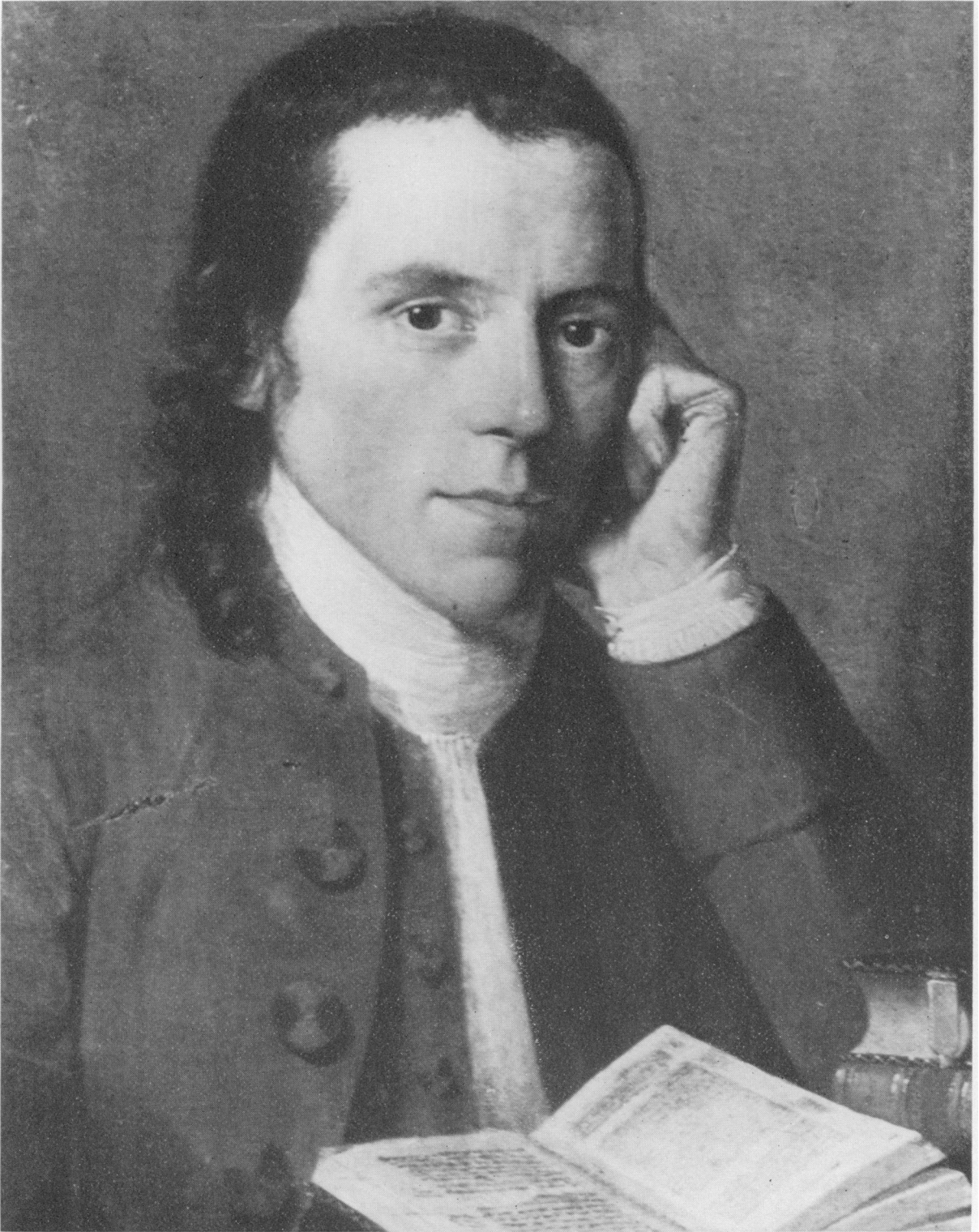
## WYNDHAM D. MILES, Ph.D.

peared. Reports sent to Washington were largely statistical, giving expenses for wages and medicines, numbers of patients, and similar data. These reports were not descriptive or narrative or of such a nature that they would provide a vivid picture of the early hospitals.

Two unofficial sources give fragments of information about the use of marine hospitals in medical education: catalogs of medical schools and advertisements of teachers and medical schools in old medical journals. The bits of information in these publications do not amount to much individually, but added together they indicate that teaching was carried on in the majority of marine hospitals through the 19th century.

### Boston

The U.S. Marine Hospital at Boston, the first to admit seamen, may also have been the first to open its doors to students. At least as early as 1807 Dr. Benjamin Waterhouse, physician in charge, permitted students from Harvard Medical School, where he was a professor, to visit the hospital and observe the treatment of patients (*1a*). Waterhouse's successors at the hospital continued to allow young men to receive clinical instruction. The Harvard Medical School announcement of 1818 informed students that "the physician of the Marine Hospital has



**Dr. Benjamin Waterhouse, 1754–1846, by Gilbert Stuart. Redwood Library, Newport, R.I.**

## MEDICAL TUITION.

**THE** subscribers offer the following advantages to medical students.

Students will be allowed free access at all hours to the United States' Marine Hospital at Chelsea, and will be permitted to examine and make records of all the cases that occur there. On an average there are at least sixty patients at the institution. Dr. Stedman will make a daily morning visit, and Drs. Perry, Bowditch and Wiley will, in turn, visit two afternoons every week, from March 1st to October 31st, for the purpose of clinical observation with the students. Dr. Bowditch will deliver a course of lectures upon diseases of the chest, with especial reference to the physical signs.

In addition to the above, admission will be granted to the medical and surgical visits at the Massachusetts General Hospital; to the Infirmary for Diseases of the Lungs; to the practice of one of the Dispensary districts, and to the Smallpox Hospital. Abundant opportunities for dissections and operative surgery, and occasionally for the practice of midwifery.

Regular courses of instruction will be given as follows:—

On Anatomy and Medical Jurisprudence, by	-	-	-	-	-	-	-	-	-	DR. SMITH.
Surgery, by	-	-	-	-	-	-	-	-	-	DR. STEDMAN.
Theory and Practice of Medicine, by	-	-	-	-	-	-	-	-	-	DR. PERRY.
Midwifery, Diseases of the Chest, and Demonstrations on	}	-	-	-	-	-	-	-	-	DR. BOWDITCH.
Morbid Anatomy, at the Hospitals, by	}	-	-	-	-	-	-	-	-	DR. BOWDITCH.
Materia Medica and Chemistry, by	-	-	-	-	-	-	-	-	-	DR. WILEY.

Rooms for study, either at Boston or Chelsea, free of expense. For terms, apply to H. G. Wiley, or to either of the subscribers. M. S. PERRY, C. H. STEDMAN, H. G. WILEY, J. V. C. SMITH.  
Jan. 29—eplmeoptf

### Advertisement from the Boston Medical and Surgical Journal, 1840

also very liberally invited such as desire it, to attend the practice of that place" (1b).

In 1840 a group of Boston physicians who conducted a private medical institution ran an advertisement in the Boston Medical and Surgical Journal informing prospective students of the advantages of studying under them. The chief advantage seems to have been clinical instruction at the Marine Hospital (2). "Students will be allowed free access at all hours to the United States' Marine Hospital at Chelsea," the advertisement said, "and will be permitted to examine and make records of all the cases that occur there. On an average there are at least sixty patients at the institution. Dr. Stedman will make a daily morning visit, and Drs. Perry, Bowditch and Wiley will, in turn, visit two af-

ternoons every week, from March 1st to October 31st, for the purpose of clinical observation with the students. Dr. Bowditch will deliver a course of lectures upon diseases of the chest, with especial reference to the physical signs."

Two years later George W. Otis, Jr., head of the hospital, placed an ad in the same journal offering his services as a preceptor to medical students (3). "The subscriber, Physician and Surgeon to the Marine Hospital, Chelsea, will receive pupils and give personal instruction in the various branches of medical science. He will devote to them such time, and afford them such opportunities and facilities for study and practice, as are essential for a thorough and practical medical education. The medical and surgical practice of the Hospital will be constantly open

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Chelsea, September, 1841.

Sep. 8—eoptf.

GEORGE W. OTIS, JR.

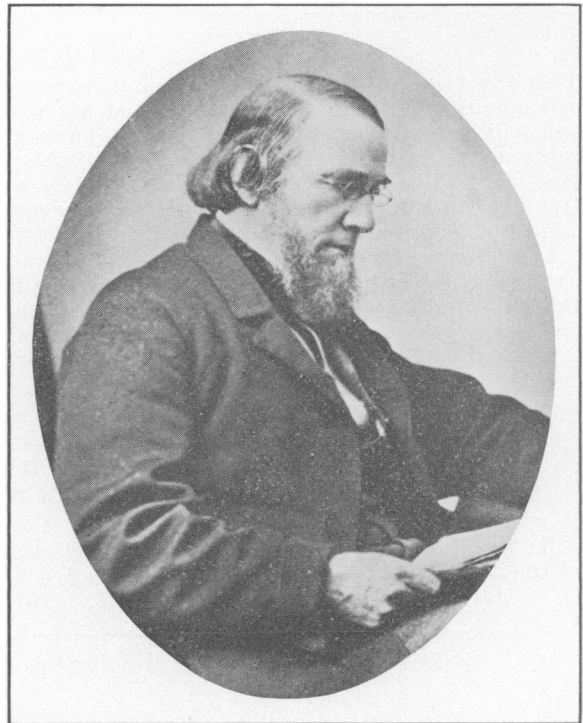
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to his students, and clinical instruction, on the cases as they occur, will be given. Abundant facilities for obtaining a correct knowledge of materia medica and the dispensing of medicines will be afforded. For terms, and more particular information, application can be made at the Hospital or by letter.”

This marine hospital later admitted students of Boston Dental College. In 1875 the dental college catalog carried the following statement. “Students will have admission to the Massachusetts General, City and U.S. Marine Hospitals, where opportunities will be had for observing surgical diseases and operations of every character.” For at least a quarter of a century the marine hospital served to give dental clinical instruction, and it is the only one of the marine hospitals of which I have found evidence of use by dental students (4).

#### Chicago

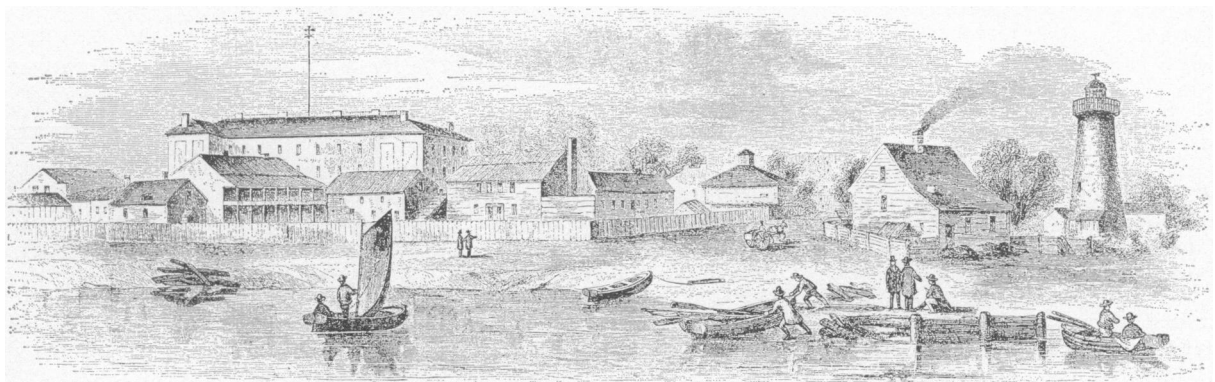
In Chicago, construction of the U.S. Marine Hospital was begun in 1849, and the building readied for patients in 1852. As soon as it opened, Rush Medical College made arrangements for students to use the hospital. The Rush catalog for the session of 1852–53 informed prospective students. “The United States Marine Hospital is under the charge of Prof. Herrick, and will also be accessible to the Hospital Class, as far as practicable, during the College term.” William B. Herrick was concurrently professor of anatomy and physiology at Rush and presumably used the marine hospital extensively for instruction of his classes (5).



**Dr. Charles Harrison Stedman, 1805–1866**

In the 19th century, some medical schools charged a fee for clinical instruction by requiring a student to purchase a “hospital ticket.” The ticket at Rush in the 1850’s was \$6. In 1856 Rush charged an additional fee of \$5 for admission to the marine hospital. The notice of an admittance fee to the marine hospital appeared in only one catalog, that of the session for 1856–57. Then mention of the marine hospital disappeared from the catalogs for a decade.

Charging a student an admission fee to a Gov-



LIGHT HOUSE, BLOCK HOUSE, AND MARINE HOSPITAL, AT CHICAGO, ILLINOIS.

*Wood engraving, 1856*

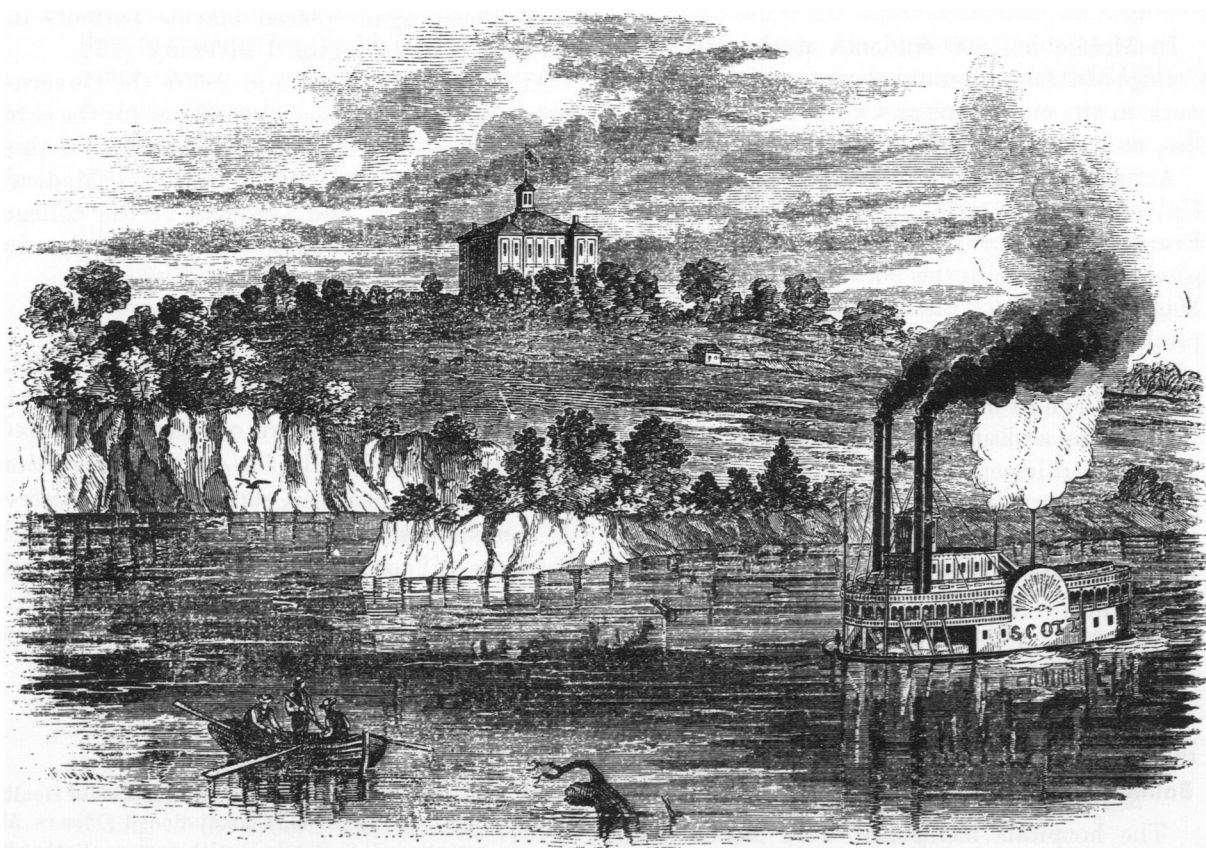
ernment-owned marine hospital is surprising. I doubt that the Treasury Department, which supervised the Marine Hospital Service, would have given any organization or person permission to collect such a fee. Since reference to the hospital disappeared from catalogs from 1857-58 to 1865-66, I believe it is a logical assumption that the Secretary of the Treasury was notified of the fee and he immediately ordered the practice stopped (6).

After the Civil War statements again appeared in Rush catalogs that the "Marine Hospital will be accessible to the class." The catalog of 1867-68 told students that "a daily clinic will be given at the Marine Hospital. Prof. Gunn and Dr. E. C. Rogers, Surgeon in Charge, will lecture upon clinical surgery, and Dr. William C. Lyman (late Surgeon, U.S.N., now Resident Physician of the Hospital) upon diseases of the chest." The Moses Gunn named in the statement was professor of surgery at Rush (7). Until 1871 Rush catalogs mentioned the

marine hospital. Students stopped using it, apparently, because hospitals of greater convenience became available in Chicago.

### St. Louis

At St. Louis the Government began construction of a marine hospital for Mississippi rivermen in the early 1850's. Before the structure was completed, the Saint Louis Medical College obtained permission from the marine hospital physician to send students there to make clinical observations. The college catalog for 1855-56 carried the following statement (8): "United States Marine Hospital. This charity, erected by the Government, is situated in South St. Louis, and is devoted to the reception of sick and disabled boatmen. It is to be completed during the present spring, and will be ready for patients some time in the summer. As St. Louis is already the third city in the Union in steamboat tonnage, it will be readily perceived how large a number of cases will be likely to find their way



MARINE HOSPITAL AT ST. LOUIS, MISSOURI.

Wood engraving, 1857

into this excellent charity. It is under the control of George Johnson, M.D., surgeon to the Institution. Here, . . ., students are at all times admitted, free of charge."

Judging from the catalogs, students from St. Louis Medical College visited the marine hospital for at least a decade. Similar announcements appeared in catalogs up to the session of 1861-62. Starting with the catalog of 1857-58, Dr. McPheeters was named in place of Dr. Johnson.

However, the St. Louis Marine Hospital and other U.S. Marine Hospitals were not charities. Seamen paid for their care through a tax collected from their wages.

The college also placed an ad in the Southern Journal of the Medical and Physical Sciences (9). "The most ample opportunities for clinical instruction, both in Medicine and Surgery, are afforded free of charge in the St. Louis Hospital, as also in the City Hospital, the Marine Wards, and the O'Fallon Dispensary."

#### **Mobile, San Francisco, and Norfolk**

In Mobile in 1860 students at the Medical College of Alabama could observe physicians at work in the city hospital, two private infirmaries, and the U.S. Marine Hospital (10).

Across the continent medical students of the University of the Pacific attended the San Francisco County Hospital, St. Mary's Hospital, and "through the politeness of Dr. John Hastings of the United States Marine Hospital," the latter institution. The announcement of 1863 told students that their "class will have the privilege of observing the practice in these institutions and attending the clinical lectures by these gentlemen" (11).

At Norfolk, Va., the physician at the marine hospital had a "resident student in the hospital" during the summer of 1855. The student is mentioned in an article on yellow fever published in 1857 (12). I would assume that this was not an isolated instance, but that there was a widespread practice of physicians at marine hospitals acting as preceptors to private students.

#### **Baltimore and Cincinnati**

The hospitals mentioned were official U.S. Marine Hospitals, constructed by the Government and operated by the U.S. Marine Hospital

Service. In addition to building hospitals, the Government contracted with physicians or private hospitals for medical treatment of sailors. In some contract hospitals the marine wards were used for clinical instruction. At Baltimore in the 1830's, the medical department of Washington University contracted for the use of two floors of its building for U.S. marine patients. These patients were directly under the care of the faculty and students of the university (13).

Around 1840 the Government switched the contract from Washington University to the University of Maryland Medical School (14). The university announced this to prospective students in an advertisement in the Maryland Medical and Surgical Journal. "The Marine Hospital having been restored to the Infirmary of the University, and that Institution presenting also many interesting cases from among our citizens, the means of clinical instruction will be ample. Important surgical operations are of frequent occurrence." Later in the decade the Government again placed marine patients in the care of Washington University (15).

At Cincinnati in the mid-1850's the Government used the Commercial Hospital for the care of rivermen. The medical management of this hospital was directed by the faculty of Medical College of Ohio, and students at the college received some of their clinical instruction in the marine ward (16).

#### **Conclusion**

For at least a century U.S. Marine Hospitals played two roles: the official role of an institution for the medical care of sick and injured seamen and unofficially for clinical instruction of students in medicine, surgery, and dentistry. It seems a reasonable assumption, even though evidence is not readily available, that other marine hospitals welcomed students and that clinical instruction went on in every marine hospital in the vicinity of a medical school.

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- (2) Boston Med Surg J 22: 164 (1840).

- (3) *Boston Med Surg J* 25: 87 (1842).
- (4) *Boston Dental College: Annual catalogs, 1875-76 (p. 6) to 1899-1900.*
- (5) *Rush Medical College: Annual announcement, 1852-53. Chicago, p. 8.*
- (6) *Rush Medical College: Annual announcement, 1856-57. Chicago, p. 5.*
- (7) *Rush Medical College: Annual announcement, 1867-68. Chicago, p. 5.*
- (8) *Saint Louis Medical College: Annual catalogue, 1855-56. St. Louis, p. 6.*
- (9) Advertisement captioned "Saint Louis Medical College." *Southern J Med Phys Sci* 3: (1855).
- (10) *Medical College of Alabama: Annual announcement, 1860-61. Mobile, p. 4.*
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- (16) *Medical College of Ohio: Annual catalogs, 1855-56 and 1856-57.*

#### Tearsheet Requests

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## Survey of NIGMS Training

Bioscience graduate students who have received support from the National Institute of General Medical Sciences (NIGMS) spend less time in training for the Ph.D. degree, have a better chance of getting an immediate post-doctoral fellowship, and have greater post-training research productivity than those students lacking this support. Between 1958 and 1967, a total of 28,503 persons received NIGMS training support for graduate study through traineeship or fellowships, or both.

These facts are included in a report, "The Effects of NIGMS Training Programs on Graduate Education in the Biomedical Sciences," prepared by a committee of the National Research Council's Office of Scientific Personnel, chaired by John A. D. Cooper, former dean of science at Northwestern University and now president of the Association of American Medical Colleges. The report is based on a 4-year study of the patterns of NIGMS support to bioscience departments and graduate students from 1958 through 1967.

In addition to their effects on graduate students, the NIGMS graduate research training grant and fellowship programs have had profound effects on bioscience departments, according to the report. The gain in average

Ph.D. production per department during 1958-62 and 1963-67 was markedly greater for the NIGMS-supported departments than for non-supported ones. Also, full-time graduate student enrollment in departments with NIGMS support, such as biochemistry departments, increased more rapidly than corresponding enrollment in departments without support. Further, the number of Ph.D. granting departments in the biosciences increased by one-third during the decade covered by the study. Although these differences cannot be attributed solely to NIGMS training grant support, such support contributed to the rapid growth of recipient departments.

During the period covered by the study, 400 of the 761 departments that granted Ph.D.'s in nine bioscience fields (biochemistry, pathology, physiology, microbiology, pharmacology, biometrics, anatomy, biophysics, and genetics) received NIGMS training grants. The 400 departments accounted for 73 percent of the research doctorates awarded in these fields.

Single copies of this report are available from Paul A. Deming, National Institute of General Medical Sciences, Office of Information, 5333 Westbard Avenue, Bethesda, Md. 20014.