

Student Health Services  
in  
Institutions of Higher Education

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Bulletin, 1937, No. 7

UNITED STATES DEPARTMENT OF THE INTERIOR - *Harold L. Iches, Secretary*  
OFFICE OF EDUCATION - - - - *J. W. Studebaker, Commissioner of Education*

UNITED STATES GOVERNMENT PRINTING OFFICE - - - - WASHINGTON : 1937

For sale by the Superintendent of Documents, Washington, D. C. - - - - Price 10 cents

## CONTENTS

	Page
FOREWORD.....	v
INTRODUCTION—HISTORY AND PREVIOUS SURVEYS.....	1
PRESENT-DAY PRACTICES.....	8
Colleges and universities.....	8
Coeducational institutions.....	9
Colleges and universities for men.....	29
Colleges and universities for women.....	36
Colleges and universities for Negroes.....	41
Teachers colléges.....	42
Junior colleges.....	44
Residential junior colleges.....	44
Nonresidential junior colleges.....	48
Professional and technical schools.....	49
Provisions and practices at Vassar.....	53
SUMMARY AND CONCLUSIONS.....	57
Sanitation and health instruction.....	61
SELECTED REFERENCES.....	61

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## FOREWORD

In 1932 a detailed description of the Student Health Services in six of our larger universities was published by the Committee on the Costs of Medical Care, but no general survey of developments in this field, the country over, has been made for some years. In the present investigation the Office of Education had the cooperation of the American Student Health Association and some of the items of our questionnaire were suggested by Dr. Warren E. Forsythe, of the University of Michigan, chairman of the Committee on Health Service of the Second National Conference on College Hygiene.

The study was carried out by J. F. Rogers, M. D., consultant in hygiene, with the assistance of Stella T. Sebern, of this Office. The publication furnishes a general picture of provisions and practices in the important field of medical supervision and care.

BESS GOODYKOONTZ,  
*Assistant Commissioner.*

# STUDENT HEALTH SERVICES IN INSTITUTIONS OF HIGHER EDUCATION

## INTRODUCTION

"There shall be no scollar nor infaunt, of what country or shire so ev. he be of, beyng man child, be refused, except he have some horrible or contagious infirmyties wiche he, and shall alwaies be, remytted to the discretion of the Warden or deputie for the time beyng."

So reads a regulation promulgated 500 years ago by the regents of Manchester college.<sup>1</sup> In every school students with "horrible and contagious infirmities" have been unwelcome but fortunately, for a long time, the sickly and defective have had some consideration. And it is well, for they may prove to be, mentally, among the most worthy. We are indebted to the sympathy and common sense of the Jesuit head of the college attended, three centuries ago, by Rene Descartes for permitting that delicate genius to do his lessons in bed and to come to school when he chose.

A hundred years ago William Alcott expressed a doubt whether schools would "ever become what they ought to be as places for the promotion of health \* \* \* until they are brought under the care—more or less—of judicious medical men. \* \* \* For say what we will of the novelty of such a plan or proposal, our schools ought to have their regular physicians as much as our houses of industry, our almshouses, or our penitentiaries."<sup>2</sup>

No such physician was employed by any college in this country, so far as we have record, until the appointment in 1859 of Dr. John W. Hooker as professor of hygiene in Amherst College. Stimulated by reports from Amherst, Harvard also was thinking along these lines, for in the president's report for the year 1858-59 he recommended that a professor of hygiene be appointed.

It is much to be desired that, in connection with this subject [the danger from certain forms of exercise], a professorship of hygiene should be established. The services of a skillful and

<sup>1</sup> Whatton, W. R., *History of Manchester School*, London, 1828.

<sup>2</sup> Alcott, William A., *Health in Common Schools*, Boston, 1840.



experienced physician, who shall act as the friend and adviser of the students, are greatly needed. Brought together from their homes, at a critical age, without the oversight of parents or family physicians many, no doubt, fall into habits injurious to health, without being conscious of the dangers they are incurring; many are careless of precautions which are forced upon them at home; some are drawn into temptations with regard to eating, drinking, and smoking, which they need to be warned against. The college rules of order in some measure help to protect the students from these dangers; but a good physician in the department of hygiene, who, as professor, should give them instruction, by lectures or otherwise, at the commencement of the college course, and to whom they might resort in all cases of illness, whose advice they should have the right to ask confidentially on all matters relating to health, and who should exercise a controlling direction whenever a student appeared to suffer from bad habits, ignorance, or neglect, would be the best possible safeguard. The importance of such a professorship can hardly be exaggerated. The trustees of Amherst College have already supplied this urgent want by the appointment of a competent professor. They have set a good example which it would be well to follow, and it is earnestly hoped that the friends of Harvard will see to it that the students, especially the undergraduates, enjoy the like security.\*

Such a professorship was created at Harvard but not for some years. The "new department" at Amherst, presided over by the professor of hygiene and physical education, was designed "to secure healthful daily exercise and recreation to all students, to instruct them in the use of the vocal organs, movements of the body, and manners as connected with oratory—and to teach them, both theoretically and practically, the laws of health. While the gymnasium will furnish opportunities for the highest physical training to such as may desire it, no exercises will be required of the students generally except such as can be performed without undue effort or risk of injury."

A gymnasium had just been "finished and furnished" and the new professor became a part of its equipment. Physical education was, at the time, considered a cure and preventive of many physical ills, but it is evident that both at Harvard and at Amherst there was a strong suspicion that the exer-

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\*Thirty-fourth Annual Report of the President of Harvard College to the Overseers, for the Academic Year, 1858-59.

cises carried on might sometimes be harmful. The primary consideration in the appointment of a physician as director of hygiene was to make sure that the activities in the new and expensive "calisthenium" were helpful rather than harmful. Of course the physician was to render a larger service as adviser, but nevertheless he was primarily a director of physical education.

Dr. Hooker's own health failed and he was succeeded in 1861-62 by Edward Hitchcock, Jr., A. M., M. D. The catalog of 1861-62 speaks of him as "an educated physician" (apparently there were many physicians who were not considered educated) and there was alphabetical evidence that he was well schooled.

Dr. Hitchcock set about discovering some means of determining the results of the gymnastic exercises prescribed for four periods a week. In 1861 measurements were made of weight, height, girth of chest, of arm and of forearm and of "body lift." In the next year the capacity of the lungs was recorded, and in 1876 the "finger reach, chest expansion, and comparative strength of hands."\*

In the Amherst catalog for 1863-64 under the caption, "Physical Culture", we read that "the professor in this department is, as far as possible, expected to be acquainted with the physical condition of each student in town during term-time. All students are permitted to consult him without charge, and no absence for sickness can be excused by a class officer without a proper certificate from the professor in this department. Careful vital statistics [measurements] are taken of each student at regular intervals, and thus each member of the college can compare his condition with that at certain previous periods of his course."

By 1885 the record blank for the student looked not unlike that of today so far as family and personal history was concerned and anthropometry was in full flower, for the number of tests of strength and measurements of bulk had reached 50. The physical examination otherwise was not elaborate but was as thoroughgoing as the medical knowledge of the day permitted.

\* Hartwell, E. M. *Physical Training in American Colleges and Universities*. Bureau of Education, Washington, 1886.



After comparing the results obtained by the tests and measurements with the standards for the average healthy persons of the age given, and taking into consideration any functional or structural peculiarities which his observations or questions may have brought to light, the examiner makes his prescription regarding exercise, diet, sleep, air, bathing, clothing, etc. For the sake of convenience this prescription is frequently given in the shape of a small handbook or card, so marked by the examiner that the person receiving it is plainly directed as to the regimen he had best follow. Reexaminations are made and prescriptions are repeated or modified from time to time, according to the nature of the case.<sup>4</sup>

In 1855-56 Dr. J. W. Seaver was made medical director of the Yale gymnasium and the university catalog said: "A thorough physical examination and measurement of each student is made yearly by the medical director and a record of these results is kept as a basis of advice as to exercise and regimen." The same procedures were developed at Harvard under Dr. D. A. Sargent and at Johns Hopkins under Dr. E. M. Hartwell.

A resident physician was added to the staff of Mount Holyoke in 1861-62 and in 1862-63 she was made the teacher of physiology.

At Vassar "an experienced physician" was in residence from its beginning in 1865. She also served as professor of physiology and hygiene.

When students are ill they are placed under her professional care, unless previous arrangements, approved by the president, have been made to secure the attendance of other physicians. When other physicians are engaged, their visits must be made with her knowledge and they must be in communication with the resident physician in regard to the treatment of the patient, in order that she may discharge her duty as health officer of the institution. In the infirmary, complete arrangements are made for the comfort of the sick and a competent nurse is in constant attendance.

In the first circular of Wellesley (1876) we find that "a lady physician will reside in the college and will have the general care of the health of students." Hartwell<sup>4</sup> in his account of physical training, published in 1886, says of Wellesley that "since 1880 all applicants for admission have

<sup>4</sup> Ibid.

been required to present a certificate from some reputable physician that they were physically fit to undertake the course of study prescribed in the institution. Out of 485 who presented such certificates in 1882-83, 23 were found within 9 months to be unable to continue their studies on account of ill health." During the same year 470 underwent physical examination touching the condition of "spine, lungs, and heart" by the resident physician.

According to Hartwell's investigation of the principal colleges and universities, physicians in charge of student health were employed only by Amherst, Harvard, Yale, Johns Hopkins, Haverford, Vassar, and Wellesley. He overlooked Mount Holyoke and possibly a few others. Vassar, Wellesley, and Cornell (for women) reported hospitals and nurses. A half century ago, then, only about a half dozen colleges employed physicians, chiefly in connection with their departments of physical training.

In 1909, or a quarter century following Hartwell's review of the subject, Meylan,<sup>6</sup> as chairman of a committee of the American Physical Education Association on the Status of Hygiene in Colleges and Universities, sent a questionnaire to a selected list of 138 such institutions. Replies were received from 124. It was learned that, in 75 percent, students were given a medical examination before taking up their work in gymnastics or athletics. The examination was given in 14 percent of the 124 by the "college physician"; in 30 percent by the "medical director or adviser"; and in the remainder by "the director of physical education" (usually a physician). In about 27 percent the examination was repeated during the year; in 10 percent it was given annually; and in 8 percent, "when expedient." By this time the flower of anthropometry was fast fading; the tests of strength and measurements of bulk had shrunk to a few. The medical examination was developing in detail and in importance. In 50 percent medical or surgical treatment was provided, but in 15 percent this was for emergency cases, in 12 percent for infirmary cases, and in 4 percent for athletes only.

<sup>6</sup> Meylan, G. L. Report of Committee on the Status of Hygiene in American Colleges and Universities, *American Physical Education Review*, 15: 446-452, June 1916.



In 1918 Professor Howe<sup>7</sup> questioned 98 colleges and universities and learned that in three-quarters of them a physical examination was required, but only 30 percent used an examination form. Dental examinations were made by only half, and of vision by three-quarters of the examiners. It was evident that the examinations were not always thorough, and in about 25 percent of the institutions which furnished information they were still for physical education purposes.

In 1926 Dr. W. E. Forsythe<sup>8</sup> published a detailed review of the development, problems, and general practices in student-health work with statistical reports from a number of institutions. In the following year Dr. Storey<sup>9</sup> published the results of a thoroughgoing investigation, by the Presidents' Committee of Fifty, of a large group of institutions. Reports were received from 143 colleges and universities, 33 teachers colleges, 28 normal schools, and 239 professional institutions. The reader is referred to the very detailed picture of the status of the student health service as drawn by Dr. Storey in his publication from the data received from his questionnaire. In brief, about 75 percent of 142 colleges and universities reported a required medical examination, 50 percent medical conferences or consultations, 70 percent treated emergency cases, 40 percent ambulatory cases, 60 percent had an infirmary, and 30 percent afforded hospital treatment. Full-time medical service with no part-time workers was reported for 33 of 104 colleges and universities, 3 of 17 teachers colleges, and 4 of 15 normal schools. Full- and part-time physicians were employed by 28 colleges and by 5 teachers colleges. Part-time medical officers only were reported by 43 of 104 colleges and universities, 9 of 17 teachers colleges, and 11 of 15 normal schools.

Dr. Storey drew the conclusion from his study that—

Because of the extent and the importance of these deficiencies and defects it cannot be the reasonable ex-

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<sup>7</sup> Howe, E. C. The Health of the College. *American Journal of Public Health*, 9: 749-760, October 1919.

<sup>8</sup> Forsythe, W. E. Health Service in American Colleges and Universities. *University of Michigan Bulletin*, 1926.

<sup>9</sup> Storey, Thomas A. The Status of Hygiene Programs in Institutions of Higher Education in the United States, Stanford University Press, 1927.

pectation that the graduates of these schools will soon be characterized by habits of periodic health examination or by an experienced discriminating judgment in the selection of scientific health service. Under these conditions our institutions of higher education will be a long time in producing a scientific public opinion and custom in favor of periodic health examination and the selection of scientific health service.

In 1920 an organization known as the American Student Health Association was formed of full-time physicians in colleges and universities and this society has served as a valuable clearing house of experience and knowledge in the field of college hygiene.

In 1936 the Bureau of Medical Economics of the American Medical Association made an investigation of the medical work of colleges and universities with special reference to the relation of such activities to the work of local practitioners of medicine.<sup>10</sup>

In 1936 the Second National Conference on College Hygiene was held under the auspices of the National Tuberculosis Association. As an outcome of this meeting, statements were adopted and published concerning desirable provisions and practices in all phases of student-health work. The reader is referred to the report of this convention.<sup>11</sup>

Abroad there is a rapidly increasing interest in the welfare of college and university students, which developed into an international conference on the subject held at Athens in the summer of 1936. Seventeen countries were represented in this meeting, including the United States, and the following statement of views was one of its outcomes:

1. Very careful attention should be given to the health of students by the State and the universities.

2. Students should participate not only financially but also actively in services designed to care for those who are ill. Such participation is indispensable for obtaining positive results.

3. In addition to medical care for sick students especial care should be given to prophylactic means for bettering the health of students and for increasing their endurance in case of illness. Also, very special care should be taken to provide measures

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<sup>10</sup> University and college student-health services, Bureau of Medical Economics, American Medical Association, Chicago, American Medical Association, 1936.

<sup>11</sup> Report of the Second National Conference on College Hygiene. New York. National Tuberculosis Association, 1937.



against tuberculosis which endangers our university young people.

4. Administrative supervision should be imposed obligatorily in anything that concerns the physical activities of young people and their state of health should be regularly checked.

5. In all European nations it is considered a national right to take measures necessary for developing and supervising the physical activities of youth.

6. Every measure having for its purpose the conservation of the health of students should, in order that it may be efficacious, depend not only on administrative or legislative organization but also and especially on the physicians who should apply these measures. These physicians ought to have a training of such a kind that they will be in condition to take adequate measures in any circumstances not only for each separate case but for all students.

7. It is indispensable to organize the services of hygiene in such a way that it may be possible to derive exact statistics as to the health of the students. These statistics are necessary for determining the policies required and indispensable in each country, a policy which ought to be based upon positive and comparative data.

8. The basis for such statistics may be obtained by keeping a special record of the health of each student taken from careful and periodic medical examinations.

9. That college physicians may be better prepared for their work, we consider that each country possessing a well-organized health department should take the initiative in developing adequate facilities for the training of an especially chosen personnel.

10. The work of the conference has demonstrated the absolute necessity for similar conferences of specialists occupied with questions of the health of students; therefore, the members of the Congress propose the convocation of an international congress for the health of students every 4 years at the time of the Olympiads. In order to promote such a project we are establishing a central bureau in the University of Athens with the collaboration of the German secretariat. This bureau invites the cooperation of appropriate departments or organizations in carrying on this work, and will serve as a clearing house of information.

## PRESENT-DAY PRACTICES

### COLLEGES AND UNIVERSITIES

Of the 656 institutions of higher education classed as colleges and universities to whom we sent inquiries, 352, or about 53 percent, replied. Of these, 245 were coeducational,

26 institutions for men, and 81 for women. The coeducational schools which furnished information represent 60 percent of the total number belonging to this group; those for men, 25 percent; and those for women, 55 percent. Whether the comparatively small percentage of replies from institutions for men means that only about half as many have developed a health service, we cannot say, although no other surmise presents itself.

#### COEDUCATIONAL INSTITUTIONS

##### (a) Having an enrollment of fewer than 500 students.

Of coeducational colleges with an enrollment of 500 or fewer, 106 returned our questionnaire. Of these, 10 percent employ a full-time physician, 1 of whom is a woman, and 55 percent have 1 or more part-time physicians. Two institutions employ 2 full-time doctors. One reports 35 part-time men (which probably means all the local physicians); 1 has 3 part-time men and 1 woman physician; 2 have 3 men; 6 have a part-time man and woman doctor; and 6 others have 2 part-time men. Fifty percent report having consultants on their staff; 50 percent employ 1 nurse, 9 percent have 2, and one college has 3 nurses. One college reports a full-time dentist and a dental assistant, and 2 have dentists on part time. Four have dental hygienists. Five colleges have laboratories and X-ray technicians and 4 employ physiotherapy workers.

Notwithstanding that only 65 percent report the employment of a physician, 90 percent report the medical examination of students on entrance. As 22 percent have answered "yes" to both the question concerning an annual examination, and that concerning repetition of examinations when needed, it is evident that the person reporting did not know just what information was wanted.

In 35 percent of these schools the examination includes the analysis of the urine, in 6 percent there is routine examination of urine and blood, and in 10 percent, examination of these and of the sputum. In 3 institutions X-ray pictures are taken of the teeth of all students and in 25 percent, of selected cases. Tuberculin tests for the presence of



tuberculous infection are made of all students in 6 of these colleges and of selected cases in 10 others. X-ray pictures of the chest are taken of all students in 6 colleges and of suspicious cases in 30 schools. All but 7 schools have sent students home for serious conditions. Seventeen mention tuberculosis and 6 venereal disease as such conditions. In one-third of these colleges the student who does not follow the advice of the college physician may be dismissed. In 25 percent vaccination is done free, in 35 percent at cost. In 15 percent inoculation for typhoid is free, and in 30 percent, at cost.

In 1 of these colleges the charge for the health service is \$1; in 2, it is \$1.50; in 8, \$2; in 4, \$3; in 1, \$4; in 2, \$4.50; in 8, \$5; in 1, \$6; in 2, \$10. In one of the latter 2 schools the charge covers "all examinations and treatment except dental", and in the other, all minor illnesses with nurse and hospital care. Where stated, the lesser fees of other schools include medical and infirmary care. Possibly the two questions were confused, but in many cases the "per capita cost to the university" is given where charge to the student is omitted. Possibly, however, there may be no charge to the student. The cost per capita to the institution is given as \$1 in 7 colleges; \$2 in 3; \$2.50 in 2; \$3 in 4; \$4 in 1; \$4.50 in 2; \$4.64 in 1; \$5 in 3; \$5.50 in 2; \$6 in 2; \$6.33 in 1; \$10 in 1; and \$4.05 per quarter in 1. These figures are not very illuminating without knowing just what is furnished for this cost. Fifty-five of the 106 colleges give free consultation service for ailing students, and in 46, treatment of ambulatory cases is free. In 1 it is furnished at "half price" to athletes. Fifty-five colleges state that they refer these students to local physicians. This includes 20 schools which also furnish treatment and medicine free by their own physician, which probably means that some cases are referred to other doctors. Five colleges furnish refraction without cost and 2 give this service to those who cannot pay for it. One institution reports a free dental service for those who cannot pay and at cost to all others. In 21, physiotherapy is given free. A like number have a mental hygiene service and are satisfied with progress in this field. Seven schools report an allergy

service. In 12 colleges students with venereal disease are not admitted or are dismissed. From the indefiniteness of the replies, excuses for absence on account of illness are not often required from the school physician.

About half of the colleges of this group which employ a physician report close cooperation between the health service and physical education department. In 5, the school physician is in charge of both departments; in 4, the physical director is in charge; in 4, the departments are "merged" or "organically connected."

In 23 of the 65 colleges having a physician a call is made by that officer upon all students who are ill in their rooms. In the remainder a visit is made when called. In all the schools employing a nurse a call is made by her upon all sick students. In 55 colleges the sick student is treated by the school physician and in 58 the school nurse is in attendance. In 50 the fee for health service covers this attendance. Fifty colleges report having an infirmary. 1 with 4 beds per 1,000 students; 1 with 5; 1 with 6; 1 has 8; 4 have 10; 2 with 13; 1 with 14; 3, 15; 2, 16; 1, 17; 1, 18; 1, 20; 1, 21; 2, 25; 1, 26; 5, 30; 1, 32; 1, 37; 1, 40; 1, 41; 1, 43; 1, 50; 5, 60; and 1, 90. Eleven colleges did not give the number of beds. What some of these colleges do with so many infirmary beds is a mystery. In 28 schools the students in the infirmary are cared for by the college staff.

Fifty-eight of this group have a summer session and in 9 the health service is offered in this term. In 8 institutions some physical deterioration has been observed during the past few years.

In one case there is "jealousy" of the school physician by other local physicians. In all other institutions the medical profession is cooperative or very cooperative.

**(b) Having an enrollment of from 500 to 1,000.**

Forty-nine colleges of this group furnished information; of these 38, or 75 percent, employ 1 or more full- or part-time physicians. Ten employ 1 full-time man and 1 employs 2. One employs 1 man and 1 woman, and 1 employs 2 men and 1 woman. One employs 1 full-time man and 2 part-time men and 1 part-time woman. Seventeen employ 1 part-time man only, 4 have 2 men, 2 have 3, and 1 has 3 part-



time men and 1 part-time woman. Consultants in various fields of medicine or surgery are reported by 18 colleges. Nurses are reported by 36, or nearly 75 percent. Twenty-five have 1 nurse; 9, 2; and 2, 3. One college employs 2 dentists assisted by 5 students, and part-time dentists are employed by 2 others. Laboratory technicians are employed by 5 schools and X-ray technicians by 5. Only 1 has a physiotherapist.

Examinations on entrance are made in 42 colleges which must mean that they are done by the nurse in a few schools. It is advised in 1 school, which has a part-time doctor, and required of all participants in athletics. In 21, the examination is repeated in each year of the student's course. In 21, examinations are repeated in certain cases. In 20, a urinalysis is included in the routine examination; in 10, the blood is examined; and in 7, an examination of the sputum. In 2, X-ray pictures are made of the teeth of all students and in 12, of selected cases.

In 7 colleges tuberculin tests are made of all students or at least of all freshmen, and in 12, of suspicious cases. In 9, X-ray pictures are made of the chests of all students; and in 24, of all suspicious cases.

Thirty-five colleges have sent students home for serious mental or physical conditions. Tuberculosis is mentioned in this connection by 8 schools. Ten colleges report that students who do not follow the instructions of the physician are discharged.

Vaccination is done free in 20 schools and at cost in 12. Inoculation for typhoid is free in 12 and at cost in 17.

The charges for service reported by 27 colleges is: In 1, \$1 (for physical examination); in 2, \$2; (includes examination and treatment of minor ailments). Two charge \$3 which includes treatment; 1, \$4; 5, \$5; 1, \$7.50; 1, \$8; which includes 3 home visits and 10 days' hospital treatment; 1 charges \$8, which includes hospital and physician; 1 charges \$8 for men and \$5 for women; 6 charge \$10, and in one of these 3 days of "hospital", and in another 7 days of hospital care is furnished. In 2 the fee is \$15. The per capita cost to the institution of the service rendered is figured in one school as 50 cents; in 3 as \$2; in 1 as \$3.50;

in 1 as \$4.09; 1 as \$4.50; 2 as \$5; 1, \$6.50; 1, \$7; 1, \$7.50; 4, \$10; 2, \$12; 1, \$15; and 1, \$25.58. This latter cost included "operation and dental service at student rates, immunizations, and hospital treatment."

In 35 colleges of this group free consultation for ambulatory patients is afforded and in 25 treatment is furnished free. Twenty-seven (which includes 14 of the above) refer their students to local physicians. In 18, drugs are dispensed without extra charge, and in 17 physiotherapy is furnished. In 8 schools refraction is done without cost; in 1 there is a charge of \$2, and in 1, \$10 (which possibly includes glasses). In 2 other schools refraction is done free for self-supporting students. Dental treatment is furnished at cost in 1 institution and free to self-supporting students in 3.

In 10 colleges there is a mental hygiene service and 6 of these schools report satisfactory results. Eight colleges do special work in allergy.

In 6 schools cases of venereal disease are sent home, at least until cured; in others the cases are treated by the college physician or referred to a local doctor.

In 13 schools excuses for absence on account of illness must be signed by the college physician or nurse.

In 2 of these institutions the physical education department is under the direction of the college physician; in 2 there is the reverse arrangement. In 3 the two departments are "considered one" but the directing official is not indicated. In the remainder there is "cooperation" or a "close relationship." In 37 those who participate in competitive athletics are given a medical examination.

In 9 colleges the school physician calls on all students who are ill in their rooms and in 23 he makes such a visit on request. In 20 the nurse calls on the sick. In 20 the college physician treats such students. In 16 the fee for service covers the cost of such visits and treatment.

Twenty-eight of these colleges have an infirmary. One has 2 beds per 1,000 students; 3 have 8 beds; 5, 10 beds; 1, 11; 3, 12; 1, 15; 1, 17; 2, 18; 2, 20; 1, 28; 1, 30; 1, 40. Seven report that they own a hospital; 1 with 8 beds; 2 with 10; 1, 20; 1, 25; and 1, 40. In 22 of these 28 colleges the



students in the infirmaries are cared for by the medical staff of the school. Besides the above schools, 8 report that they have hospitals; 1 has 8 beds; 2, 10; 1, 12; 1, 20; 1, 25; 1, 40; and 1, 73. In 8 of these institutions the students are cared for by the college physicians. Thirty-four colleges report hospitals other than their own in the neighborhood. In 6 the students are treated by the health service. In 35 colleges other hospitals are available in the neighborhood.

In 7 colleges the cost of hospital service is included in the general charge for health service; in one for 1 week; in 3, for 10 days; in 1 "except for operations"; in 1 "half the cost of operations." Two colleges report evidence of ill effects of the depression.

Twenty-two of these colleges have a summer session but in only 2 is the health service available in this term. Twenty-two colleges believe an annual thoroughgoing examination suggested by the question should be tried.

Two colleges report some jealousy and lack of cooperation on the part of some local physicians; 1 school finds the profession hostile; all of the others report the local doctors friendly and cooperative.

**(c) Having an enrollment of from 1,000 to 1,500.**

Of the 17 institutions of this group, 15 employ 1 or more physicians. Two have 1 man on full time; 1 has 1 woman on full time; 1 has 1 man and 1 woman on full time; 1 has 1 man on full and 4 on part time; 6 have 1 man on part time; 1 has 2 men on part time; and 2 have 1 man and 1 woman on part time. Five of these schools report the employment of consultants. Thirteen have nurses; 9 have 1; 1 has 2; 2 have 3; and 1 has 4. No dentists, dental hygienists, laboratory or other technicians, or physiotherapists are reported by these schools.

Examinations at entrance are given of all students in 14 and of all students in arts, agriculture, and engineering in 1 university. An annual examination is made in only 2 of this group. Reexaminations are made where it seems advisable in 12 colleges. The routine examination includes a urinalysis in 9, and also of blood and sputum in 3. Such laboratory tests are made in 15 when it seems advisable.

X-ray pictures of the teeth are made as a part of the examination in 3 colleges. Tuberculin tests of all students are made in 4 schools, and of suspicious cases in 4 others. Roentgen pictures are made of the chests of all students in 4 institutions and of suspicious cases in 4 others.

In 11 colleges students have been sent home for serious physical or mental disability. Two schools mention tuberculosis as such a condition; 2 venereal disease; 6 include nervous or mental ailments. In 6 schools students have been placed on probation for defective vision and for communicable diseases. Four respondents mention the dismissal of students for failure to follow the advice of the physician.

In 9 schools vaccination is free, and in 5 at cost. In 6 inoculation for typhoid is free; in 5 it is given at cost.

The charge for service was reported by 10 colleges; in 1 it is 30 cents per term; in 1 it is \$1.50; in 1, \$2; in 1, \$2 with \$3 additional for hospital fee. In 2 the charge is \$3; in 1, \$4; in 1, \$6, which includes "dispensary and hospital fees except operations." In 2 it is \$7.50; in 1, \$8, which includes 10 days in hospital; in 1, \$8.50; in 1, \$10; in 1 it is \$14. Except where the charge is \$8, the cost to the college is the same as the fee to the student.

In 1 institution of this group refraction is done without cost to the student. In 10 there is free advisory service for ailing students and treatment is furnished free. In 6 ambulatory patients are referred to local physicians.

In 6 physical therapy is furnished without cost.

Six of these colleges have a mental hygiene service and 1 an allergy service.

In 5 of this group of colleges cases of venereal disease are treated by the health service; in 3 they are referred to other physicians; the remainder did not furnish information on this point.

In only 4 does there seem to be a requirement of a medical certificate from the health service officials for absences on account of illness.

In 2 schools the director of physical education has charge of the health service; in 1 the physical education is under the administration of the school physician. In the re-



mainder there is cooperation between the two departments. In 13 applicants for competitive athletics are under the supervision of the college physician.

In 4 of these colleges the school physician visits students ill in their rooms, and in 7, when he is called. In 7 the nurse calls on these cases. In 9 these students are treated by the college physician and in 5 they are attended by the school nurse. In 9 the student health fee covers the cost to the student of this attendance.

Eleven of this group report having an infirmary or hospital. Of those giving the number of beds, 1 has 2 per 1,000 students; 1, 6; 1, 10; 1, 23; 1, 24, 1, 30; 1, 47; and 1, 50. Students are cared for by the medical staff of 7 colleges.

Ten of this group of colleges have a summer session and in 5 the health service is available to summer students.

In 1 college there were evidences of the effect of the depression on the students and in 1, tuberculosis is a noticeable problem in students from other countries.

The local medical profession is friendly toward and cooperative with the health service of all these colleges.

**(d) Having an enrollment of from 1,500 to 2,000.**

Of the 12 colleges and universities within these limits of enrollment, 10 employ 1 or more physicians. Two have 1 full-time medical officer; 2 have 1 full-time and 1 part-time man; 1 has 1 full-time man, 3 part-time men, and 3 part-time women on its staff; 1 has 1 part-time man; 1 has 3 part-time men and 1 part-time woman; 3 have 1 part-time man and 1 part-time woman. Seven of these schools employ consultants in special fields. One employs 4 nurses; 2 have 3; 1 has 2 full-time and 3 part-time nurses; 2 employ 2, and 3 have 1 nurse; 3 schools have no nurses; 2 schools employ laboratory technicians; and 1 has 2 physiotherapy workers.

Health examinations at entrance are made in 11 of these colleges. One of them does not have a physician on its staff but employs 1 for this purpose from the neighboring community. In 1 of this group only students on athletic teams are privileged to receive medical examinations. There is no physician on the staff. In one school both the freshmen and sophomores are all examined and in 2 colleges examina-

tions are made in each year of the student's course. In 10 schools re-examinations are made as seems advisable. In 8 institutions the routine examinations include a urinalysis; in 2 some examination of the blood; and in 1 an examination of the sputum. In 7, laboratory tests are made as seems advisable. The teeth of all students are examined by X-rays in 2 schools and those of selected cases in 3. Tuberculin tests are made of all students in 2 schools and of suspicious cases in 3. X-ray pictures of the chest are taken of all students in 3, and of selected cases in 5. Students have been sent home for physical conditions in 9 of these colleges. Tuberculosis is mentioned as a reason for this in 7 schools; venereal disease in 2; mental unbalance in 3. Students who do not follow the physician's advice are sent home by 3 of these institutions.

Vaccination is done without charge in 7 and at cost in 1. Inoculation against typhoid is free in 4 and at cost in 4.

The health service fee is furnished by 7 of these schools. In 1 it is \$2. In 1 this includes the initial examination and a "recheck"; in the other, examination, consultation, and infirmary care. In 1 the charge is \$3 for examination, consultation, and service of nurse; in 1, \$4; in 1, \$7.50 for the same service; in 1, \$8 for examination, dispensary, and hospital care; in 1, \$12.50 for medical and hospital care except nursing. The cost to the school is apparently about the same as the charge to the student.

Nine of these institutions report a free consultation service, and treatment also is free in 7. Two schools support a refraction service and in 1 this is free. In 1 there is free dental treatment but only for athletes and for self-supporting students. Physiotherapy is furnished in 4 colleges. Two have special work in allergy and 2 have developed satisfactory service in mental hygiene.

In 1 school venereal cases are excluded, in 2 they are treated by the school physician and in the remainder they are referred to a local physician. In only 3 are excuses for illness certified by the college physician.

In all these institutions the health service and physical education service are organized as independent departments, although they are reported as cooperative. In all but 1,



those who participate in intercollege sports are given a medical examination.

In only 1 does the college physician visit all students confined to their rooms on account of illness although in 6 he visits when called. In 1 all such students are sent to the infirmary where daily calls are made. In 4 the nurse calls on all such students. In 4 schools the school doctor treats these patients and in 5 the health fee covers the treatment for such illnesses.

Eight institutions have an infirmary. One reports 4 beds per 1,000 students; 1, 6; 1, 10; 1, 16; 1, 23; 2, 30. In all 8 schools the infirmary cases are treated by the school staff. All these colleges but 1 have 1 or more hospitals in the neighborhood. The fee for health service covers the cost of hospital care in 4 and covers cost of operations in 4.

Nine of this group have a summer session and in 3 the health service is continued through that term.

One school reports evidence of the depression on the health of students, and in 1 tuberculosis is more frequent with students from abroad. Five colleges favor a thorough-going examination annually. In only one instance is the attitude of the local medical profession "slightly antagonistic."

**(e) Having an enrollment of from 2,000 to 3,000.**

A glance over the tabulation sheets for the 8 coeducational schools with enrollments of 2,000 to 2,500 and the 4 with populations of 500 in excess of these figures shows no difference in personnel or policies so they may be considered together. So far as physicians and nurses are concerned the proportion employed is no larger than for schools of half these enrollments.

Of the 12 from which detailed information was received, only 4 employ full-time physicians. Two employ 1 full-time man, and one 3 full-time men; 1 employs 1 full-time man and a part-time man and woman; 1 a full-time woman and a part-time man; and 1 has 2 full-time men and a part-time man and woman. Four are alike in employing a part-time man and a part-time woman. One employs 2 part-time men, one 3 part-time men, and one reports 6 part-time men. Six schools report having consultants in various

fields. Nine of the 12 employ 2 or more nurses. Eight have infirmaries and possibly the nurses, in some instances, are made use of only in the care of sick students.

Six schools have 2 nurses; 2, 3; and 1, 6. One has 3 part-time dentists and 2 have laboratory technicians.

All these schools make a medical examination of at least all students in arts and sciences, and all but 1 include those of all departments. In 1 institution the examination is repeated in the junior year and in 2 it is given every year. Reexaminations are made, as seems advisable, in the remainder. A urinalysis is included in the examination in 6 of the 12 schools. X-ray pictures of the teeth are reported in all cases in 2 institutions and of all suspicious cases in 3. In 3 schools all students receive a tuberculin test and in 5 all have an X-ray examination of the chest.

Students have been sent home by half this group and tuberculosis is mentioned as a reason by 1 and mental disease by 2. Students who do not follow advice have been sent home by 2. Vaccination is free in 4 and inoculation for typhoid in 1.

The fee charged is \$2 in 2 institutions and in 1 of these this includes the first examination and 2 weeks of infirmary treatment. In 1 the charge is \$5; in 1, \$7.50 (for "diagnosis and advice"); in 1, \$10 including 3 days in hospital. The actual cost to the school is not given.

One school has a free refraction service. In 9 there is free consultation and advice.

Seven report free treatment of ambulatory cases and in 3 they are referred to local physicians. In 7 they may be so referred. In 2 drugs are furnished free and in 3 physiotherapy is free.

Four institutions have special workers in mental hygiene. Three have an allergy service. Four report that venereal cases are treated but no information is given by the remainder.

In only 3 does the physician seem to be responsible for excuses on account of illness.

There is cooperation between the health service and physical education department, but in no case are these united. Examination of all applicants for athletic teams is reported by all but 1 of these institutions.



Seven schools report having an infirmary and 1 other uses the "local hospital" for bedfast cases. One infirmary has 11 beds per 1,000 students; 1, 12; 1, 24; 1, 29; and 1, 32. Patients in these infirmaries are cared for by the school medical and nursing staff. The fee for health service covers hospital care in one school and for 3 days, in another. It does not cover cost of operations.

Seven schools have a summer session but in only 3 is the health service continuous.

Three respondents approve a thoroughgoing annual examination. Nine schools report the local medical profession as friendly; the others did not reply.

**(f) Having an enrollment of from 3,000 to 4,000.**

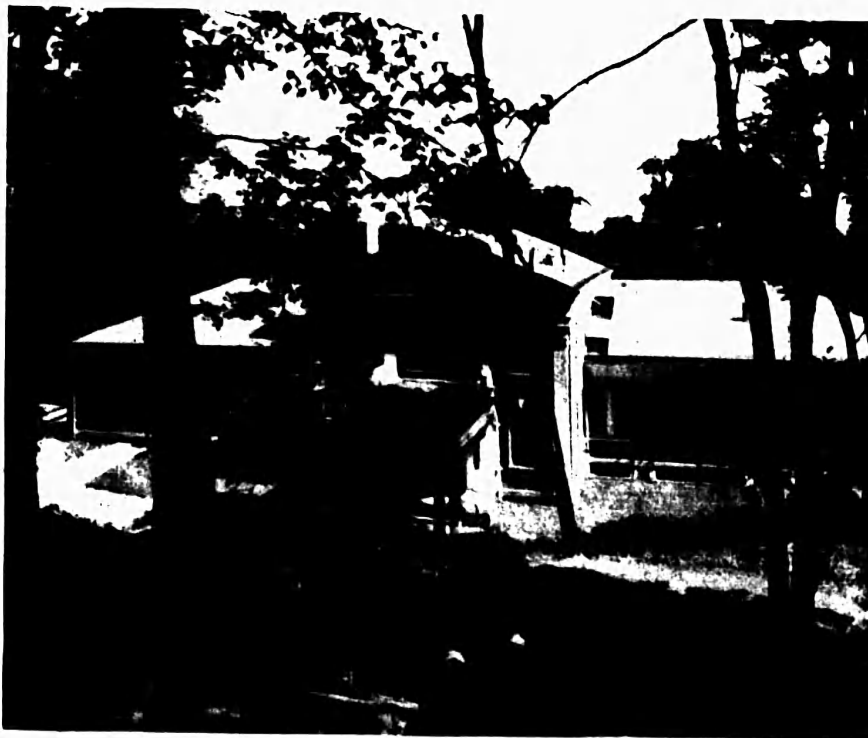
Twelve institutions with an enrollment between 3,000 and 4,000 reported. Two of these are municipal universities. All maintain a health service, but 1 of them does not employ a physician. Examination of all freshmen is reported by this school, but this is done by "the physician chosen by the student." Of the other schools 2 employ 2 full-time men and 1 woman physician; 1 has 2 full-time and 2 part-time men; 1, 2 full-time men; 1, 1 full-time man and 1 full-time woman; 1 a full-time man, 1 full-time woman, and 4 part-time men and 1 part-time woman; 1 a full-time man, and full-time woman, and a part-time man; 1, 2 part-time men and 1 part-time woman; 1 (a municipal school) a full-time man, a part-time man, and a part-time woman; 1 (also municipal) 1 part-time man. Four reports mention the employment of consultants. The municipal universities employ no nurses but these are reported by all but 1 of the other institutions. Two have 2 nurses; 1, 3; 3, 4; and 2 have 5 nurses. One employs a full-time dentist and 2 have part-time dentists. Seven schools have laboratory technicians. Four have X-ray technicians and 3 employ physiotherapists.

In 1 school the initial examination of women is repeated every year but in all other instances there is no second examination except of selected cases.

In 9 schools there is a urinalysis of all subjects and in 2, a blood examination is reported. In 5 institutions X-ray examination of the teeth of all examinees is reported. In



**DEPARTMENT OF UNIVERSITY HEALTH, YALE UNIVERSITY.**  
This entire building is used for examinations, consultations, and office treatments.



**WHISLER HALL MEMORIAL HOSPITAL, DENISON UNIVERSITY.**  
It contains examining rooms, laboratory, pharmacy, eight two-bed wards, four private rooms, and a recitation room for classes in hygiene.



2 others such examinations are made in cases seeming to need it. In 5 all students are given a tuberculin test and in 4 others suspicious cases are tested. X-ray pictures are taken routinely in 1 school and of suspicious cases in the remainder.

Students have been sent home, for physical conditions, from all of these schools. Tuberculosis was mentioned as such a condition by 4 schools and venereal disease by 2; mental disease was named by 5. Students have been placed on probation on account of venereal disease in 4. Those who do not follow the advice of the school physician have been discharged from 3 of these institutions.

Vaccination is free in 10 and is required for entrance in another. Inoculation against typhoid is offered free in 8 schools.

The charge to the student is given by 7 respondents. In 1 it is \$2; in 1, \$3.50 (covering all but specialists' fees and operations); in 1, \$4; in 1, \$6 (includes 3 days in hospital); in 1, \$7; in 1, \$7.50; in 1, \$4 "for residents and \$10 for non-residents."

One institution reports a free refraction service. Dental service is not furnished. Advice is given ailing students by 10 and free treatment by 9. Drugs are dispensed free in 7 and physiotherapy in 8. Four of this group report special work in mental hygiene and 2 in allergy. Cases of venereal diseases are treated in 4 schools; referred to outside physicians by 4; and dismissed by 3. Excuses for absence on account of illness must be furnished by the health service in 3 schools.

There is cooperation or cordial relations between the health and physical education departments but only in 1 school are they both divisions of one department. Except in 2 schools, all athletes are given a medical examination.

All ill students are visited in their rooms by the school physician in 1 institution and on call in 7. They are visited by the nurse in 3; such students are treated by the school doctor in 6 institutions and the nurse attends them in 3. This room treatment is covered by the health service free in 3 schools.

Eight of the 12 schools have an infirmary; 2 with 6 beds per 1,000 students; 1 with 10; 1 with 12; 1 with 13; 1 with 15; 1 with 20; and 1 with 32. Students in all these infirmaries are cared for by the school staff. The fee for health service covers the cost of infirmary care for 3 days in 2 schools; for 2 weeks in 1; for 15 days in 2.

Nine of this group have a summer session but in only 4 is the health service continued through this term.

In 1 school tuberculosis has been found more prevalent among students from other countries. Eight institutions favor thorough health appraisals annually.

The attitude of the local medical profession is, in one instance, "not so good"; in one, "reasonably satisfactory." All other schools find it cooperative and helpful and one "respectful."

**(g) Having an enrollment of from 4,000 to 6,000.**

It might be expected that the policies of colleges and universities with 4,000 or with 6,000 students would not differ much but that the number of health workers would mount with increased enrollment.

Of the 12 institutions of this population which reported, 1 employs 6 full-time physicians (5 men and 1 woman) and another in the same State has 4 full-time men, 1 full-time woman and 1 part-time man. One has 3 full-time men and 4 part-time men; and 1, 3 full-time men. One has 2 full-time and 12 part-time men; 1, 2 full-time men and 4 part-time men; 2 have 2 full-time men and 1 full-time woman; 1 has 1 full-time man and 1 part-time woman; 1 a full-time man, 6 part-time men, and 1 part-time woman; 1 a full-time man and 2 part-time men; 1 a full-time man and 1 part-time man. It will be seen that 11 have at least 1 full-time physician but that only 2 have the same combination of full- and part-time workers. Five of this group have consultants on their staffs. Eight schools of the 12 employ nurses. One has 1 nurse; 2, 3; 1, 4; 3, 5; 1, 6; 1, 8; and 1, 9. Only 1 employs a dentist and this school and 1 other have dental hygienists. Four have laboratory technicians. Six report physiotherapists and 2 schools employ 20. Eight have X-ray technicians.



All these institutions examine their students on entrance and in 2 they are reexamined each year. In all but 1 they are reexamined when it seems advisable.

In 9 institutions the routine examination includes a urinalysis and in 1 a blood examination. Such tests are always made where indicated. In 1 school an X-ray examination of the teeth is included and this is made in 4 others if indicated.

In 5, tuberculin tests are made of all entrants, and in 6 others they are made in suspicious cases. In 7, X-ray pictures of the chest are made of all students and in all they are taken of suspicious cases.

Students from 10 schools have been sent home on account of physical or mental maladies. Tuberculosis is mentioned by 5, venereal disease by 2, and mental cases by 4. Students have been placed on probation for venereal disease by 3 schools. Students are sent home by 7 institutions for non-compliance with the advice of the school physicians.

Vaccination is done free in 6 schools and inoculation for typhoid in 4.

The charge for service is reported by only 6 schools. One mentions a charge of 50 cents for office calls and \$1 for room calls and apparently the examination is free; in 1 the fee is \$3, which includes treatment of "acute illness"; in 1, \$4, which includes examination and consultation; in 1, \$2.50 per semester, including 3 days in hospital with X-ray work and medication; in 1, \$6 for "general medical" service; in 1, \$5 for quarter with treatment in hospital and rest home.

In 2 of this group refraction is done without charge. In 10 there is free consultation and advice. In 6 treatment of ambulatory cases is furnished, but drugs are charged for in all but 1. Physiotherapy is free in 6; 5 institutions have a mental hygiene service and as many schools do special work in allergy. In 2 venereal cases are dismissed; in 2 they are referred to other doctors and in the remainder they are treated as other ailing students.

Excuses for sick leave seem to emanate from the health service in only 3 of this group of schools.

In 1 there is "poor coordination" between the health and physical education services; in 1 the former "prescribes the

type of exercises" and in the remainder there is cooperation and coordination. In all but 1 athletes are examined before being permitted to participate.

In 1 the school physician calls on all who are ill in their rooms, but in 4 he comes when called. Nurses do not visit these students. In 5 the school physician treats such cases. In 2 the initial fee covers the cost of this service.

Eight schools report having an infirmary and 2 a hospital. One infirmary has 4 beds per 1,000 students; 1, 8; 2, 10; 1, 11; 1, 24; and 1, 30. All infirmary patients are cared for by the staff in 5 institutions. In 3 schools the health fee covers the cost of hospital care; in 2 for 3 days; in 1 for 4 days; and in 1 for 14. The cost of operations is included in 1.

All of these institutions have a summer session and in 7 the health service is available in that term.

Six of this group favor a thoroughgoing examination each year. In one instance the local medical profession "endure the student health service quite patiently but often resent it"; in another case they are "generally friendly"; the remaining institutions report them as friendly, sympathetic, and cooperative.

**(h) Having an enrollment of from 6,000 to 10,000.**

Nine institutions with an enrollment between 6,000 and 10,000 replied to our inquiries. All have health services, and all but 2 employ full-time physicians. One of these, with an enrollment between 6,500 and 7,000, has 7 part-time men and 1 part-time woman physician and the other, with 9,500 to 10,000 students, reports 6 men and 3 women.

One school has 7 full-time men and 3 full-time women physicians; 1 has 6 full-time men, 2 full-time women, and 9 part-time men; 1 has 7 full-time men, 1 full-time woman, 1 part-time man, and 3 part-time women; 1, 4 full-time men, 1 full-time woman, 1 part-time man, and 1 part-time woman; 1 has 2 full-time men and 2 full-time women, 4 part-time men, and 2 part-time women; 1 has 3 full-time men and 1 part-time man; and 1 has 1 full-time man, 3 part-time men, and 1 part-time woman. Four schools report the employment of consultants. All employ nurses but the





EXAMINING ROOM IN WHISLER HALL MEMORIAL HOSPITAL, DENISON UNIVERSITY.



TWO-BED WARD IN WHISLER HALL MEMORIAL HOSPITAL, DENISON UNIVERSITY.

number varies and without reference to the enrollment. Three schools have 1 nurse; 1, 2; 1, 3; 1, 4; 1, 7; 1, 9; and 1, 21. (It is possible that in some cases the nurses are used chiefly for attendance on the sick.) Two of these schools employ part-time dentists, 1 having 2. All have laboratory technicians, 1 has 2, and 1, 3 of these workers; 4 have physiotherapists; and 6 have X-ray technicians.

All of these 9 institutions examine all freshmen and 2 examine all students on entrance. In 2 the examination is repeated annually. In all, selected cases are reexamined. In all but 1 a urinalysis is made with all initial examinations and in 2 a blood test is included. Such laboratory examinations are made, when indicated, by all but 1. The teeth of selected cases are X-rayed in 7 of these institutions. Mantoux tests are given all students in 2 schools and selected cases in 3. The X-ray is used on the chests of all entrants in 3 schools and of suspicious cases in all but 1.

Students have been sent home from 7 schools on account of physical or mental ailments. Tuberculosis is mentioned by 4 and mental conditions by 4. Students have been placed on probation for venereal disease in 1. Students have been discharged for not following advice by 3 institutions.

Vaccination is free in 7 and inoculation against typhoid in as many.

The fee for health service is given by only 5 institutions. In 1 it is \$1 per quarter and includes 1 week in the infirmary; in 1 it is \$2 per semester and includes ambulatory treatment and use of rest house (the cost to the institution is the same); 1, \$4.50 per semester including X-ray service and hospital care; in 1 it is \$12, with 2 weeks' infirmary care which costs the university \$23.50; in another, \$15, costing the university \$17.35 (details not given).

Two of these schools have a free refraction service and 1 does refraction for those who cannot pay for it.

All but 1 have a free advisory service for ambulatory patients and in 6 this includes treatment. Physiotherapy is offered by 4 and drugs are included by 2. Six institutions have mental hygienists in their staffs and 7 do work in the field of allergy. Venereal cases are dismissed "during



period of infection" by 1 school; they are treated but placed on probation by 1; they are treated "as other cases" by 4; and referred to specialists by the remainder.

Excuses for illness are handled by the health service in only 3 of these schools.

The health service and physical education departments are independent but cooperative. In all institutions where competitive sports are cultivated all participants are examined.

In 3 of this group of institutions a school physician calls on all students confined to their rooms and in 6 he comes when called. In 1 school the nurse makes such visits. In 4 the physician treats such cases and in 3 the school nurse cares for them. The health fee covers the cost of this service in 3 institutions.

Seven of this group have infirmaries and 2 use the university hospital. One reports 3 beds per 1,000 students; 1, 6 beds; 1, 8; 1, 12; and 1, 30. Students in the infirmary are cared for by the school staff in 3 institutions. The annual fee covers hospital care in 3 schools, 3 days care in 1, and 2 weeks in 1.

All of these schools have summer sessions and the health service is continuous in all but 1. Two schools have noted evidence of effects of economic conditions and 5 find more tuberculosis among students from other countries. Four schools favor annual appraisals of the student's physical and mental balance.

One school reports a "gradual change from antagonism" on the part of the local medical profession; the remainder find them friendly and cooperative.

**(i) Having an enrollment of 10,000 and more.**

Thirteen institutions have an enrollment of more than 10,000 students. Three of these draw their students largely from the great cities in which they are located.

The variety of choice of personnel for medical work is best shown by tabular presentation. The city institutions are starred.

## ENROLLMENT

10,000 TO 20,000				
Full-time physicians		Part-time physicians		Nurses
Men	Women	Men	Women	
7	4			Varies 5 1 1 5 2 1 2
8	2	28	2	
3	2	6	6	
(*)		1	1	
3		15	1	
2	1	1	2	
		6		
3		2	2	
15,000 TO 20,000				
3	3	16	4	21
20,000 TO 25,000				
		4		
1		10	1	2
1	1	9	1	18

Five of these schools employ consultants. Six of the 13 institutions have dentists on their staffs. Two have 1 full-time dentist and 2 part-time dentists. One reports 11 part-time dentists; 1, 7 and 1, 5.

One has 2 and 1 has 1 dental hygienist. The school with 11 part-time dentists has 2 dental assistants and that with 1 full-time and 2 part-time dentists also employs an assistant. Five schools have laboratory technicians and 1 has 3. Physiotherapists are reported by only 2.

In 10 universities examinations are made of all students and in 2, of all undergraduates. The examination is repeated annually in 4 schools, and when indicated in the remainder. The examination includes urinalysis in all but 2 institutions. The blood is examined in 2. The teeth are X-rayed in 1 institution and when indicated in 8. A tuberculin test is made of all in 2 schools and of suspicious cases in 5; X-ray pictures of the chest are taken of all freshmen, or of all students, in 5 schools and of suspicious subjects in all but 2.

Students have been sent home from all these universities on account of illness. Tuberculosis is mentioned by 2, and



mental disease by 4. They have been placed on probation by 4 schools; because of "poor records due to illness" in 1 and for venereal disease in another. Students who do not follow advice have been discharged from 4 of these schools.

Vaccination is done free in 8 and inoculation for typhoid in as many.

The fee for health service is given by only 4; in 1 it is \$5 and includes examination and emergency treatments; in 1, \$9, for examination, dispensary visits and 2 days in hospital; in 1, \$10; and in 1, \$4 per quarter, including 2 weeks' hospitalization and X-ray service. The universities charging \$9 and \$10 state that the costs to the school are these amounts.

Two of the institutions of this group report a free refraction service and 1 does this work for those who cannot pay. One gives dental treatment of emergency cases free and 1 does dental work for self-supporting students. In 5 dental treatment of infection and fillings are done at cost.

All of these schools furnish consultation service and advice to ambulatory subjects. In 7 this includes treatment and drugs are furnished in 2. Physiotherapy is furnished in 3 schools. Seven report the employment of mental hygienists and 5 do work in allergy.

In 1 of these schools cases of venereal disease "are expelled", in 4 they are treated or their treatment is supervised and in the remainder they are referred to an outside physician.

Only in 2 universities do excuses for absence on account of illness seem to emanate from the health service.

In 3 the health service and physical education are divisions of one department. In 2 the health service is under the department of physical education. In the rest they are separate but cooperate. In all, students engaged in athletics are under the supervision of the health officers.

In 4 of these schools the college physician visits, when called, students confined to their rooms; in 2 the nurse makes such visits. Only in 1 does the physician care for these students and this is also the case for the nurse. Seven schools have an infirmary; 1 has 2 beds per 1,000 students; 1, 10; 1, 12. One has a hospital of 100 beds per 1,000



**WATKINS MEMORIAL HOSPITAL, UNIVERSITY OF KANSAS.**

The first floor is devoted to examinations, office treatments, and operations. The second and third floors are for hospital purposes.



**COWELL MEMORIAL HOSPITAL, UNIVERSITY OF CALIFORNIA.**

The two lower floors are devoted to administration, examinations, and office treatments; the upper floors are for hospital purposes.



students. Students in the infirmary or hospital are cared for by the staff of the school in 5 institutions. Hospitalization is included in the health fee of 1 university, for 2 days in 1, for 3 days in 1, and for 2 weeks in another. Operations are included by 1.

All of these institutions have a summer session and the health service is available in that season in 1 of the 13.

In 1 institution the effect of recent economic conditions was noted and in 2 tuberculosis is found more frequently in students from abroad. Four question the advisability of an annual health appraisal.

One university finds "a certain group of the local medical profession opposed to the student health service." Another reports that "the profession still questions our services", another finds it "critically interested"; toward the rest, it is friendly and cooperative.

#### COLLEGES AND UNIVERSITIES FOR MEN

**(a) Having an enrollment of from 70 to 500.**

Of the 17 institutions in this group, 15 employ 1 or more physicians either for whole or part time. One college employs 3 full-time physicians; 3 employ 2, and 3 employ 1. Two colleges have 3; 1, 2; and 3, 1 part-time physician; while 1 reports 3 full- and 4 part-time men and 1 which employs 1 full-time doctor has the volunteer services of 50 local physicians for a half day each year. Six colleges report the employment of consultants who represent various specialties. Only 3 of these 17 schools employ a nurse, but 1 reports no resident students. None of them employ dentists but 2 report laboratory technicians; 2 have physiotherapy workers; and 2, X-ray technicians.

Of the 15 schools of this group employing a physician, 14 give an examination of all students at entrance and 7 repeat the examination in each year of the student's course. In 8 others reexaminations are made when it seems advisable. Examination of the urine is included in 8 colleges, of the blood in 6, and of sputum in 4. In 1 other school these laboratory tests are made when it seems advisable. X-ray pictures of the teeth of all students are reported by 1 college and of selected cases by 4. Tuberculin tests are

made of suspicious cases in 1 institution. X-ray pictures of the chest are taken of all students in 1 college and of suspicious cases in 4.

Students have been sent home from 13 colleges because of certain conditions. Tuberculosis, venereal disease, heart disease, nervous and mental cases are mentioned. In 12 schools students who do not follow the advice of the physician are sent home but this must refer to those who are a menace to others, for only 4 state that they place students on probation for physical conditions.

Vaccination for smallpox is furnished free in 4 and at cost in 4. Inoculation for typhoid is given free in 4 and at cost in 2.

The expense of the health service is included in the annual charge for tuition in 7 institutions. An extra charge of \$1 is made in 1, of \$2 in 2, of \$4 in 1, of \$5 in 1, and \$10 in 5. The medical examination is furnished for the \$1 fee; examination and care of athletic injuries for one \$10 fee. In the other instances examination and infirmary or hospital service for 1 week are included.

Refraction service is offered in 2 colleges and in 1 there is a charge.

In 14 there is free consultation only. Treatment is furnished free in 7 and in 3 the cases are referred to local physicians. The question in this point was not answered by 7. Drugs are furnished free in 2 and at cost in 2. X-ray examinations, other than of the teeth, are furnished free in 1.

Three institutions report a mental hygiene service and 1 an allergy service.

Only 7 furnished information concerning the handling of venereal disease. In 2 of the 7 colleges these students are dismissed, while in the remainder they are treated by the college or other physician.

The question concerning approval of excuses was probably not well worded and only 9 colleges answered. In 7 of these the excuse must be signed by the school physician, in 1 by the nurse, and in 1 by the dean.

In 3 colleges the health service and physical education department are one; in 3 the relationship is close and in 1 the



physician works under the physical director. All applicants for, and participants in, competitive athletics receive a medical examination in 15 of the 17 schools.

Sick students are visited and cared for by the physician in 7 colleges, and when called, in 5. Where one is employed by the school, the nurse also calls upon the sick and the fee for the health service covers this attention in 7 institutions.

Seven of this group of institutions have an infirmary or hospital for sick students, 1 with 12 beds per 1,000 students, 3 with 40, 1 with 48, 1 with 60, and 1 with 80. Patients are cared for by the staff of the school. Other hospitals are available for use by 13 schools. The fee for the health service covers cost of hospital care in 3 institutions, with the exception of operations.

Six of these schools have summer sessions, but the health service is continuous in only 2.

Four institutions have been making satisfactory progress in the field of mental hygiene.

Only 7 schools answered "yes" to the inquiry concerning an "annual seriously executed clearing of each student on the basis of physical and emotional health." Four respondents consider it "problematic."

Ten of the 17 find the local medical profession very cooperative and sympathetic. One is not "in close touch" with local physicians and the remainder did not answer the question on this point.

**(b) Having an enrollment of from 500 to 1,000.**

Five institutions which fall under this classification returned our questionnaire; and of these, 1 reports nothing in the way of a health service except the employment of a physiotherapist for the treatment of injured athletes. Of the others, 1 employs 1 and another 2 full-time physicians; 1 employs 2 part-time doctors; and the fourth, a full-time and 3 part-time physicians. One college has a consultant for eye, ear, and throat conditions. One of the 4 employs 1 nurse; 1, 2; and 1, 3. One employs part-time laboratory and X-ray technicians.

In all 4 an examination is made at entrance and in 3 it is repeated annually. In the fourth reexaminations are made if it seems desirable. In 2 the examination includes

a urinalysis and in 1 of these also examination of the blood and sputum. In 2 others the sputum and blood are studied in suspicious subjects. X-ray examinations of the teeth are made of all students in 1 school and of selected cases in another. In 1 college, roentgenograms are made of the chests of students and, in the other 3, of all suspicious cases. Students have been sent home for serious progressive tuberculosis, for epilepsy, for prolonged venereal disease, and for serious heart lesions. Students have been placed on probation for communicable skin diseases. Vaccination for smallpox and inoculation for typhoid are done free in 2 and at cost in 2 colleges.

Except for yearly X-ray examinations in 1, and for hospitalization in another, the expense of health service is included in the annual charge for tuition. The average per capita cost to the school is estimated by 1 school at \$5, by another at \$10, and by another at \$12.

In 1 institution a refraction service is furnished without cost to the student. Three offer free consultation for ailing students and free treatment is furnished by 1. Physiotherapy is free in all 3 and for athletes in the fourth. Two of the colleges maintain a mental hygiene service and 1 an allergy service. In 1 college students with venereal disease are dismissed; in 1, they are treated by a specialist employed by the college and in 2 they are referred to other physicians. In 2 schools excuses for absence are signed by the physician and in 1 by a nurse. Two colleges report cooperation between the health department and the physical education department and in 1 the latter is in charge of the medical service. In all these colleges, participants in competitive athletics are under the supervision of the school physician.

One college reports "no dormitories" and no health service for students confined to their rooms. In 1 the physician visits such cases, in 1 the nurse, and in a third both the doctor and nurse. In 3 the college physician treats such cases, and in 1 the nurse.

In the 3 colleges having dormitories there is an infirmary, 1 with 8 beds, 1 with 20, and 1 with 30. Students in the infirmary are cared for by the staff of the health service.



In 1 there is a charge of \$1 per day. Hospitals in the neighborhood are also available.

The value of a thoroughgoing examination every year is questioned by 3 of these 4 colleges. The local physicians are "not antagonistic" to 1 school; they are "commendatory" of 1; "very friendly" with another; and think the fourth "does not do enough."

(c) **Having an enrollment of from 1,000 to 2,000.**

One institution with this enrollment furnished information. With an enrollment of slightly more than 1,000 it employs 1 part-time physician, 1 nurse, a physiotherapy worker, and an X-ray technician. This combination suggests thoughtfulness for the care of athletes rather than for all students. However, examination of all students on entrance and reexaminations later if advisable are reported. All members of varsity athletic teams are X-rayed for evidence of tuberculosis as are all suspicious cases among other students. Students have been sent home for tuberculosis and for mental disease. Students who do not follow the advice of the college physician are also discharged. Protective inoculation against smallpox and typhoid is furnished at cost of the vaccines. A charge of \$8 for health service (including dispensary and infirmary care) is included in the charge for tuition. An estimation of the cost to the university was not given.

Advice and treatment is furnished all ailing students without extra charge. Drugs and physiotherapy are furnished free. A satisfactory mental hygiene service is mentioned. Students with venereal disease must look after themselves. Our question regarding excuses on account of illness was not answered.

The student health service and physical education departments "work as one" and all those who participate in competitive sports are supervised by the college physician.

The physician visits all students ill in their rooms and furnishes treatment without extra charge. There is an infirmary of 15 beds per 1,000 students and all patients are cared for by the staff of the college.

The attitude of the local medical profession is "in general friendly."

**(d) Having an enrollment of 2,000 and more (Harvard and Yale).**

In this classification Yale University, with about 5,000 men and 500 women enrolled, and Harvard University, with some 8,500 men and 200 women registered in the regular session, answered our inquiries. Both institutions are located in cities of considerable size and both maintain medical schools and hospitals. The relative size of these two institutions should be kept in mind in any comparisons, and also the fact that students in all schools are included in the health service at Yale, while at Harvard the service, so far as medical examinations are concerned, is extended to college freshmen, medical students, law students, and those in the school of business administration. However, "in addition, for a period of 3 weeks each autumn, opportunity for physical examination is offered to all upper classmen and graduates."

In addition to the director, Yale employs 5 full-time physicians, 3 in general medicine, 1 psychiatrist, and 1 sanitary officer and laboratory worker. It has 24 men and 3 women physicians on part time who cover, besides medicine, the fields of surgery, the eye, ear, nose, and throat. Harvard has 3 full-time physicians and 26 part-time men. The only special fields covered are ophthalmology and psychiatry. Yale employs 3 and Harvard 2 nurses on full time. Harvard has 2 dentists and a dental hygienist, and Yale employs 2 dental hygienists. Both universities have 1 laboratory technician. Yale employs 1 X-ray technician and 2 physiotherapy workers. Harvard has an X-ray technician and 3 physiotherapists.

As noted above, examinations of all students are made at Yale as soon after admission as possible, while at Harvard these examinations are limited to certain groups. Examinations are repeated only in cases which seem to need it, except that at Harvard they may be given to upper classmen on request. The routine examinations include a urinalysis; other laboratory tests are made as indicated. X-ray pictures of the teeth are taken when advisable. At Yale routine tuberculin tests are made of all students and X-ray pictures of suspicious subjects. At Harvard both examinations are limited to suspected cases.



Vaccination for smallpox and typhoid are given free at Harvard and for smallpox at Yale.

At Harvard the charge for the service is \$20 which covers all routine work done in the department, including 2 weeks' care in the infirmary or in a ward in one of the hospitals associated with the medical school. A small charge is made for out-of-office-hours calls and for services in the eye and dental clinics. Exceptions are made to self-supporting students. At Yale the fee for undergraduates is \$20 and for professional students and graduate students, \$10. This does not include infirmary or hospital fees or medical attendance. Students who are self-supporting in part, or on scholarships, are cared for without professional fee.

Refraction is furnished free at Yale, while at Harvard there is a charge of \$5 except to self-supporting students. At Yale, treatment of the teeth is only prophylactic and given by the hygienists. At Yale, there is free advice and office treatment for all ailing students. They are referred to outside physicians only if they need a type of attention which the service is not warranted in attempting. At Harvard, treatment is furnished free for routine cases but others are referred to local physicians. Such treatment includes drugs and physiotherapy. Mental hygiene services are maintained by both schools with satisfactory results. At Harvard, immediate prophylaxis is furnished on request for the prevention of venereal diseases and at Yale such a service is available at a small fee. In both universities cases of infection are referred for treatment to specialists in urology.

At Harvard, the physical education department is supervised by the department of hygiene. At Yale, the physical-education service is a subdivision of the department of university health. All applicants for, and participants in, competitive athletics are under the supervision of the college physicians.

At Harvard, a university physician, when called, visits and treats students confined to their rooms on account of illness. At Yale, the physician makes an initial call on all such students and they are transferred to the infirmary.

Both schools have infirmaries, that of Harvard with 7.5 beds per 1,000 students; that of Yale, 7 beds per 1,000. With exceptions the patients are cared for by the staff of the university service. Both institutions have their hospitals in connection with their medical schools. The costs of hospital care are not borne by the school. The health service is not offered to students in the summer session of Harvard.

At neither university has there seemed any effect from recent economic conditions. At Yale, tuberculosis is "to some extent" a special problem among students from other countries.

At Yale, the attitude of the local medical profession is "in general, friendly." At Harvard there is "no information suggesting antagonism."

#### COLLEGES AND UNIVERSITIES FOR WOMEN

##### (a) Having an enrollment of fewer than 500.

Of the 41 colleges for women in this group which replied to our questions, 11 employ at least 1 full-time physician. Three colleges employ 1 man and 1, 2 men; 1 college has 2, and 6, 1 woman physician. Fourteen employ 1 part-time physician only (of whom 11 are men and 3 are women); 1 college reports 4; 1, 3; and 1, 2 part-time men and, in addition, 3 schools employ 1 man and 1 woman for part time. In all, 11 colleges have at least 1 full-time and 19 at least 1 part-time physician (a total of about 75 percent). Twenty-five of these have, in addition, consultants on their staffs. Thirty-eight employ nurses, 14 having 2 and 2 having 3 nurses. None of these schools employ dentists, dental hygienists, or laboratory technicians.

Thirty-nine of these colleges report a health examination at entrance (which must sometimes be given by other than members of the college staff). In 1 the examination is repeated in the second year and in 28 it is repeated in each year of the student's course. A reexamination for certain conditions, found on first examination, is made in 28 institutions.

The initial examination includes, in 17 colleges, a urinalysis; in 10, an examination of the blood; and in 5, the



examination of the sputum. These laboratory tests are made when it seems advisable in 26 colleges. X-ray pictures of the teeth of selected cases are made in 14 colleges.

Tuberculin tests are made of all students in 1 college and of suspicious cases in 6. X-ray pictures of the chest are taken of suspicious cases in 17 schools.

Students have been sent home in 30 institutions and conditions which made this necessary are the following: Infections, 6; mental cases, 9; nervous diseases, 4; tuberculosis, 4; and diabetes, 1. Students are placed on probation in 13 schools. Students who do not follow the advice of the health service have been sent home by 9 schools.

Vaccination for smallpox is furnished free by 13 and at cost by 13 schools. Inoculation for typhoid is free in 9 and at cost in 10.

Except in 17, the expense of the health service is included in the annual charge for tuition. In these 17, the charge for service is—2, \$1.50 (for general nursing in the infirmary); in 1, \$2 (which does not pay for calls by the physician); in 1, \$2.50 ("chiefly for first aid"); in 6, \$5 (which includes advice and medical treatment and usually infirmary care); and in 6, \$10; and 1, \$25 (which includes "physical examination, dispensary service for the entire year, and 2 days' treatment in the infirmary together with prophylactic inoculations.")

The cost of service is estimated in 1 college at 50 cents (advice and minor treatment); in 1, \$4.50; in 1, \$9; in 1, \$9.22; in 3, \$10; in 1, \$15; in 1, \$20; and in 1, \$37.22.

Refraction is done without cost in 2 of these colleges and at cost in 1. No dental treatment is furnished.

Free consultation and treatment of ambulatory cases is furnished in 18, but they may be treated by a local physician if they desire. Three colleges refer such students to a local physician and the remainder of the group did not answer the questions on this point.

Athletics do not loom so large as in colleges for men and only 8 furnish physical therapy. Drugs are furnished free in 17 colleges and at cost in 10. X-ray examinations are made when advisable in 4. Three institutions have an allergy service and in 8 a mental hygiene service has been developed.

Twelve colleges report that they have had no cases of venereal disease, in 6 such cases are treated, and in 4 they are dismissed.

Absence from class on account of illness must be approved by the physician in 7 colleges and by the nurse in 1.

In 3 colleges the health service and physical education department are combined and in 32 they are coordinated or cooperative. Twenty-eight report special examination of all participants in competitive athletics and 2 report that they do not have such sports.

All ailing students confined to their rooms are visited by the school physician in 14 of these institutions, and when called, in 18. The nurse visits such cases in 29 institutions. The cases are treated by the school physician in 15 and cared for by the nurse in 23. The fee charged covers this service in 19 of these 42 colleges.

Thirty-seven of these colleges have an infirmary and 5 have a hospital. Most of them reported the number of beds per 1,000 students as follows: 2 colleges have 12 beds; 1, 15; 3, 20; 3, 25; 6, 30; 1, 32; 1, 35; 7, 40; 3, 50; 8, 60; 2, 80; and 1, 100. All infirmary cases are cared for by the school staff in 29 schools. Other hospitals are available for 18 schools. Hospital care is not included in the fee for health service.

Five schools think they have had evidence of ill effects of the depression upon the health of their students; 8 schools have made satisfactory progress in the field of mental health; 11 of them think that an annual clearing physically and mentally of each student would be worth a trial.

Thirty of the respondents find the attitude of the local medical profession most favorable and satisfactory. The remaining 11 did not reply to this inquiry.

**(b) Having an enrollment of from 500 to 1,500.**

Twenty-two institutions with enrollments between 500 and 1,500 responded to our inquiries. All of these employ college physicians and in 16 the physicians are on full time. One employs 4 full-time women doctors, and 1 college has 2. Five have 1 woman physician; 3 employ 1 full-time man; 1 has a full-time man and 3 part-time men; 1 a full-time man and 1 part-time man; 1, 3 full-time



women and 2 part-time women; 1, 2 full-time women and 2 part-time women; 1, 1 full-time woman and 2 part-time men; 1 has 5 part-time men and 1 part-time woman; 1, 2 part-time women; 1, 1 part-time man and 1 part-time woman; 1, 2 part-time women and 1, 1 part-time man. Ten of the 22 report having consultants. All but 2 employ nurses. One has 9; 2, 5; 1, 4; 4, 3; 7, 2; and 5 have 1. None of these schools employ dentists or dental hygienists, but 7 have laboratory technicians, 1 has an X-ray technician, and 2 have physiotherapists.

In 19 of the 22 a health examination of all students is made on entrance. In 11 the students are reexamined each year; in 1, the freshman and sophomore years; and in 1, in the freshman and senior years.

In 11 the examination includes urinalysis; in 8, some examination of the blood; and in 1, an examination of the sputum. In 14 such laboratory tests are made when indicated. In 3 schools X-ray pictures of the teeth are made in selected cases.

Mantoux tests are made of all students in 5 colleges and of suspicious cases in 3. X-ray pictures of the chests of all students are taken in 7 schools and of suspicious cases in 12 others.

Students have been sent home from 12 colleges. Tuberculosis is mentioned as a cause in 3, venereal disease by 1, and mental conditions by 6. Students have been sent home from 5 of these institutions for not following medical advice.

The charge for health service is given by 14 respondents. In 1 it is \$2.50, including hospitalization; in 1, it is \$2 for resident and \$4 for non-resident students; in 4, it is \$5 including in 1, office consultations and treatment; in another, laboratory tests and drugs; and in another, dispensary and infirmary care. In 1 college the charge is \$6 with medical but not surgical care; in 1, \$7 with dispensary medical care; in 1, \$7.50 including hospital service; in 3, \$10 including, in 1 school, 6 days and in another 14 days infirmary treatment; in 1, \$12.50 with hospital care. In 7 colleges the cost to the school exceeds the charge to the student.

In 2 schools refraction is done free. In 1 college the teeth are cleaned without charge. In 20 colleges consultation and advice are furnished ambulatory cases and in 15 treatment is given. Drugs are dispensed in 10 and physiotherapy is given in 10 schools. Twelve schools maintain a mental hygiene service, and 2 do special work in allergy. Eight colleges mention venereal cases. In 3 they are sent home; in 1 they are referred to outside physicians, and in the remainder they are treated by the school staff. In 11 the college physician or nurse must furnish excuses for absence on account of illness.

In only 2 of these colleges are the health and physical education services divisions of one department; in the remainder they cooperate. All but 2 schools mention the special supervision of participants in athletics by the medical staff. Possibly these 2 colleges do not cultivate strenuous sports.

In 9 institutions students who are ill are sent at once to the infirmary, where they are treated by the resident staff. In 3 others the school physician calls on all who are sick in their rooms, while in 4 others the physician comes if called. In 6 colleges the nurse attends all students confined to their rooms. The fee for this service covers infirmary or room care in 16 schools. Eighteen colleges report having an infirmary and 1 has an infirmary in each dormitory. One infirmary has 5 beds per 1,000 students; 2 have 10; 1, 14; 3, 20; 3, 25; 2, 30; 1, 36; 1, 40; 1, 42; 1, 50. The students in the infirmaries of all but 1 of these colleges are cared for by the college staff. One school which does not have an infirmary has its own hospital in which the students are cared for by the college physicians and nurses. All but 3 of this group report hospitals in the neighborhood of the school. The health service fee covers the cost of hospital care in 3 schools, and it includes the cost of operations in 1 college. Thirteen of these 22 colleges have summer sessions and in 9 the health service is continuous.

Fourteen of these colleges believe in a thorough examination of students annually. All but 3 report that the local medical profession is friendly and cooperative. The 3 did not reply to the question on this subject.



## COLLEGES AND UNIVERSITIES FOR NEGROES

Thirteen, or 22 percent, of the colleges and universities for Negroes replied to our questionnaire. All of these schools employ 1 or more physicians. Three have 1 full-time man; 1 has 3 full-time men; 1 has 1 full-time man and 3 part-time men; and 2 have 1 full-time and 1 part-time man; 3 employ 1 part-time man; 1, 3 part-time men and 1 part-time woman; 1 has 2 part-time men and 1 has 1 part-time man and 1 part-time woman. Two of these institutions employ 5 nurses; 1, 4; and 5 have 1 nurse. One school has a full-time dentist; 1 has 2 part-time dentists; and 3, 1 part-time dentist. One has a laboratory technician and 4 report X-ray technicians.

Examination of all students is made on entrance by 2 and yearly by 11. The routine examination includes urinalysis in 2 and examination of both the urine and blood in 5. In 1 school all students, and in 5, suspected cases of tuberculosis, are given a tuberculin test. X-ray pictures of the chest are made of all in 1 school and of selected cases in 9. Vaccination is done free in 8 institutions and at cost in 2. Inoculation against typhoid is furnished in 9 and at cost in 2. Refraction is done without extra charge in 2 and dental service is free in 2.

Students have been sent home from 2 schools on account of tuberculosis, from 1 on account of venereal disease, and from 1 because of insanity.

The charge for health service is given as \$1.50 by 1 respondent. This includes "general medical service." In 1 it is \$2 for "minor medication and one visit by the physician." In 1 it is \$3 for "medical care" costing 1 of these schools \$7.82. In 1 the charge is \$3.25; in 2, \$3.50; in 1 of the latter "average medical care and 1 day in hospital" are included and the cost to the university is \$17. In 1 the fee to the student is \$5—the cost to the school being \$10; and in 2 others with the same charge all services except major operations are included. In 1 the fee is "50 cents per month."

Ambulatory patients receive advice and treatment without extra charge in 12 institutions and 1 school is equipped for physical therapy. Venereal cases are sent home from 6

schools and treated "at cost" in the remainder. One school "compels treatment" and it is to be hoped this is the case in the other 5. Special work in mental hygiene is attempted in 5 and for allergy in 1.

Patients too ill to be about are visited in their rooms by the school physician in 5 institutions and, when called, in 3 others. In 7, the nurse visits all such cases. In 3 schools all such cases are sent at once to the infirmary.

Six of these schools have an infirmary, 1 with 5 beds per 1,000 students; 1, 20; 1, 30; 1, 50(?); and 1, 100(?). Three report hospitals with 56 and 85 beds. The number of beds was not always given and possibly the hospital and infirmary were sometimes one. Other schools have hospitals in the neighborhood. The school medical staff cares for students in its own infirmaries and hospital. Hospital care is covered by the health fee in 5 institutions and operations are included in 1.

Eleven of these schools have a summer session and the health service continues in 7.

Eight of the respondents approve an annual thorough-going examination.

Mention of the attitude of the local physicians was omitted in the reply from 1 school, but the others report them cordial and cooperative.

#### TEACHERS COLLEGES

Of the 163 teachers colleges, 102, or 64 percent, replied to our questions. Ten of these are city institutions and the students live at home. Of the 102 colleges, 20 employ 1 or more full-time physicians and 7 employ both full- and part-time physicians. (Of these 7 schools 1 has 3 full-time doctors.) Fifty-six employ part-time physicians only, 5 use city or State medical officers, and 6 employ physicians occasionally. Seventy-six employ 1 or more nurses, 6 having 2, and 1, 3 nurses.

Forty schools report an examination on entrance and 50 others examine the students in each year of his course. In addition, 3 schools report 3 examinations and 5, 2 examinations. Ninety-eight institutions examine the student at least once in his college career. The thoroughness of ex-



aminations may be indicated by the reports that a laboratory examination of the urine of all subjects is made in 22 schools and of the blood in 16. Tuberculin tests are made of all students in 7 and X-ray pictures of all in 4 colleges. Tuberculin tests of suspicious cases are made in 17 and X-ray pictures in 40.

Vaccination against smallpox is done free in 28 colleges and protection against typhoid in 14. Refraction is done free in 8 schools.

Students have been sent home on account of tuberculosis in 18 schools, for mental derangement in 17, and for nervous conditions in 11. Students have been placed (by State regulation) on probation in the Connecticut State Teachers College, for defects of teeth, of vision, for heart conditions, for dysmenorrhea, and for excess or decess weight. They are also placed on probation for correctable defects by the Westfield Massachusetts College.

The fee charge for health service is given by about 40 percent of these colleges. In 1 it is 50 cents; in 9 it is \$1; in 2, \$1.25; in 3, \$1.50; in 1, \$1.75; in 6, \$2; in 1, \$2.25; in 1, \$2.75; in 1, \$3; in 1, \$3.30; in 2, \$3.50; in 3, \$4; in 4, \$4.50; in 2, \$5; in 1, \$10; and in 1, \$12.

Advice and treatment of ambulatory cases is offered by 55 of these institutions and physical therapy is furnished by 18. Special efforts toward mental hygiene are reported by 21 colleges. There is no dental service in any of these institutions.

Venereal disease cases are treated by 7 schools; referred to outside physicians by 8; excluded by 17; and excluded "until advised of their cure by the home physician" by 10.

The departments of health and of physical education are combined in only 2 schools.

Students who are ill in their rooms are visited by the school physician in 22, and by the nurse in 50. They are treated by the college physician in 40 and by the nurse in 45 institutions, either in their rooms or at the infirmary, and the fee paid by the student covers the cost in 26. Forty-three schools have an infirmary or hospital; 1 has 3 beds per 1,000 students; 3, 4; 1, 5; 4, 6; 2, 7; 3, 8; 5, 10; 3, 12; 1, 15; 3, 16; 6, 20; 1, 24; 2, 25; 3, 30; 1, 40; 1, 45; 1, 50; and

1, 64. In schools having infirmaries or hospitals, students are usually cared for by the college physician and nurse. The fee covers the cost of this service in 15 schools and covers it in part in 18. A hospital in the neighborhood is reported by 70 of these colleges.

Sixty-seven have a summer session and in 54 the health service is available through this term; in 4, the service is "limited."

Fifty-two or half of this group of institutions would like to make a thorough examination of their students annually and 1 would do this twice during the 4 years. Ten of them do not believe it essential.

Only 3 institutions find the local medical profession antagonistic to their health work, although 7 others report opposition from some physicians. Sixty-two report them cooperative and cordial. The following are some of the comments on the situation:

"Physicians are very friendly because it benefits them financially."

"All recent graduates cooperate though older physicians are opposed."

"Very favorable, since local physician is assured of fees."

"A few thought, at first, that we were taking their business."

One respondent has to say of the local physicians that "they are not all on our approved list."

### JUNIOR COLLEGES

Of the 437 junior colleges for white students listed in 1936, 178, or 40 percent, replied to our questions. Of these, 90 may be classed as residential or largely residential schools and 88 as city or district colleges attended almost entirely by students who live at home. The residential schools often have classes for high-school students so that the entire student body may be considerably larger than appears from the enrollments mentioned below.

#### RESIDENTIAL JUNIOR COLLEGES

##### Colleges for men only.

Of the 90 residential schools which furnished information, 6 which are for men have enrollments which do not exceed (in 1934) 126. Of this half-dozen, 2 institutions re-



port the employment of full-time physicians, 2 of part-time physicians, and 1 of consultants. It is not unlikely that both the part-time doctors and the consultants are merely local physicians on call. Two schools employ nurses. One reports a full-time dentist and 1 a part-time dentist. Four schools give physical examinations in each year, of the student's course and in 1 the examination includes urinalysis and blood tests. Tuberculin tests are made of suspicious cases and in 2 colleges X-ray pictures are made of such persons. Vaccination and typhoid inoculations are done free in 2. The health service fee charged in 1 institution is \$1.50 ("for general examination"); in 1, \$4 (for examinations, first aid, and advice); and in 2, \$5, which includes also "X-ray work."

Consultation is offered ambulatory cases in 5 and also treatment in 3. Students ill in their rooms are visited and treated by the physician and nurse in 3 institutions. Four schools have an infirmary, 1 with 10 beds per 1,000 students; 1 with 20; 1 with 125; and 1 with 140. Those ill in the infirmary are cared for by the school staff in 4 colleges. Hospitals are available in the neighborhood of 4 schools.

Only 1 college has a summer session, but there is no health service.

#### **Colleges for women only.**

Of the 20 junior colleges for women which replied to our questionnaire 17 have an enrollment of fewer than 200; 2 between 200 and 300; and 1 of 620. Except that it employs 4 nurses, the largest of these schools does not differ sufficiently in its health service to deserve a separate description. Six of the 20 colleges employ full-time and 6 of them part-time physicians. All but 2 employ a nurse. (One has a "practical nurse.") Two schools report part-time dentists.

Examinations of students are made at entrance by 6 schools and annually by 10 others. Five of those which give only an initial examination of all, repeat the examination if it seems desirable. Only 2 include an examination of the urine and blood. One makes a tuberculin test and 6 an X-ray examination of suspicious cases. Vaccination is done free in 3 schools.

In 1 school the fee charged for the health service is \$2 (including examination and attendance by nurse); in 1, \$2.50 (for "simple nursing"); in 2, \$5; and in 1, \$10. The cost to the school in the latter case is said to be \$25; in 1 school where \$5 is charged, the cost is \$7.

Refraction is done free in 1 college and dental treatment is given at cost in 3. One school reports special work in allergy and 2 have mental hygiene workers.

Ambulatory cases are advised in 7 and given treatment in 9.

Students ill in their rooms are visited and treated by school physician and nurse in 12 schools, either in their rooms or in the infirmary. Fifteen colleges report the possession of an infirmary. In proportion to the beds now owned, the number per 1,000 students would be 15, 20, 22, 24, 30, 40, 55; 2 would have 60; 1, 65; 1, 75; 2, 100; and 1, 180. Students ill in the infirmary are cared for by the college staff in 9 schools.

Two colleges have summer sessions in which the health service is available.

Only three schools seem to be interested in a very thorough annual examination.

Thirteen (all who answer) report the local physicians very cordial and helpful with their health work.

#### **Coeducational junior colleges.**

We have sorted the coeducational junior colleges into (a) those having (in 1934) an enrollment of 200 or fewer and (b) those with a larger enrollment.

(a) Thirty-eight schools of this classification answered our inquiries. The number of students enrolled did not exceed 100 in half of these institutions, but the enrollment and the provisions for health service show no relationship.

Two of these colleges employ full-time physicians, 12 have part-time doctors, and 5 report "consultants." Eleven employ 1 nurse and 2 have 2 nurses. Two have part-time dentists.

Yearly examinations are reported by 13 of the schools, and in 6 others examinations are given at entrance (in 1 by "State officials"). One college makes an examination every semester. In 6 schools the examination includes a



urinalysis and in 5 some test of the blood. Tuberculin tests of suspicious cases are made in 1 college and X-ray pictures in 4. Vaccination is done free in 4 and typhoid inoculation in 3.

The fees mentioned are \$1 (for examination, nurses calls, and ordinary medication); \$2 (for examination and 10 days' hospital care); \$2.25; \$2.50 (care of physician and nurse); \$3; \$4; \$5 (clinical service and all drugs); and \$5 without details.

Two of these schools give dental treatment at cost. In 4 institutions ambulatory cases are advised but referred to local physicians for treatment; in 6 schools they are treated by the school staff. Students confined to their rooms are visited and treated by the physician in 10 institutions, and by the nurse in 5. The fee covers the cost of this medical service in 9 schools.

Infirmaries are reported by 11 of these colleges. One has 20 beds per 1,000 students; 1, 25; 2, 40; 1, 50; 1, 65; 1, 70; 1, 72; 1, 126; 1, 150; and 1, 200. The students are cared for by the staff of the school in 8 of these infirmaries.

Nine of these colleges are interested in a more thorough annual examination of their students. Nine mention the favorable attitude of the local medical profession. There were no comments to the contrary.

(b) The reports from the 23 institutions of this group would seem to indicate that they have less in the way of provisions for the health of students than those with smaller enrollments. Only 2 report the employment of full-time and only 5 have part-time physicians. Three state that they have "consultants." Eight employ nurses, 2 having 2 each. Of those having physicians, 2 do not seem to give medical examinations of their students. Four report such an examination at entrance and 8 annually. Some of these schools have no physician, so such examinations as are made must be done by the nurse. One school reports the employment of a part-time dentist.

The physical examinations do not include urinalysis or blood tests, but in 4 schools X-ray pictures of the chest are made in suspicious cases. Vaccination is done free in 2.

Three colleges state that the fee for health service is \$2. In one of these this includes hospitalization and nursing; in another, all medical service and X-ray pictures of the chest if needed. In one the fee is \$6, which pays for the services of a nurse and for medicines but not for a physician; in another it is \$7.50 and includes all medical service but no X-ray work.

In 5 of these schools ambulatory cases are treated by the physician or nurse and in 3 they are referred to a local doctor. Pupils confined to room or infirmary are treated by the physician in 6 colleges. Five schools have infirmaries with the following number of beds per 1,000 students: 15, 20, 26, 32, and 40.

Only 5 colleges of the 23 express an interest in thorough annual examinations of their students and one respondent says "it would be too costly for the number of our students" (enrollment is at least 400).

#### NONRESIDENTIAL JUNIOR COLLEGES

The enrollments in this group of 88 institutions varied (in 1934) from fewer than 100 to 5,000. Eight had more than 1,000 students and 5 had 2,000 or more. Of the 88, 8 report the employment of a full-time physician and 17 of part-time physicians (of the 17 at least 3 are a part of a city school system and use the physicians employed for the public schools). Two schools employ a doctor during the football season and one "for athletic injuries." One school employs a full-time dentist. Of the 25 colleges having full- or part-time physicians 10 employ 1 nurse; 1 has 2; and 1, 4 nurses.

Of the 25 schools with physicians 8 make examinations of all students on entrance and 6 examine them annually. In addition to the above schools, 2 examine their women students only and 2 only those participating in strenuous athletics. In 7 no routine examinations are made by any students. In 2 schools an examination of the urine is made and in 1, of the blood. Tuberculin tests are made of suspicious cases in 3 and in 9 X-ray pictures are made of such subjects. One respondent stated that the examinations in his school were "cursory." The fees charged were given by 1 college only—\$1. The total cost to the school was men-



tioned by 1 as \$9,000—the salaries of the full-time physician and dentist of \$4,500 each.

The students in this group of colleges practically all live at home and while ailing ones are advised by the physician in 11 schools, they are all referred to home physicians in 10 schools. Thirteen of these institutions express an interest in thorough mental and physical examinations to be made annually.

### PROFESSIONAL AND TECHNICAL SCHOOLS

Of the 261 professional and technical institutions listed in 1936, 97, or 38 percent, responded to our questionnaire.

#### Theological schools.

Thirty-two independent schools of religion furnished information, and of these 4 reported the employment of full-time physicians, 3 of part-time physicians, and 1 has the services of the doctors of a hospital of its faith. Three of these schools make an examination of all students on entrance and 3 give an examination annually. Judging from the details furnished, the 3 latter schools have a well-organized service and do thorough work. Two have infirmaries of 15 and 30 beds per 1,000 students, respectively, and those confined to bed are cared for by the staff of the school.

#### Medical schools.

Four independent medical schools furnished data. In 3 there is an annual examination of students and in 1 they are examined at entrance and later if it seems indicated. There is no charge for this service in 1 school; 1 charges \$8 and 2, \$10 for examinations and for attendance and treatment if ailing.

#### Dental schools.

No health service is maintained by the 3 dental schools which returned our inquiry.

#### Schools of pharmacy.

Of 4 schools of pharmacy 1 reports an initial examination of students and a re-examination if need be.

**Physical education schools.**

Of 4 independent schools of physical education, 2 make examinations at entrance and later if it seems advisable. Two give examinations annually. Of the 4 only 1 includes the examination of urine and blood and none makes routine tuberculin tests or X-ray pictures of the chest.

**Social service schools.**

The 2 schools of social work which replied require reports of medical examinations from their students on entrance or soon after.

**Schools of osteopathy.**

Of the 3 schools of osteopathy giving information 2 report the annual examination of students by their own staff.

**Miscellaneous.**

A school of podiatry and one of occupational therapy make no provision for student-health supervision.

**Polytechnic and mines.**

Of the 20 polytechnic schools and schools of mines which reported, 4 employ full-time physicians, 10 have part-time doctors, and 1 uses the "contract-system" for its medical attendance. Two employ 1 nurse; 2 have 2 nurses; 1, 3; and 1, 4.

Fifteen of the 20 schools give their students a medical examination; 3 annually and 12 at entrance and again later if indicated. In 8 schools the examination includes a urinalysis and in 4 also blood tests. In 1 school all freshmen have X-ray pictures of the chest and in 10 suspicious cases are so examined. In 6 schools vaccination is done without charge; in 1, inoculations against typhoid. The following fees were mentioned: \$1 (for examination and first aid); \$3; \$5; \$5 (all medical service but no major operations); \$4.50 (includes infirmary care); \$10 (includes usual care of sickness and minor surgery); \$10 (2 weeks' care in infirmary).

Advice and treatment are furnished ambulatory cases in 7 schools and in 6 they are referred to local physicians. In 7, students ill in their rooms or in the infirmary are visited and treated by the school doctor. Two of these schools report progress in mental hygiene service. Three of them



have noted a high incidence of tuberculosis in students of foreign origin, especially Chinese and Japanese. Six schools express an interest in more thoroughgoing annual examinations.

**Law schools.**

The 11 law schools which reported maintain no health services. These colleges are all located in large cities and probably have no resident students.

**Music schools.**

Of the many schools of music, 5 answered our inquiry. With the exception of the Cincinnati Conservatory of Music, none of these schools give any special attention to the health of their students. This institution employs a part-time physician and full-time nurse. Health examinations are made on entrance and subsequently if it seems needful. The examination includes an X-ray picture of the chest if this seems indicated. Vaccination is done free. Refraction is done free for self-supporting students.

Ambulatory patients are given free treatment, as are also students confined to their rooms or in the infirmary.

The fee charged is \$6, which includes routine physical examinations and such medical attention as can be given in the infirmary. The cost to the school is estimated at \$22.50 per capita.

**Private military schools.**

Of the 7 private military schools in this group, 4 employ full-time and 3 part-time physicians. One has a part-time dentist and 1 a laboratory technician, 5 have 1 nurse each, and 1 has 2 nurses.

Routine health examinations are made annually of each student in all these institutions, and in 3 this includes an examination of the urine and blood. In 1 school all students are given a tuberculin test and suspicious cases are so examined in 1; X-ray pictures are made of suspected cases in 4 schools. Vaccination is free in 4 and typhoid inoculation in 3. Refraction is done without extra charge in 3 schools.

All cases of illness are treated without charge and all bed patients are sent to the infirmary or hospital. One school reports 20 beds; 3, 40; 1, 100; and 1, 125.

The health service fees mentioned are \$5, \$10 (for examinations and medicine); \$12; \$12 (for complete infirmatory care); and \$20 (for daily attention by school physician and nurse, ordinary medicines, and care in the cadet hospital).

**The United States Military, Naval, and Coast Guard Academies.**

At the time of our study the United States Military Academy at West Point numbered approximately 1,600 cadets, the Naval Academy at Annapolis, 2,300, and the Coast Guard Academy at New London, 150. The provisions and practices in health promotion are much the same in these institutions. In the smallest there are 4 full-time medical officers representing different branches of medicine and 1 full-time dentist, and in the largest there is a staff of 10 physicians and surgeons, 8 dentists, and 11 dental assistants. Consultants are available. It must be taken into account, in connection with these large staffs that, besides the cadets, there is a considerable number of other persons to be taken care of. Laboratory technicians, physiotherapy workers, and a large corps of nurses are employed in connection with the hospitals maintained by these three institutions.

The students are, of course, selected by thorough medical examinations before entrance. Medical and dental examinations are repeated in each year of their residence. A urinalysis is included in all cases and other laboratory tests are made if indicated. Tuberculin tests and X-ray pictures of the chest are made of all suspicious cases.

Vaccination and typhoid inoculations are compulsory and all needed medical and dental care is furnished. All cases of venereal disease which develop are treated for a reasonable period.

The physical education department is under the supervision of the senior medical officer.

In a word, every means, preventive and curative are available and made use of to keep the students in their best physical condition throughout their course. The objectives of the student-health services of these institutions, as expressed by the senior medical officer of the Naval Academy are "To select good physical specimens and to



maintain normal health and development throughout the 4 years of academic work. This is attempted by means of lectures in hygiene, encouragement of physical exercise, annual physical examinations, and indoctrination through personal contact in selected cases."

#### PROVISIONS AND PRACTICES AT VASSAR

The following account of the service for students and for employees of the first woman's college to have a resident physician is representative of that of many other colleges and universities.

Vassar, with an enrollment of 1,200 students (about one-fourth of whom receive financial aid) employs 4 full-time physicians (women) including 1 who has specialized in psychiatry. Two nurses assist these physicians in their office work and 7 are on duty in the infirmary. While Vassar does not boast a specially designed building for health-service purposes, the staff, with the help of an interior decorator, makes the most of its quarters. The four examining rooms for its physicians are homelike rather than hospital-like, and its waiting rooms for students are equally attractive. A separate room is set apart for those with colds or other possibly communicable diseases.

Color in furnishings and comfort in furniture is not lacking in its rest house and infirmary. The former has 6 beds for convalescent or overfatigued girls who wish to get away from the more strenuous life of the dormitories, and in the infirmary there are 24 beds, which ordinarily is a sufficient number.

Physical examinations are made of all students annually and the examination of freshmen is usually completed by November. A report of an examination by the student's home physician is required before entrance and a detailed form is sent for this purpose.

The examination at the college includes urinalyses and tests of haemoglobin. Other laboratory examinations are made as indicated. For the past 6 years Roentgen pictures of the chest have been made of all freshmen and for the last 2 years of all seniors. This is done at college expense for freshmen, but a charge of \$1 is made to seniors.

For 13 years Vassar has employed a resident psychiatrist who assists in making physical examinations. Girls recognized as having mental difficulties are of course referred to her for examination.

Ambulatory cases are treated free unless they prove to be of a nature needing the services of a specialist. A special diet table is available for students in the infirmary. Those ill in the dormitories are visited at once by one of the physicians and transferred to the infirmary or rest house. Employees are also taken care of and 4 beds are available for these persons in 2 of the dormitories. Students are cared for in the infirmary free for 6 days (but only 3 days at a time). After that time a fee of \$3 a day is charged.

An eastern insurance company, after examining the health record of Vassar over a number of years, has offered an accident and sickness insurance policy to students at \$15 per year of 12 months.

The following details are given by the director of the student-health service, Dr. Jane North Baldwin:

It is through studying the certificate of physical examination sent to the college by her family physician before her entrance that the health service first comes to know the student. By study I mean real study—correspondence with every prospective student whose health certificate shows that she has some remediable defect. All such students are requested to consult their family physician and obtain advice as to ways and means of correcting these defects so that they may enter Vassar in the best physical condition possible. This preliminary study means giving advice to many students who may never enter Vassar, but even so, we feel it worth the effort. At times, even, we ask the prospective student to come to Vassar for an examination by the college physician. After her entrance the health service repeats the student's examination, checks up her certificate, and advises her along any lines indicated.

Every student in Vassar receives an annual medical examination, with the follow-up work indicated. In our order of examinations, the freshmen are first, and are followed by the juniors, sophomores, and seniors; but the subnormal of all classes are seen first of all. Such members of the senior class were last examined in January, although the class as a whole is not examined until after the Easter vacation. All athletic teams, participators in hall plays, members of the boards editing papers and magazines receive an added medical examination, passing medical census as they do their academic and social.



censuses. The students are given physical grades as well as academic.

Excellent condition.....	A
Good condition.....	B
Fair condition.....	C
Poor condition.....	D

And of course we aim to raise all to A. We try to use our examinations of the students for informal education as well as for fact finding and health promotion.

After completion of the examination of the freshman class, the staff of the health service and the department of physical education meet to discuss the particular physical activity best suited for individual students, the limiting of exercise, corrective work, etc. Similar conferences are held over students from all classes, and throughout the year the two departments are in intimate association.

Every employee of the college receives an annual examination before the opening of college each year, also with follow-up work. This examination is repeated during the year for the food handlers. Vassar has its own farm and the milkers and dairymen have cultures made before the opening of college each year, and any employee giving history of prolonged fever or of ever being where typhoid was epidemic also has cultures taken for the detection of a carrier. A suspicious chest in any employee is X-rayed.

Correspondence with families, family physicians, and specialists is enormous and most interesting. Vassar's location so near New York City enables us to reach eminent specialists at short notice and in a very short time, and our policy is, when in doubt, to get help promptly. I feel that a physician who questions consultation can be questioned. If right, you are glad to know it, and if wrong, certainly you wish to know it. This, of course, means a very wide consultation practice—all in the follow-up work for maintenance of student health. Through studying other physicians' treatment as well as our own, we learn not only what to do, but sometimes what not to do.

In matters of health, as in educational matters, Vassar individualizes her students by a variety of means. The college physician has weekly appointments throughout the academic year with the head resident of each dormitory. At these interviews there are discussions of individual student problems such as poor work, bad hours, or poor health habits—anything which the physician in turn may request the resident to observe in certain students. A student ill at home or an employee must report to the physician's office before taking up work or going on duty.

If the problem seems to be an emotional one or some matter of maladjustment, the resident psychiatrist is consulted; or this

physician herself may approach the student first for some physical condition—one advantage which comes from having the psychiatrist also do some medical practice. Students are referred to her by the residents, members of the faculty, other physicians, the dean, and often by students themselves. In case the trouble seems to be caused by dissatisfaction with room or roommate, the person in charge is called in and some rearrangement made.

Twice monthly the head of the personnel bureau, the psychiatrist, and the physician meet with the dean. Together they discuss such problems as are traceable to physical or emotional condition, academic load, or unsatisfactory electives, always, of course, observing professional confidence.

Several times a year a consulting psychiatrist is called and spends a day interviewing and advising students recommended by the resident psychiatrist. Possibly the student may be advised to spend a short time in a sanitarium, whence she returns to carry on her work more happily. I cannot commend too highly the results of the psychiatric visits and care—the sympathetic, scientific handling of emotional problems.

One of the diseases to which adolescence is peculiarly susceptible is tuberculosis. Six years ago we started having the chest of every freshman X-rayed. We now have records of some 1,143 students. Among these records we have had one case of the adult type of tuberculosis.

The X-raying of the class is done in the physics laboratory. Our ambulatory cases are taken to Vassar Brothers Hospital, where the same skilled physician-technician does the work. We have not enough work to justify the employment of such a person at the college on full time, and, as we wish nothing but the best, this plan has worked out admirably. Our laboratory work is done by the medical staff.

During the last few years the study of glandular therapy has been making considerable progress, although it is a very difficult and complicated subject. It has developed from much quackery and the practice of charlatans to a subject of scientific study and experimental research in the medical schools and clinics.

Three years ago a group of students went to the president, saying that they knew girls who wished medical advice and would not seek it on account of the expense. Thereupon the trustees ruled that all office consultations and treatments be given free of charge, that the students be allowed 6 free days in the infirmary or rest house at 3-day periods, and that all extra feeding, liver meals, eggnogs, ray treatments, etc., be also given without charge. How long this generous program can be kept up I do not know, but it is certainly greatly appreciated this year and has been a very material gift by the college.



## SUMMARY AND CONCLUSIONS

Originating 75 years ago as a means of safeguarding students from excesses in physical activities, the student-health service has had a phenomenal development. From an examination, by the methods then at hand, of heart, lungs, and spine and the prescription of gymnastic exercises according to the findings, this examination has developed, with the development of means and methods, to the present-day thoroughgoing looking over from head to foot, outside and in, with appropriate advice and treatment, or references to sources of treatment. From one college the establishment of such a service has extended, in some degree, to practically all institutions of higher education, especially those which have the responsibility of parental care for youth far removed from home. These services, however, represent all degrees of development. They vary all the way from an examination of the heart of those who expect to participate in strenuous athletics (a more primitive experience than that furnished the student of Amherst three-quarters of a century ago) to the most detailed investigation of bodily and mental conditions now possible. The first aim is, of course, preventive and educative, but for the ailing student there may be every provision possible for his care and the hastening of his full recovery. From the crude picture painted by statistics we find as follows:

(a) *Of coeducational colleges and universities having an enrollment of fewer than 500, 10 percent employ full-time and 55 percent part-time physicians. Ninety percent say they give each student a health examination. In 35 percent the examination is evidently thorough, and in 6 percent it would seem to be very thorough, since it includes X-ray examination of all students for tuberculosis. Certainly in half these institutions efforts are made at furnishing ample care of ailing students.*

(b) *In coeducational institutions with 500 to 1,000 students there is a rise in the number having full-time physicians to at least 40 percent, while some 35 percent more have part-time doctors. Apparently, in 10 percent no examination is made at entrance, but in this group, the thorough-*

ness of examinations increases, for in 40 percent urinalysis is a routine procedure and in about 20 percent roentgen pictures of all chests are included. In 20 percent special efforts are made in the field of mental hygiene. Ambulatory cases receive treatment from the school physician in 50 percent and in about as many institutions students ill in their rooms or infirmary are cared for by the staff.

*In institutions of this kind having from 1,000 to 2,000 students* about 90 percent employ 1 or more physicians, those with full-time doctors being about 35 percent. Routine urinalyses rise to 60 percent and X-ray examinations of all students to near 25 percent. Treatment of ambulatory cases is offered in 60 percent and in about 45 percent the ill are attended by the school physician and nurse.

*In the larger institutions of this group* there is an increase in the proportion of full-time workers and, as is to be expected, in the total number of physicians and nurses. About 10 percent employ part-time physicians only. The thoroughness of examination and facilities for treatment also increase with larger full-time staffs. More than 50 percent have developed special activities in mental hygiene.

Annual examinations in coeducational schools are more frequent in the institutions with an enrollment of fewer than 1,000 (about 30 percent). In the larger schools, roughly, only 10 percent repeat the examination except when indicated.

*(c) Of colleges for men, those with an enrollment of fewer than 500* have a high percentage with well-equipped services. Nearly 90 percent have at least 1 school physician and in 50 percent there is at least 1 full-time man. One reports 3 full-time doctors and 1 has 3 full-time and 4 part-time physicians. The schools for men with larger enrollments are few and offer therefore no comparisons. The elaborate services of Harvard and Yale are given in detail.

The proportion of the smaller schools giving their examinations annually is high (40 percent), and in as many the examination would seem to be thorough. Routine X-ray pictures are made in only 1 college. In about 40 percent the ill, whether ambulatory or bedfast, are treated by the staff.



(d) *Of the colleges for women with fewer than 500 students, roughly 25 percent employ full-time and 45 percent part-time physicians. In more than 50 percent there is an annual examination (a larger percentage than in the previous groups). In more than 40 percent the examination includes a urinalysis. Roentgen pictures of the chest are made in 15 percent. Treatment of the ill is furnished in about 50 percent of these colleges.*

*In most of the colleges for women having an enrollment of more than 500, there is a fully equipped health service. All of the 22 employ physicians and in more than 70 percent they are on full time. One employs 4 full-time doctors, all of them women. In 50 percent the examination is given annually and in as many this includes (at least in the initial examination) a urinalysis. Tuberculin tests of all students are made in 25 percent and X-ray examinations in more than 30 percent. Treatment of the ill is furnished in about 75 percent. More than half these colleges employ special workers in mental hygiene.*

It is notable that in replies from all of the colleges and universities concerning students sent home on account of illness there is frequent mention of tuberculosis, of nervous and mental diseases.

In comparatively few of these institutions is physical education considered a part of the health service, but in practically all the desirability of participation in sports is decided (as in the beginning of health services) by that department.

(e) *Colleges and universities for Negroes.*—All of the institutions which furnished information employ a physician. Full-time physicians are employed by about 50 percent. Examinations are made in all, and in 11 of the 13 schools this is done annually. In half these institutions the examination would seem to be thorough.

Ambulatory cases are treated without charge in all but 1 and in about three-fourths, students ill in their rooms or the infirmary are treated without extra charge. Five of the 13 schools have developed work in mental hygiene.

(f) Although the *junior colleges* are of recent origin, a health service does not seem to have been considered essen-

tial by most of them. Of the residential colleges for men and for women, only about a third employ full-time and a third, ~~part~~-time physicians, but in those for both men and women only 5 percent have full-time and about 30 percent part-time doctors. In the schools for men only and for women only, about two-thirds give an examination at entrance or yearly, but in the coeducational colleges the percentage is around 50. Provisions for consultation and caring for the ill are correspondingly less common. Of non-residential junior colleges only about 10 percent report full-time and 25 percent part-time physicians, and apparently most of these doctors belong to the local school system. Their functions are not clear, for only about 10 percent of these schools report the giving of health examinations.

(g) The *teachers colleges* seem as a rule to take the matter of health preservation and promotion seriously, as 20 percent employ full-time and 55 percent part-time physicians. Ten percent more have the services of public physicians or employ doctors "occasionally." Ninety percent report examinations of all students and in 50 percent the examination is an annual event for all students. In at least a fifth, an examination is made of the urine. Tuberculin tests are made of all in 7 percent and X-ray examinations in 4 percent.

It is notable that in 2 State colleges the treatment of certain defects found at examination is required.

Special efforts in the field of mental hygiene are made in 20 percent and provisions for medical advice and treatment are offered in at least half of these institutions. Again, nervous diseases, mental derangement, and tuberculosis stand out prominently as causes of incapacity for college work.

(h) *Of the technical and professional schools* the polytechnic schools and schools of mines seem most interested in the health of their students.

(i) *Above all, it is the United States Military and Naval Academies* that place the physical condition of their students on a par with their mental condition, although it is not at all clear that the health of the soldier or sailor is of more consequence than that of the civilian.



## SANITATION AND HEALTH INSTRUCTION

Living and working conditions of a school are essential to the health of the student and we have attempted to learn something of the provisions and practices of institutions of higher education in regard to sanitation. The information secured will be published at some later date.

Information concerning his physical condition is furnished the student as an outcome of his medical examination and in many schools he is free to consult the school physician at any time regarding the "accidents in his own body" and with regard to more general matters of hygiene. This is not quite enough, however, for the student should be informed concerning the structure and functions of his body and with regard to the general principles underlying personal and community health. What is now done along these lines was presented in a previous publication entitled "Instruction in Hygiene in Institutions of Higher Education."

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