SIXTEENTH ANNUAL REPORT
OF THE
UNIVERSITY OF ILLINOIS
HEALTH SERVICE
1931-1932
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of the

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HEALTH SERVICE

1931-32
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To the President of the University

Dear Sir:

I have the honor to submit, herewith, the Sixteenth Annual Report of the activities of the Health Service for the academic year, 1931-1932.

There was a total of 46,162 visits to the Health Service Station during the year. Of these, 45,139 were from students and 1,023 from Civil Service employees. This includes 3,936 calls as a result of the required physical examination upon entrance and 1,735 for re-examination. The number of visits per student registered was 3.28.

Of the members of the Class of 1935, 89 per cent of the men and 82.3 per cent of the women have called one or more times for conference or advice. The men of this class called 15,260 times, an average of 5.67 visits per man; the women called 5,730 times, or an average of 4.59 visits per woman. The average for the class was 5.33 visits per student.

Communicable Disease

The incidence of communicable disease in the student body during 1931-1932 reached the lowest level since the establishment of the Health Service. This is a reflection of the low morbidity rate throughout the United States during this period. The year 1931 was the best for good health since the creation of many Bureaus of Statistics of State Departments of Health. The first half of 1932 was even better than the corresponding part of the preceding year.

There developed in the student body during the year, 9 cases of scarlet fever, 1 of measles, 3 of mumps, 4 of chickenpox, 1 of rubella, 1 of typhoid, 1 of whooping cough, and 1 of infantile paralysis in contrast
with 32 cases of scarlet fever, 24 of measles, 7 of mumps, and 10 of chickenpox for the previous year.

A total of 346 students were exposed to communicable disease. Of this number, 19 were patients, 76 were held in quarantine for the period required by law, and 251 were permitted to attend classes under daily observation.

Certificates were filed with the Health Service by 163 students certifying their immunity to infectious disease. Of this number, 46 had had smallpox, 24 had been vaccinated against smallpox, and 93 had had scarlet fever.

In accordance with the recent ruling of the State Department of Public Health, students exposed to scarlet fever who are shown to have negative Dick tests, are released from quarantine and permitted to attend school. Of the 64 students exposed to scarlet fever during the year, 50 had negative tests and 14 positive. The latter were quarantined for a week and the former were permitted to attend class, but were kept under daily observation. As the Dick test usually leads to the student's release from quarantine within 24 hours, this represents a saving of 300 school days.

There were 6 cases of communicable disease reported in the families of employees of the University during the year and 3 cases in the homes of members of the faculty. These were one case each of measles, scarlet fever, and typhoid fever, 2 cases of whooping cough, and 4 cases of chickenpox. Happily no case of communicable disease in the University population is known to have given rise to a secondary case.

The McKinley Hospital cared for 508 students with communicable disease for a total of 2,035 days or for an average of approximately 4 days
of this total 493 were cases of influenza occurring mainly at the
time of a mild epidemic of the disease which visited the Middle-west. Only
two students developed pneumonia; one of these, an arrested case of tuberculosis, died.

The incidence of venereal disease in the student body remains quite low. Of the students seen during the year, both as a result of voluntarily calling and of "follow-up" on the basis of a report only, 41 were found to have gonorrhea and 2 were found to have syphilis. This is a rate of 3.8 per thousand which is very much lower than any of the estimates usually given for the same age group in the general population.

In the diagnosis and control of communicable disease 998 laboratory tests were made. One student was found to be a carrier of typhoid fever, two showed a positive test for syphilis, fourteen had Vincent's Angina, and three had had undulant fever.

**Immunization Against Smallpox and Typhoid Fever**

Of the Class of 1935, 19 per cent of the men and 17 per cent of the women were unvaccinated. Such a large percentage of young people susceptible to smallpox is a standing invitation for an epidemic of the disease. Sustained efforts have been made to reduce the number of students likely to have smallpox by urging them to be vaccinated. Our persistence has resulted in a total of 1,567 vaccinations of students by their family physicians, local doctors, and members of the Health Service Staff.

Only 12.8 per cent of the Class of 1935 gives a history of inoculation against typhoid prior to entrance in the University, — 16 per cent of the men and 5.3 per cent of the women. While the per cent of
students immunized against this disease prior to matriculation is still small, it is showing a steady increase and coincident with it the number of freshmen who have had typhoid fever before entering the University is yearly decreasing. For example, of the members of the Class of 1930, 3.72 per cent had had typhoid fever and only 10.6 per cent had been inoculated against it. Of the Class of 1935, 2.08 per cent had had typhoid and 12.8 per cent had been immunized against it. As the students entering the University are a cross-section of the people of their age in the state, these immunization data are encouraging and significant.

During the year, 1,153 students were completely immunized against typhoid fever by receiving three inoculations each, a large per cent of whom were working or taking courses in University food-distributing agencies, were waiters in sororities, fraternities, or lunch-rooms, or were going to military camps.

**Supervision of Food-Handlers**

Prospective employees who would handle food products, students employed as food-handlers by the University, and those enrolled in courses in dairy manufacturing, lunch-room management, and meat courses were examined to determine whether or not they had communicable disease or were disease carriers. Food-handlers who had not been successfully vaccinated against smallpox within the last three years were re-vaccinated.

A careful history as to communicable disease, particularly typhoid, was determined in the case of each prospective food-handler. If the employee or student gave a history of having typhoid fever or paratyphoid, three bacteriological examinations of the feces and urine taken a week
apart were made. Specimens of blood were taken, Widal tests were made as a routine, and they were immunized against typhoid fever if they had not been inoculated against it within the last five years.

One typhoid carrier was discovered and repeated bacteriological tests of his excreta after the administration of a cathartic showed him to be a persistent carrier of the typhoid bacillus. The importance of this discovery emphasizes again the wisdom of the University regulation requiring the medical supervision of its food-handlers.

The following table shows the number and distribution of the food-handlers in the employ of the University who were examined.

**Distribution of Food-Handlers**

<table>
<thead>
<tr>
<th>Department</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woman's Residence Hall</td>
<td>82</td>
</tr>
<tr>
<td>Dairy Department</td>
<td>45</td>
</tr>
<tr>
<td>Civil Service</td>
<td>4</td>
</tr>
<tr>
<td>Cafeteria, Woman's Bldg.</td>
<td>26</td>
</tr>
<tr>
<td>Davenport House</td>
<td>8</td>
</tr>
<tr>
<td>Animal Husbandry</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>173</strong></td>
</tr>
</tbody>
</table>

The Health Service cooperated with fraternities, sororities, and student boarding clubs to give them the benefit of the same protection that the University has for its food-distributing agencies. To this end, 569 Widal tests were made on student waiters, dish-washers, and cooks and a total of 55 bacteriological examinations of the excreta.

This cooperation, while very important, should be universal for all lunch-rooms catering to student patronage. It was entirely voluntary and offered a considerable protection because not only were the carrier states determined, but the persons were immunized against both typhoid and smallpox. This is an advantage alike to the student who has to support himself and to the group which he serves.
Hospitalization

The McKinley Hospital cared for 1,426 students for a total of 5,254 days, an average of 3.68 days per patient, which is in marked contrast to a decade ago when the average stay was 7.5 days. We are getting sick students into the Hospital with greater promptness, they are staying a shorter time, they become less ill, have fewer complications, and are away from classes for a shorter period.

The other Twin City hospitals admitted 354 students for a total of 1,980 days, an average of 5.5 days per patient. It should be noted that students remain on the average about two days longer in other local hospitals than in the McKinley Hospital. This is due to the McKinley Hospital's not admitting patients known to require surgery, more particularly major surgery. Although the McKinley Hospital cared for 80.1 per cent of all the students hospitalized and the other hospitals only 19.9 per cent, the former had the benefit of student patronage for only 72.3 per cent of the hospital days while the latter served them for 27.3 per cent of the time.

The hospitals served 26.6 per cent less students this year than last which is another result of the unprecedented low morbidity rate during 1931-1932. Of the 11,255 students registered at Urbana during the year, 15.8 per cent or one out of every 6.3 enrolled, was hospitalized during the year. This clearly demonstrates the need of infirmary facilities even in an extra-ordinarily healthful year.

Students joining the Hospital Association during the first semester numbered 5,513 or 51.8 per cent of those registered and the second semester 4,012 or 40.6 per cent of those enrolled. Because of
the increased morbidity usually associated with winter and early spring, there are usually more students admitted to the hospitals in the second than in the first semester. During the second semester of this academic year admissions to the hospital exceeded those of the first semester by 26.3 per cent. In other words, about one-half of the students become members of the Hospital Association in the first semester and only two-fifths the second semester when the need for hospital attention is the greater. Lack of membership in the Hospital Association increases the difficulty of controlling communicable disease among students and causes many of them when ill to assume risks which often gravely jeopardize their health.

Following its long established policy of advising students unable to attend classes to seek the care of local doctors, the Health Service sent 402 students to local hospitals during the year. The wideness of their choice of attending physician is shown by their selection of 41 members of the local profession to care for them. Except in an instance or two where the reason is obvious, proper, and inevitable, the proportion of students who go to the hospital from the Health Service Station and who are sent in by local physicians shows little variation. This demonstrates that no University agency is materially influencing a student in the exercising of his inalienable right to select his own doctor.

Chauffeurs' Examinations and Car Permits

A total of 37 faculty members and employees who were to drive University automobiles were examined with special reference to acuity of vision, color blindness, hearing, reflex action, and their general health.
Because of marked defects of vision, it was necessary to recommend that 2 prospective drivers have their eyes examined and be required to wear glasses. The vision of all applicants was above the minimum recommended by the Committee on Physical Standards for Drivers of Motor Vehicles of the Section on Ophthalmology of the American Medical Association. All were free from color blindness and their general physical condition was such as not to prevent them from assuming the responsibility of a chauffeur of cars driven at the proper speed.

During the year 13 students requesting permits for the use of a motor vehicle from the Committee on Student Affairs on the basis of physical disability were examined. Of these, 10 were found to have physical defects sufficiently handicapping to make the use of a car to attend classes desirable. Three were obviously able to go to college without a car.

The reasons for recommendation of the granting of a permit were as follows: paralysis due to poliomyelitis, 3; severe flat foot causing pain, 1; marked cardiac disease, 2; convalescence from carbon monoxide poisoning, 1; severe hemorrhoids, 2; crippling from compound fracture of ankle due to gun-shot wound, 1.

Cooperation With the Departments of Military and Physical Education

To protect students participating in major athletics, 1,765 examinations were made. During the year 522 students were re-examined to determine their physical condition to take Military and Regular Gymnastics. Of these, 245 were assigned to Individual Gymnastics with special physical training.

Because of marked physical abnormalities and organic diseases
3 students were not permitted to take either Physical Education or Military. Their condition was such that it was too great a risk to require either form of activity of them.

A total of 156 temporary excuses were recommended for students who had undergone recent operations, were convalescent, or had lost so much time on account of illness as to be unable to complete satisfactorily the work in Physical Education for the semester.

It was found that students recovering from influenza showed such a rapid heart rate after slight exercise that a number of them had to be temporarily excused from physical training for a week or ten days. This precautionary measure offered a great protection to hearts which would become normal, but had not yet completely recovered from the toxemia incidental to an attack of la grippo.

During the year 356 prescriptions were issued to students whose physical condition made it desirable for them to change from one course in Physical Education to another or to modify their program of exercise. By this procedure, students who had sinusitis, infection of the middle ear, or perforation of the drum were transferred from swimming which would aggravate their condition to a form of exercise without an unusual hazard. By such transfers those who had ringworm of the feet, boils, or who had undergone operations were able to take exercise with a minimum risk of injury and with maximum protection of their associates against infection.

A total of 54 students were permanently excused from Military because of their failure to meet the minimum requirements of the Medical Department of the Army; 23 students below the minimum physical requirements for commission, but who desired to take Military were assigned to it.
Their physical condition was such that it was not unsafe for them to undergo a training which they very much wished to have. Of the freshmen taking Military, 5 were classed as having borderline physiques, i.e. able to take Military but possibly ineligible for commission. This fact was recorded in the proper offices of the University.

At the request of the Military Department, and in accordance with the practice of previous years, the Health Service gave 853 inoculations against typhoid fever to 286 students going to camps for members of the Reserve Officers' Training Corps.

**Sanitation**

The Health Service has continued its policy of making sanitary inspections on the campus, in student lodging houses, boarding clubs, and lunch rooms. By special request, 7 inspections were made. A great many more complaints were investigated to determine the sanitary conditions under which students were living. Landladies in general have been cooperative and have usually made efforts to correct unsatisfactory conditions when they were brought to their attention.

The University, however, is very much handicapped in dealing with the conditions under which the students live due to the fact that it has no police power in the local municipalities. The situation, however, can be and has been improved from time to time by persistent efforts in calling the attention of the local boards of health to insanitary conditions, by campaigns and by education as to the value of pasteurized milk, the patronage of clean lunch-rooms, the features of approved lodging houses, etc.
The swimming pools of the University have been maintained in a good sanitary condition throughout the year. With the able assistance of the staff of the State Water Survey, the Sanitary Engineer of the University, and the Departments of Physical Education, the users of the pools have been required to observe the standard sanitary regulations for swimmers, daily bacteriological tests have been made, the residual chlorine of the water has been determined twice a day, the load of the pool has been controlled, and systematic efforts have been made to care for the pools in accordance with the standards of the American Public Health Association and Conference of State Sanitary Engineers.

Colon bacilli were not found at any time in the samples of water taken from the pools daily for examination. A total of 8 high counts of bacteria were noted. These occurrences, upon investigation, were found usually to be due to some temporary mechanical difficulty, life-saving practice in street clothes, or other factors which were readily controlled by appropriate action.

Physical Examination of Students

A total of 3,936 students were given complete physical examinations during the year. Of this number 2,692 were men and 1,244 were women. The examinations of prospective students who did not matriculate were 296 or 7.5 per cent of all those examined. This entailed an approximate cost of $105.00. There seems to be no way to avoid the expense of examining high school graduates who expect to become freshmen but who do not. It would be more expensive to defer the examinations until a day or two before registration and then employ enough outside physicians to take care
of the large peak load.

Of the students examined, 2,335 men and 293 women were recalled for conference and advice. This includes 1,735 who were re-examined. Wherever students were found to have defects, they were advised to consult their family physicians, specialists, or dentists. In many instances students had had their defects of vision corrected and had had dentists treat their teeth between the time they were examined and when they were recalled. This fact demonstrates the willingness of the average individual to improve his general health and efficiency when he has the information upon which to base action.

"Follow-Up"

In following up students who were found to have defects at the time of their examination on matriculation, in addition to the usual recall, 198 students with albuminuria (suggesting possible nephritis) were seen repeatedly and careful urinalyses made to determine whether or not their condition was functional or pathological. Of these 96.4 per cent cleared up promptly and were apparently of a transient nature while 3.6 per cent were persistent and led to the students' being advised to consult their family doctors or a urologist.

The maximum protection has been given 141 students who had frank cardiac insufficiencies, who had arrhythmia, enlargement, or abnormal sounds of the heart. They have been under observation, have received repeated examinations, and have been given advice as to the protection of their hearts against unnecessary stress.

A group of 52 students with physical signs or symptoms suggestive
of incipient tuberculosis have been seen many times during the year. Under proper diet, adequate rest, hygienic regime, and graduated activity most of them have increased in weight and vigor and have been released from observation. Two of these developed active tuberculosis and were promptly advised to seek sanatorium treatment and two other cases which were questionable are still being seen.

Sustained efforts have been made to improve the mental health of students who have given a history of being subject to blues or worry or have had nervous breakdowns or have found difficulty in becoming adjusted to their environment. A total of 397 students stated that they had a tendency to worry and 234 said they occasionally had the blues. A careful check of these cases showed that in only a small per cent was the condition sufficiently severe to influence the appetite, to prevent sleep, or to cause an inability to pursue academic work. Of this number, 79 students were seen several times and a few have been followed indefinitely. With rare exception, members of this group readily respond to friendly interest, suggestion, readjustment of their schedule of living, participation in extra curricular activities, and medical treatment.

To the "shut-in" personality, an environment which will attract his interest is almost a specific. In many instances, this type has been drawn away from his isolation to adjustment and satisfaction in his new surroundings by tactfully bringing him under the influence of work and social life outside of the classroom. The great variety of social, educational, and religious organizations about the campus contributes much to students finding themselves. Agencies assisting students in obtaining employment and loan funds helping them over financial stresses
are important factors in the relief of anxiety and the establishment of mental stability.

Marked symptoms of psycho-neurosis were shown by four students during the academic year. One withdrew from the University temporarily and sought the care of a psychiatrist. He improved sufficiently to resume his work in the second semester. The three remaining continued in school throughout the year. Neurasthenia appeared in 18 students. This condition was relieved by rest, recreation, and reduction of outside work and study schedules. Psychasthenia occurred in three students, two of whom promptly improved under rest and decrease in work, the third, by adjustment of his work and the obtainment of financial help.

**Examination of High School Students**

At the beginning of the school year, 60 high school students were examined, 36 boys and 24 girls. Eighteen were re-examined; all were checked as to their physical ability to take the prescribed course in gymnastics. Those having defects requiring special forms of physical training were so certified to the instructor in charge of the course.

Of this group, 35, or nearly 60 per cent, had had their tonsils removed which would seem to indicate that Nature has made tonsils a great hazard, parents have an excessive fear of tonsillitis, surgery has become most alert, or all three factors are operative. Of the total, 15, or 25 per cent, had suffered severe injuries and 50 (including tonsillectomies) had been operated upon. Of those examined, 6, or 10 per cent, were unvaccinated, 48 were well-developed, and 12 were classified as fair, none as poor. Laboratory tests showed two had albuminuria and one glycosuria.
Civil Service Employees

Civil Service employees made 1,023 calls to the Health Service during the year of which 71 were for physical examinations at the beginning of employment. These were classified and were graded as follows: 62 good and 9 fair. Of the 71, 66 were men and 5 were women.

There have been 164 accidents to University employees in the line of duty. A total of 105 required minor surgical attention as a result of their injuries, and 59 were so severely injured that they were referred to outside surgeons, specialists, or radiologists. Of these, 10 were hospitalized for a total of 180 days or an average of 18 days per patient. A greater part of the total days in the hospital was due to the severe injuries of two individuals. Of the men injured, two were left with minor permanent disabilities which will not interfere seriously with their earning livelihoods; one suffered a marked physical handicap which will render him unable to resume his former occupation.

Accidents among Civil Service employees seem to be becoming more frequent. In the biennium 1928-1930 there were 307 accidents reported and in that of 1930-1932 there were 338 which is an increase of 10.3 per cent. This estimate merely takes into consideration the number of accidents and not the number of employees during the two periods. Presumably the total number of employees was less in the last than in the preceding biennium and the increase in the accident rate, therefore, higher than given above.

Laboratory Service

The following table shows the necessary laboratory service given
students and employees during the year, a part of which was essential in making effective the regulation of the University concerning food-handlers.

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<thead>
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<th>Test</th>
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<td>Widal tests</td>
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<tr>
<td>Bacteriological examination of excreta</td>
<td>55</td>
</tr>
<tr>
<td>Blood cultures</td>
<td>3</td>
</tr>
<tr>
<td>Sputum examinations</td>
<td>43</td>
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<tr>
<td>Complement fixation tests</td>
<td>72</td>
</tr>
<tr>
<td>Throat cultures</td>
<td>42</td>
</tr>
<tr>
<td>Agglutination tests for undulant fever</td>
<td>7</td>
</tr>
<tr>
<td>X-ray examinations</td>
<td>34</td>
</tr>
<tr>
<td>Blood examinations</td>
<td>4</td>
</tr>
<tr>
<td>Basal metabolism tests</td>
<td>55</td>
</tr>
<tr>
<td>Urinalyses</td>
<td>7146</td>
</tr>
</tbody>
</table>

**First Aid Cabinets**

The first aid cabinets in the various buildings on the Campus now being maintained are 99 in number. Six additional ones were installed during the year on the request and requisition of the departments expecting to use them. These cabinets are visited weekly or twice weekly depending upon their location and supplies are replaced as needed.

**Cooperation with Attending Physicians**

The cooperation of local doctors and other physicians of the state in caring for the students has been most generous and helpful. A total of 257 letters have been received at the Health Service Station concerning the physical condition of students who are or have been former patients of the doctors. The physicians have submitted 163 certificates certifying the immunity of students to smallpox or scarlet fever. This correspondence is of great assistance in advising students as it provides information and gives a better perspective of their medical records and physical condition.
Hygiene

Elementary hygiene was taught to 2,418 students the first semester. Of these, 1,727 were men and 691 were women. The registration the second semester was 1,310 men and 653 women, a total of 1,963. There were 41 sections for men the first semester and 38 sections the second semester. The women were taught in 17 sections each semester. The advanced course in hygiene had a registration of 42 students the first and 59 students the second semester.

Student Deaths

I deeply regret to have to report that six students died during the year, 1 from infantile paralysis of the bulbar type, 1 from streptococcemia, 1 from pneumonia following arrested tuberculosis, 1 from perforation of a gastric ulcer, and 2 from accidents, the first from being struck by an automobile, and the second from an injury while fencing.

Changes Affecting the Health Service

Under the reorganization plan of the University, the Health Service has discontinued the granting of excuses for illness and physical disability which caused students to be absent from class. This has reduced its total visits for the year by approximately 5 per cent. The change, however, was distinctly to its advantage. It removed from it certain forms of service associated in the students' minds with disciplinary action and it gives the members of the medical staff a little more time to devote to the individual student. This is particularly desirable as in previous years the great demands upon the doctors made very short conferences with stu-
dent's imperative if all were to be seen who called. The new arrangement
gives more time for the exploration of the student's medical history and
for discussion of his problems.

As a result of the request for its cooperation with the University
in the observance of strict economy, the Health Service pursued a policy
of rigid retrenchment throughout the year and was able to turn back to
the institution 50 per cent more than it thought possible when first
asked to give the amount it could save.

Although every non-essential activity was eliminated, the de-
partment did not have to sacrifice any fundamental service necessary to
control and prevent illness among students. It has, however, attained
the position where further restriction of its activities would be a dis-
tinct handicap in the institution of effective action to limit the spread
of disease.

Respectfully submitted,

J. Howard Beard, M. D.
University Health Officer