

66TH CONGRESS }  
2d Session }

HOUSE OF REPRESENTATIVES

{ DOCUMENT  
No. 436 }

ANNUAL REPORT OF THE  
SURGEON GENERAL OF THE  
PUBLIC HEALTH SERVICE  
OF THE UNITED STATES

FOR THE FISCAL YEAR

1919



WASHINGTON  
GOVERNMENT PRINTING OFFICE

1919

## LETTER OF TRANSMITTAL.

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TREASURY DEPARTMENT,  
OFFICE OF THE SECRETARY,  
*Washington, November 20, 1919.*

**SIR:** In accordance with section 9 of the act of Congress approved July 1, 1902, I have the honor to transmit herewith the report of the Surgeon General of the Public Health Service for the fiscal year 1919.

Respectfully,

CARTER GLASS,  
*Secretary.*

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

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OPERATIONS OF THE UNITED STATES  
PUBLIC HEALTH SERVICE

1919

# ANNUAL REPORT OF THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE.

TREASURY DEPARTMENT,  
BUREAU OF THE PUBLIC HEALTH SERVICE,  
*Washington, D. C., November 15, 1919.*

SIR: In accordance with the act of July 1, 1902, I have the honor to submit for transmission to Congress the following report of the operations of the Public Health Service for the fiscal year ending June 30, 1919. This is the forty-eighth annual report of the service, covering the one hundred and twenty-first year of its existence.

The administrative organization of the bureau for the past fiscal year was as follows:

- (1) Scientific Research.
- (2) Domestic (Interstate) Quarantine.
- (3) Foreign and Insular (Maritime) Quarantine and Immigration.
- (4) Sanitary Reports and Statistics.
- (5) Marine Hospitals and Relief.
- (6) Personnel and Accounts.
- (7) Venereal Diseases.
- (8) Section of Public Health Education.
- (9) Chief Clerk.

The administrative heads of the service and the chiefs of the bureau divisions at the close of the fiscal year consisted of the following:

- Surg. Gen. Rupert Blue.  
Asst. Surg. Gen. J. C. Perry, in charge of the Division of Personnel and Accounts.  
Asst. Surg. Gen. C. C. Pierce, in charge of Division of Venereal Diseases.  
Asst. Surg. Gen. W. G. Stimpson, in charge of Division of Marine Hospitals and Relief.  
Asst. Surg. Gen. J. W. Schereschewsky, in charge of Division of Scientific Research.  
Asst. Surg. Gen. A. J. McLaughlin, in charge of Division of Domestic Quarantine.  
Asst. Surg. Gen. R. H. Creel, in charge of Division of Foreign and Insular Quarantine and Immigration.  
Asst. Surg. Gen. B. S. Warren, in charge of Division of Sanitary Reports and Statistics.  
Surg. (R.) Charles Bolduan, in charge of Section of Public Health Education.  
Chief Clerk, Daniel Masterson.  
Secretary to Surgeon General, F. Gwynn Gardiner.

## NEW LEGISLATION.

*Chamberlain-Kahn Act.*—The act known by this short title was approved July 9, 1918, and provided for the establishment of a Division of Venereal Diseases in the Bureau of the Public Health Service, appropriating for the purposes of the act \$1,200,000 for the control of these diseases in cooperation with State boards or departments of health.

*Reserve act.*—The act of October 27, 1918, created a reserve of the Public Health Service for duty in time of national emergency. Under the provisions of this act it has been possible to expand the commissioned corps and obtain sufficient personnel to efficiently operate the hospitals and sanitoria provided for the greatly increased number of beneficiaries of the Service. The reserve act is as follows:

## Joint Regulations To establish a reserve of the Public Health Service.

*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled,* That for the purpose of securing a reserve for duty in the Public Health Service in time of national emergency there shall be organized, under the direction of the Secretary of the Treasury, under such rules and regulations as the President shall prescribe, a reserve of the Public Health Service. The President alone shall be authorized to appoint and commission as officers in the said reserve such citizens as, upon examination prescribed by the President, shall be found physically, mentally, and morally qualified to hold such commissions, and said commissions shall be in force for a period of five years, unless sooner terminated in the discretion of the President, but commission in said reserve shall not exempt the holder from military or naval service: *Provided,* That the officers commissioned under this Act, none of whom shall have rank above that of assistant surgeon general, shall be distributed in the several grades in the same proportion as now obtains among the commissioned medical officers of the United States Public Health Service and shall at all times be subject to call to active duty by the Surgeon General and when on such active duty shall receive the same pay and allowances as are now provided by law and regulation for the commissioned medical officers in the said regular commissioned medical corps.

Approved, October 27, 1918.

The regulations, issued in pursuance of the authority contained in this act, will be found on page 11.

*War Risk Hospital act.*—With the signing of the armistice and the cessation of hostilities arose the problem of taking care of the injured sailor and soldier after discharge from the military forces. Congress gave this matter its immediate attention and after discussion and amendment in both Houses the act of March 3, 1919, was finally enacted into law.

The purposes of this act are fairly expressed by section 1 of this act, which is quoted below:

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the Secretary of the Treasury be, and he is hereby, authorized to provide immediate additional hospital and sanatorium facilities for the care and treatment of discharged sick and disabled soldiers, sailors, and marines, Army and Navy nurses (male and female), patients of the War Risk Insurance Bureau, and the following persons only: Merchant marine seamen, seamen on boats of the Mississippi River Commission, officers and enlisted men of the United States Coast Guard, officers and employees of the Public Health Service, certain keepers and assistant keepers of the United States Lighthouse Service, seamen of the Engineer Corps of the United States Army, officers and enlisted men of the United States Coast and Geodetic Survey, civilian employees entitled to treatment under the United States Employees' Compensation Act, and employees on Army transports not officers or enlisted men of the Army, now entitled by law to treatment by the Public Health Service.

It will be seen that Congress thus designated the Public Health Service as the medical agency of the Government through which beneficiaries of the War Risk Insurance were to be given the necessary hospital and sanatoria treatment.

This legislative action is in line with the administrative practice of the Public Health Service in endeavoring to have utilized by other Government departments and bureaus the sanitary and medical machinery which it has perfected. Prior to the passage of this act the service had entered into cooperative arrangements with the War Risk Insurance to give medical attention to its beneficiaries, and similar arrangements have been made with the Federal Board for Vocational Education. This plan coordinates the medical activities of the Government under the supervision of the bureau best equipped with personnel and facilities to handle this character of work.

#### AMENDMENTS TO SERVICE REGULATIONS.

*Reserve Corps regulations.*—Under date of November 13, 1918, the President, on the recommendation of the Secretary of the Treasury, amended the regulations of the Public Health Service, approved March 4, 1913, to read as follows:

#### RULES AND REGULATIONS FOR THE GOVERNMENT OF THE RESERVE OF THE UNITED STATES PUBLIC HEALTH SERVICE.

1. Except as hereinafter provided, all of the regulations for the government of the United States Public Health Service with amendments thereto or hereafter made, not inconsistent with Senate joint resolution approved October 27, 1918, to create a reserve of the Public Health Service shall apply to and govern officers commissioned under the said resolution when the said officers are on active duty.

2. The resolution to establish a reserve of the Public Health Service approved October 27, 1918, is referred to in these regulations as the reserve act.

3. Officers commissioned under the resolution to establish a reserve of the Public Health Service approved October 27, 1918, are referred to in these regulations as reserve officers.

4. Citizens of the United States desirous of undergoing examination for appointment and commission in the reserve of the Public Health Service must make an application in their own handwriting requesting permission to appear before a board of examiners. An applicant for examination shall state his age, date and place of birth, present legal residence, whether he is a citizen of the United States; give the names of the schools or colleges of which he is a graduate; furnish testimonials from at least two persons as to his professional and moral character, and submit a recent photograph of himself. An applicant of foreign birth must furnish proof of American citizenship.

5. Officers commissioned and appointed under the reserve act will not be appointed to any particular station, but to the general service. They shall at all times be subject to call to active duty and shall serve wherever ordered to duty.

6. The corps of reserve officers shall not exceed 1,000 unless otherwise specifically authorized by the Secretary of the Treasury. Said officers shall be distributed in the several grades in the same proportion as now obtains among the commissioned medical officers of the Public Health Service.

7. Sanitary engineers when commissioned in the reserve shall be known and designated as follows:

1. Sanitary engineers with the grade of Assistant Surgeon General,  
"Directing sanitary engineer."
2. Sanitary engineers with the grade of senior surgeon,  
"Senior sanitary engineer."
3. Sanitary engineers with the grade of surgeon,  
"Sanitary engineer."
4. Sanitary engineers with the grade of passed assistant surgeon,  
"Associate sanitary engineer."
5. Sanitary engineers with the grade of assistant surgeon,  
"Assistant sanitary engineer."



Other officers (not graduates of medicine) shall be known and designated by the above prefixes to their titles, zoologist, pharmacologist, chemist, and sanitarian, as the case may be.

Reserve officers, when on active duty, shall take order of rank and precedence with officers of the Public Health Service commissioned under the act of January 4, 1889, of the same rank and grade, according to seniority of commission, except, unless otherwise ordered, at marine hospitals and quarantine stations the senior medical officer shall be in charge of the station.

8. Boards of commissioned officers shall be convened by the Surgeon General from time to time for the purpose of examining applicants for appointment under the reserve act. Such board shall consist of three or more commissioned officers, of whom the senior shall be chairman and the junior recorder. Reserve officers may be ordered to serve on such boards.

9. That for the purpose of the initial organization a board of officers of the Public Health Service shall be convened by the Surgeon General to examine the record of the physical, mental, and moral qualifications of the medical and sanitary personnel now on duty in the Public Health Service, and those found by this examination to be qualified to hold commissions in the reserve may be recommended for such commissions without further examination.

10. A physical, academic, and professional examination for appointment shall be conducted by the board of commissioned officers convened under paragraph 8, and the order of examination shall be:

1. Physical.
2. Academic.
3. Professional.
4. Personal (including general aptitude and moral fitness).

11. The physical examination shall be made according to the rules prescribed by the regulations of the United States Public Health Service. Applicants shall be required to give explicit statements upon a blank form which shall be furnished them for that purpose of any severe illness or injury from which they have suffered, and certify in detail as to any acquired or inherited ailment or defect, mental or physical.

12. The board shall carefully consider all defects in applicants, and shall certify before recommending for appointment that the applicant is free from mental or physical defects of a character which would prevent his performing the duties required of officers in the reserve. All mental or physical defects found upon examination must be carefully noted and described upon the physical examination blank.

13. The board shall examine into the general education of the applicant, and may terminate his examination if it appears that he is deficient therein.

14. The examination of applicants for appointment shall begin with a short autobiography of the applicant in which he shall state concisely whether married or single; the date and place of his birth; the school, institution, or college at which he received his general education; the several branches studied, including his knowledge of general literature and of the ancient and modern languages; the exact title of the professional school or schools at which he received instruction and the date of his graduation; the time when he commenced the study of his profession; the experience he has had in the practice of his profession, and in public health work, if any. The applicant shall append to this statement his name in full, post-office address, and his local address at the date of examination.

15. The professional examination of applicants for commission shall consist of questions on the several branches of their profession.

16. The examination shall further consist of such inquiries as may tend to show the general aptitude of the person for the special duties required of a commissioned officer in the service and to show his moral qualifications for the position of trust and responsibility which he will assume if appointed.

17. In so far as practicable, reserve officers, during the first 12 months subsequent to appointment and annually thereafter, may be ordered, by the Surgeon General of the United States Public Health Service, with the approval of the Secretary of the Treasury, as on active duty for a period not exceeding one month, to a school of training in an approved institution or station located convenient to the district in which he resides.

18. Any physician commissioned under the reserve act whose age is more than 32 and less than 40 years, and who, at the time, has served on active duty in the Public Health Service for 5 years, may be examined for appointment as assistant surgeon under the act of January 4, 1889.

19. Reserve officers while on active duty may be granted leave allowances under the same laws, rules, and regulations as are now provided for officers commissioned under the act of January 4, 1889.

20. Leave may be granted to reserve officers in active service on account of sickness contracted in line of duty: *Provided*, That no leave of absence shall be granted on account of sickness which is due to mental or physical defects which existed prior to appointment or which occurred after appointment and which were not incurred in line of duty: *Provided further*, That no leave shall be granted on account of sickness which is due to an aggravation of any such mental or physical defect.

21. A board of three or more commissioned officers shall be convened from time to time by the Surgeon General for the purpose of recommending officers for promotion. Recommendations for promotions must be based solely on the record for fitness and capacity, without regard to seniority, except that selections will ordinarily be made from the next lower grade. Vacancies in the higher grades may be filled by original appointment to the reserve, but will ordinarily be filled by selection from officers in the reserve.

No officer shall be promoted who has been found physically unfit for duty in the grade for which he is examined.

22. When ordered to active duty for part-time service, in cooperation with State or local health authorities, officers of the reserve shall receive pay and allowances for such time as they are on active duty for the United States Public Health Service.

For pay purposes the day shall be seven hours and shall begin on arrival from residence at office of the station and terminate on departure therefrom. Fractional parts of a day shall accumulate until they make a day of seven hours, excepting on termination of active duty payment may be made for fractional parts of a day.

23. During an emergency the Secretary of the Treasury may transfer regular commissioned officers of the United States Public Health Service to the reserve in order to assume charge of important work, and while so serving they shall be commissioned in the reserve as Assistant Surgeons General, or senior surgeons, as in the discretion of the Secretary of the Treasury the importance of the work may require. Unless sooner terminated by direction of the President, the commission of the officer so transferred shall terminate when the emergency ceases to exist: *Provided*, That such transfers shall be made only to positions which are related to an existing emergency: *And, provided further*, That the pay and allowances shall be of the grade to which transferred, and no such transfer shall operate to reduce the pay and allowances of an officer so transferred.

24. The temporary transfer of officers from the regular corps to the reserve shall not create a vacancy in the grade from which transferred, and upon the termination of the temporary commission officers so transferred shall return to the grade and number which they would have occupied if they had not been transferred.

25. The Surgeon General, at the expiration of his term of office, if not reappointed, shall be appointed and commissioned an Assistant Surgeon General in the reserve for duty in an advisory capacity in the direction of training schools and stations, with pay and allowances as an Assistant Surgeon General on active duty. A vacancy shall not be created thereby in the grade from which he was appointed to Surgeon General and, at any time upon his own request, he may be transferred back to the grade and number which he would have occupied in the regular corps if he had not been appointed to Surgeon General and commissioned in the reserve.

26. The appropriations for the current fiscal year and those hereafter made for specified work shall be available for the pay and allowances of reserve officers of the Public Health Service ordered to active duty upon such work.

Under date of November 13, 1918, with the approval of the President and the Secretary of the Treasury, paragraph 17 of the Service Regulations of March 4, 1913, was also amended to read as follows:

PAR. 17. Medical officers of the Public Health Service required by the act of January 4, 1889, to be appointed by the President, by and with the advice and consent of the Senate, and officers appointed and commissioned by the President under the reserve act, shall be known in these regulations as commissioned officers.

Under the same date and the same authority a new paragraph, No. 12-a, was added to the Regulations, as follows:

PAR. 12-a. (New paragraph to be added to Regulations.)

Officers detailed in charge of bureau divisions shall be commissioned Assistant Surgeons General for a period of four years, and shall serve as such unless sooner relieved from the detail to the bureau by order of the Surgeon General. The temporary assignment of officers for duty as Assistant Surgeons General in charge of bureau divisions shall not create a vacancy in the grade from which assigned, and upon termination of such assignment these officers shall return to the grade and number which they would

have occupied if they had not been assigned as chiefs of bureau divisions: *Provided*, That after the expiration of the four-year assignment as Assistant Surgeon General in charge of a bureau division an officer may be reassigned for an additional four-year period, but after the expiration of the second assignment he shall not be eligible for a third assignment until he shall have served at least four years at some other duty.

In addition to the above amendments, paragraphs 87 and 103 to the service regulations were amended during the fiscal year, the former on July 16 and the last mentioned on August 14, 1918. The two amendments are as follows:

PAR. 87. Pharmacists, when on duty at United States marine hospitals or quarantine stations, shall when practicable be entitled to quarters, necessary household furniture for same, subsistence (as allowed previous to Mar. 4, 1913), fuel, light, and necessary laundry work, and when on duty at stations where there are no quarters belonging to the service, they shall be entitled to commutation therefor at the rate of \$40 a month for quarters, fuel, and light, and \$60 a month for subsistence and all other allowances.

PAR. 103. When a commissioned medical officer is serving within the geographical limits of the United States, as they existed January 1, 1898, at a station where there are no quarters belonging to the service available for assignment to him, he shall receive commutation therefor at a rate not exceeding \$12 per month per room and commutation of heat and light allowances at rates allowed medical officers of the Army of the same relative rank.

#### AMENDMENTS TO INTERSTATE QUARANTINE REGULATIONS.

In accordance with the provisions of the quarantine act of February 15, 1893, amendments to the interstate quarantine regulations have been approved by the department during the fiscal year relating to the purity of water supplied to passengers in interstate traffic. The regulation follows:

SEC. 13. Water provided for drinking or culinary purposes on any car, vessel, or other conveyance while engaged in interstate traffic by any person, firm, company, or corporation shall be from a source which is certified and approved as producing water of satisfactory sanitary quality and safety.

(a) The certification of such water supplies shall be procured by the person, firm, company, or corporation providing the water for the aforesaid purposes, and the certificate shall be filed with the United States Public Health Service at Washington, D. C.

(b) Certificates concerning the safety and sanitary quality of such water shall be based upon its relative freedom from contamination, or exposure to contamination, by microorganisms and substances recognized as harmful or deleterious to the consumer's health or liable to spread infectious or contagious disease, as determined through a survey of the sanitary conditions under which the supply is produced and the results of bacteriological and chemical analysis of samples of the water. In making such determinations, survey and laboratory methods which are acceptable to the Surgeon General of the United States Public Health Service shall be followed.

(c) Certificates of examination may be issued by officers of the United States Public Health Service or by the respective State departments of health having jurisdiction over the source of supply, and shall be subject to the approval of the Surgeon General of the United States Public Health Service.

(d) Certificates of water examination shall be procured and filed whenever the Surgeon General of the United States Public Health Service may direct, but in any case not less than semiannually, in March and September of each year: *Provided*, That the certification of water supplies certified by and produced under the constant supervision of the respective State departments of health may be required but once annually with the approval of the Surgeon General of the United States Public Health Service.

(e) Persons, firms, companies, or corporations providing water from certified supplies shall cause such water to be so handled from the source of supply to the delivery to consumers in such manner that the safety or sanitary quality of such water shall not be impaired. Water cooled for drinking purposes shall be cooled in such manner that ice can not come into contact with such water. Water coolers and containers shall be cleansed and sterilized at least once in each week in use.

(f) The provisions of this section shall also apply to water provided for drinking and culinary purposes on vessels plying between foreign ports on or near the frontiers of the United States and adjacent ports in the United States.

This amendment supersedes Amendment No. 1 to Interstate Quarantine Regulations, 1916.

The danger to the public health of the country through the possible transmission of anthrax by using improperly sterilized shaving brushes resulted in the promulgation on July 30, 1918, of the following amendment to the Interstate Quarantine Regulations of the Public Health Service.

*To medical officers of the U. S. Public Health Service, State and local health authorities, and others concerned:*

In accordance with the act of Congress approved February 15, 1893, the following amendment and additions are hereby made to the Interstate Quarantine Regulations promulgated by this department January 15, 1916.

Section 1 is hereby amended to read as follows:

"SEC. 1. For the purposes of interstate quarantine the following diseases shall be regarded as contagious and infectious diseases within the meaning of section 3 of the act approved February 15, 1893: Plague, cholera, typhoid fever, pulmonary tuberculosis, yellow fever, smallpox, leprosy, typhus fever, scarlet fever, diphtheria, measles, whooping cough, poliomyelitis (infantile paralysis), Rocky Mountain spotted or tick fever, anthrax, and epidemic cerebrospinal meningitis; and any person affected with any disease aforesaid, and anything, living or dead, which has been affected with or exposed to the contagion or infection of any such disease, except as otherwise provided in these regulations, shall be regarded as contagious or infectious until the contrary has been proven."

The following regulations are hereby added to the Interstate Quarantine Regulations:

"SEC. 39. No person, firm, or corporation shall offer for shipment in interstate traffic, and no common carrier shall accept for shipment or transport in interstate traffic any shaving brush or lather brush unless manufactured in accordance with these regulations.

"SEC. 40. Shaving brushes or lather brushes shall be made only from hair or bristles known to be free from anthrax spores.

"SEC. 41. Unless hair or bristles are known to be free from anthrax spores before such bristles are made up into shaving or lather brushes, their disinfection shall be accomplished by one of the following methods: (a) By boiling the hair or bristles for not less than three hours; (b) by exposing the hair or bristles to steam under not less than 15 pounds gauge pressure for not less than 30 minutes with a preliminary vacuum of not less than 10 inches before turning on the steam; (c) by exposure to streaming steam for not less than six hours.

"SEC. 42. All shaving or lather brushes shall be permanently marked with the name of the manufacturer or with a registered trade-mark in order to insure identification of the manufacturer and enforcement of these regulations."

Likewise to reduce the disease menace occurring from the unrestricted travel of persons infected with venereal diseases, the following Interstate Quarantine Regulation amendment was promulgated on November 19, 1918:

*To medical officers of the U. S. Public Health Service, State and local health authorities, and others concerned:*

The following addition is hereby made to the Interstate Quarantine Regulations promulgated by this department January 15, 1916, said addition and regulations being in accordance with the act of Congress approved February 15, 1893.

The following regulation, addition to section 1 and section 28-A, is hereby added to Interstate Quarantine Regulations:

#### I.

I. Section 1, line 8. Insert "syphilis, gonorrhoea, chancroid" after tick fever so that the text will read \* \* \* Rocky Mountain spotted or tick fever, syphilis, gonorrhoea, chancroid and epidemic cerebrospinal meningitis; \* \* \*

#### II. Introduce section 28-A.

1. Any person, infected with syphilis, gonorrhoea, or chancroid, who wishes to engage in interstate travel, must first obtain a permit, in writing, from the local health officer under whose jurisdiction he resides. This permit shall state that, in the opinion of the health officer, such travel is not dangerous to the public health.

2. Any person, infected with syphilis, gonorrhoea, or chancroid, who wishes to change his residence from one State to another must first obtain his release, in writing, from the local health officer. He shall inform the local health officer as to the place

where he intends to reside and shall agree, in writing, to report in person to the proper health officer within one week after arrival at his new residence.

It shall be the duty of the health officer who issues the release to promptly notify the health officer under whose jurisdiction the infected person is to enter, of its issue. This release shall contain the name and address of the infected person.

The receiving health officer shall, in turn, report the arrival of the infected person to the health officer who issued his release and notify the State health officer of his State that a person infected with venereal disease has entered his jurisdiction.

3. Any person, infected with syphilis, gonorrhoea, or chancroid, who wishes to engage in interstate travel or change his residence shall agree to continue treatment, under the direction of a reputable physician, until the health officer shall have certified that he is no longer infectious. A certificate of noninfection shall not be issued until the health officer, or his accredited representative, shall have complied with the State board of health requirements for release of venereally infected persons.

SUGGESTED FORMS.

1. PERMIT TO ENGAGE IN INTERSTATE TRAVEL.

This is to certify that, in my opinion, ..... may engage in interstate travel without endangering the public health.

(Name of patient.)

.....  
(Health Officer.)

.....  
(Town.) (State.)

2. PERMIT TO CHANGE RESIDENCE.

Permission is hereby granted ..... to change his residence from ..... to .....  
(Town.) (State.) (Town.) (State.)

(Name of patient.)

.....  
Health Officer.)

.....  
(Town.) (State.)

3. REQUEST FOR CHANGE OF RESIDENCE.

I, ....., desire to change my residence from .....  
(Town.)  
....., to ..... I hereby acknowledge that I am infected  
(State.) (Town.) (State.)  
with ..... and agree to report my condition to the local health officer at ..... within one week after my arrival.

I further agree to continue treatment for ..... under the direction of a competent physician until I shall have been released by the health officer.

(Signed.) .....

4. NOTICE OF RELEASE.

.....  
(Place.)

.....  
(Date.)

JOHN DOE,  
Health Officer,

.....  
(Town.)

.....  
(State.)

This is to inform you that ..... who formerly resided at ..... is infected with ..... He has this day secured  
(Town.) (State.)

his release from this office and declared his intention to change his residence to ..... He has agreed to report to you within one week after  
(Town.) (State.)  
arrival.

.....  
(Health Officer.)



of public health activities can best be obtained under the Federal aid extension principle. The program follows:

**1. Industrial hygiene:**

(a) Continuing and extending health surveys in industry with a view to determining precisely the nature of the health hazards and the measures needed to correct them.

(b) Securing adequate reports of the prevalence of disease among employees and the sanitary conditions in industrial establishments and communities.

(c) National development of adequate systems of medical and surgical supervision of employees in places of employment.

(d) Establishment by the Public Health Service, in cooperation with the Department of Labor, of minimum standards of industrial hygiene and the prevention of occupational diseases.

(e) Improvement of the sanitation of industrial communities by officers of the Public Health Service, and cooperation with State and local health authorities and other agencies.

(f) Medical and sanitary supervision by the Public Health Service of civil industrial establishments owned or operated by the Federal Government.

**2. Rural hygiene:**

(a) Federal aid extension for establishment and maintenance of adequate county health organizations in counties in which the county and State governments, separately or together, will bear at least one-half (usually two-thirds) of the expense for reasonably intensive rural health work; county health officer to be given status in national health organization by appointment as field agent of the Public Health Service at nominal salary; sanitary inspectors and health nurses also to be given official status in the Public Health Service.

(b) Detail of specially trained officers of the Public Health Service to formulate and carry out, in cooperation with local authorities, intensive campaigns for the sanitation of groups of rural towns, the work to be directed especially toward securing safe water supplies, cleanly disposal of human excreta, pasteurization of milk supplies, and bedside control of cases of communicable disease.

(c) Studies by a special board of service officers to determine improved methods of rural sanitation, the studies to be confined to the most practical and essential phases of the subject.

(d) Widespread dissemination of the simple rules for rural sanitation through various Government and civil agencies, such as the bureaus and divisions of the Department of Agriculture, the Farm Loan Board, agricultural colleges, public school boards, farmers' associations, and women's clubs.

**3. Prevention of the diseases of infancy and childhood:**

(a) Through cooperation with the Children's Bureau, the American Red Cross, and other recognized agencies in promoting measures for child and maternal welfare.

(b) Through prenatal care by promoting—

(1) The adoption of measures for the adequate care and instruction of expectant mothers through visiting nurses, prenatal clinics, lying-in facilities, attention during confinement, and regulation of the practice of midwifery under medical supervision.

(2) Safeguarding of expectant mothers engaged in industries.

(c) Through infant-welfare work, by promoting—

(1) Accurate registration of all births, and measures for adequate care of babies in homes, welfare stations, and day nurseries.

(2) Instruction of mothers by visiting nurses. The enforcement of prophylactic measures to prevent blindness in the newborn.

(3) Safeguarding of milk supplies and establishment of pasteurization plants.

(d) Through supervision of children of preschool age by promoting—

(1) The organization of divisions of child hygiene in State and local health departments.

(2) Instruction by visiting nurses in general, personal, and home hygiene, and inspection for physical defects and the control of communicable diseases.

(3) The establishment of clinics for sick children.

(e) Through supervision of children attending school by promoting—

(1) The supervision of the home and school environment, including sanitation of school grounds and school buildings.

(2) The maintenance of health supervision of school children by school nurses and school physicians to detect and correct physical and mental defects and to control communicable diseases.

(3) Mental examinations of school children to determine and prescribe suitable treatment and training for children who fail in class work.

4. *Water supplies.*—National development of safe water supplies—

(a) By extending surveys already made by the Public Health Service of water supplies, checked by laboratory analyses when necessary, to be done by national, State, local, or university personnel and laboratories.

(b) Introduction and extension of methods of water purification according to results of surveys and analyses.

(c) Stimulation of communities to obtain safe water through national, State, and local representatives and volunteer organizations.

5. *Milk supplies.*—National development of safe milk supplies through—

(a) Universal pasteurization (including adequate municipal supervision).

(b) Adequate inspection of production and distribution of milk and milk products.

(c) Stimulation of communities to obtain safe milk through national, State, and local representatives and volunteer organizations.

6. *Sewage disposal.*—Proper sewage disposal will control intestinal diseases, such as typhoid fever, dysentery, diarrhea, and hookworm. These diseases now cause over 60,000 deaths annually. National development of safe methods through—

(a) Extension of water carriage sewerage systems wherever practicable.

(b) Elimination within municipal limits of cesspools and privies.

(c) In rural communities the installation of sanitary privies.

(d) The establishment of minimum standards of permissible pollution of streams, lakes, and rivers used for water supplies.

(e) Stimulation of communities through national, State, and local representatives and volunteer organizations, to obtain safe sewage disposal.

7. *Malaria.*—National development of measures for the control of malaria and malaria-bearing mosquitoes in industrially, agriculturally, and economically important areas of the United States—

(a) By the further dissemination of the knowledge of methods for its control (elimination of malaria-mosquito breeding places through drainage, oiling, ditching, and the like) now being demonstrated by the Public Health Service.

(b) By the extension throughout the country of surveys of certain areas as to the prevention of malaria and malaria-bearing mosquitoes.

(c) By increasing the corps of experts of the Public Health Service engaged in malaria prevention and by the utilization of other national agencies wherever practicable to advise the communities as to the methods for best handling their problems in malaria.

(d) Additional appropriations for the reclamation of large areas from malaria through proper drainage. Funds for such projects should be supplied on a 50-50 basis by Federal and State Governments. This plan is especially applicable to the control of malaria in communities where malaria conditions interfere with their economic development.

8. *Veneral diseases:*

(a) *Medical measures:*

(1) Establishment of clinics, dispensaries, and hospitals.

(2) Epidemiologic studies.

(3) Free diagnosis.

(4) Examination for release as noninfective.

(5) Free distribution of arsphenamine.

(6) Control of carriers through detention and commitment.

(b) *Educational measures:*

(1) Proper reporting of cases.

(2) Standardization of pamphlets, exhibits, placards, and lectures.

(3) Cooperation with national, State, and local authorities and volunteer associations.

(4) Cooperative work in industrial plants, shipyards, and railway employees' organizations.

(5) Cooperation with druggists' organizations to secure their voluntary aid in the control of patent nostrums for the treatment of veneral diseases.

9. *Tuberculosis:*

(a) Stringent provisions for the proper reporting of cases of tuberculosis.

(b) Adequate instructions of families and patients, especially in families where there is an advanced case.

(c) Hospitalization of cases, wherever practicable, either through city institutions or by arrangements with State or district tuberculosis hospitals.

(d) Cooperation with national societies and agencies having for their object the prevention of tuberculosis or the improvement of economic conditions.

(e) Improvement of industrial conditions predisposing to tuberculosis, such as "dusty occupations."



10. *Railway sanitation:*

(a) Consolidation under supervision of the Public Health Service of railway sanitation.

(b) Protection of railway employees by adequate health measures (e. g., protection against smallpox and typhoid fever by vaccination and inoculation; supervision of food, water, and milk supplies consumed by employees; elimination of hazards in shops and other work places; supervision of sanitary housing facilities; sanitation of railway communities).

(c) Protection of the public by—

(1) Sanitary supervision of water, milk, and food supplies furnished by railway administration.

(2) Sanitary supervision of employees engaged in handling water and food supplies so furnished.

(3) Sanitation of stations, terminals, rights of way, with special reference to sewage disposal, malaria-mosquito eradication, and screening against disease-bearing insects.

(4) Prevention of the spread of communicable diseases through common carriers.

(5) Improvement and demonstration of the principle of employing full-time health officers by all municipalities.

11. *Municipal sanitation:*

(a) Development and demonstration of the principle of employing full-time health officers by all municipalities.

(b) Enactment and enforcement of ordinances for adequate disease reporting.

(c) Provisions for safe water, food, and milk supplies and sewage disposal.

(d) Enactment and enforcement of special regulations for the improvement of conditions causing tuberculosis.

(e) Establishment of community health centers.

(f) Municipal campaign for the control of venereal diseases through venereal-disease reporting; clinics for the treatment and control of carriers and free treatment for all cases.

(g) Control of malaria and malaria-bearing mosquitoes in malarious regions.

(h) Enactment of proper building ordinances and provision for sanitary supervision of housing, especially in industrial centers, including improvements in transportation, so as to permit redistribution of persons living in overcrowded communities.

(i) Adequate systems of medical supervision of schools.

(j) Reduction of infant mortality by proper provision for prenatal care, bed space in maternity hospitals, infant-welfare stations, visiting nurses, and milk and ice stations.

(k) Stimulation of municipalities to realize their own responsibilities for health, and the part played by adequate health protection in the happiness and material prosperity of the community.

12. *Health standards:*

(a) Communicable diseases. Promulgation by the Public Health Service of minimum standards for the control of communicable diseases.

[NOTE.—The service has published on this subject a report of committee of the American Public Health Association, on which the service was represented. This report should be reviewed and amended by a board of service officers. It should then be formally approved by the conference of State and Territorial health officers with the Public Health Service, and be promulgated by the Public Health Service as Federal standards.]

(b) Industrial hygiene. Standards of industrial hygiene and of sanitation of places of employment should be prepared by the service in cooperation with the Department of Labor.

(c) Sewage and excreta disposal. Minimum standards should be promulgated on the following: (1) Water-carriage sewerage systems; (2) sanitary privies.

(d) Standard specifications for safe water and water purification.

(e) Community sanitation. Preparation of standards method for scoring the sanitary conditions of communities.

(f) Preparation of additional standards for the manufacture and the purity and potency of biologic products and for arsphenamine.

(g) Preparation of standards for illuminating, heating, and ventilating public buildings and schools.

13. *Health education.*—To increase the knowledge of the general public on means relating to disease prevention and personal hygiene—

(a) By the employment of medical sanitarians, having special experience in educational methods and their use, in cooperation with Red Cross National and State organizations, State and municipal health departments, State industrial commissions, and State and national health associations.

[NOTE.—The prevention of the following conditions and diseases will be the special objects of health education: Excessive infant mortality, occupational diseases (see section on industrial hygiene), malaria, typhoid fever, hookworm, venereal diseases, pellagra, tuberculosis, pneumonia, cerebrospinal meningitis, and personal hygiene.]

(b) By advocating and assisting in the securing of full-time State, district, and local health officers.

(c) By stimulation of States and municipalities to the acceptance of their full responsibility for public-health conditions and the support of health activities by adequate appropriations.

(d) By the detail of service officers to State health organizations and, when necessary, to city organizations, particularly in communities presenting special health problems.

14. *Collecting of morbidity reports.*—Extension of disease reporting to be accomplished through the collection of adequate reports of disease prevalence:

(a) By the extension of the present system of collaborating epidemiologists.

(b) For the industrial group of the population, through the appointment of industrial surgeons and record clerks in various industrial establishments, such industrial surgeons to be appointed by the Public Health Service, at a nominal salary, so as to place them under the direction and control of the service, and the remainder of the salary to be paid by the industrial establishments to which they are attached. In addition to reporting disease, these surgeons will act as medical and surgical officers and sanitarians. They will also report on community sanitation.

15. *Organization and training for duty in emergency of the reserve of the Public Health Service.*—

(a) By the establishment of training schools in public-health work in connection with stations of the Public Health Service and leading universities at which members of the reserve may receive intensive training for short periods at stated intervals.

(b) Ordering members of the reserve to active duty to participate in important old work of the Public Health Service.

## DIVISION OF MARINE HOSPITALS AND RELIEF.

### RELIEF STATIONS.

The activities of the marine hospital division have expanded more during the past fiscal year than ever before in the history of the service. This expansion is due primarily to the fact that patients who are compensable under the provisions of the war-risk insurance act are beneficiaries of the Public Health Service. On March 3, 1919, Congress passed Public Act 326, Sixty-fifth Congress, authorizing the Secretary of the Treasury to provide hospital and sanatorium facilities for discharged sick and disabled soldiers, sailors, and marines; Army and Navy nurses, male and female; patients of the War Risk Insurance Bureau; and other legal beneficiaries of the Public Health Service.

To adequately provide the greatest possible excellence in the standards of care and treatment provided for beneficiaries of the service, the United States has been divided into 14 districts. In nominal charge of each district is an officer of the Public Health Service, known as the district supervisor. In his organization there are State supervisors and inspectors, hospitalization units in larger centers, smaller subsidiary units in smaller centers, and a designated examiner in each county. The hospital units in the larger centers are formed about a nucleus consisting of a full-time or part-time representative of the service; a modern civilian hospital, together with its staff; and such additional consultant specialists as may be deemed necessary. By this plan the greatest number of patients receive attention in the most efficacious manner. It is not necessary to send patients any considerable distance from their homes for examination, patients are hospitalized within a reasonable distance of their homes so that relatives may visit them, and each patient receives careful consideration before he is referred to a hospital operated by the service where he is to receive prolonged treatment, if such is necessary. While this scheme was originated primarily for War Risk Insurance patients, it is believed that it will be possible to provide for all other beneficiaries of the service in the same manner.

Medical officers of the Public Health Service are now making physical examinations upon requests made by the district vocational officers of the Federal Board for Vocational Education, of disabled men discharged from the military forces desiring to enter upon a course of vocational training, to determine the feasibility of their entering upon such a course.

During the latter part of the year the Canadian Government requested the Secretary of the Treasury to extend to discharged Canadian soldiers resident in the United States the facilities of the hospitals of the Public Health Service. In accordance with this request the Secretary of the Treasury authorized the admission of discharged Canadian soldiers to the hospitals of the service, reimbursement to be made at a per diem rate the same as is now charged

for foreign seamen at first-class stations and contract rates at contract hospitals.

During the fiscal year ending June 30, 1919, the service operated 20 marine hospitals, all of which were owned by the Government, and in addition maintained a sanatorium at Fort Stanton, N. Mex., for the care and treatment of patients suffering from tuberculosis. The marine hospital at Cairo, Ill., was reopened June 1, 1919. Ten new hospitals, known as United States Public Health Service Hospitals, were opened during the last three months of the fiscal year, in the following order:

*Palo Alto, Calif. (United States Army base hospital, Camp Fremont).—* Ground leased; bed capacity, 1,000; opened April 1.

*Greenville, S. C. (United States Army base hospital, Camp Sevier).—* Ground leased; bed capacity, 1,235; opened April 5.

*Alexandria, La. (United States Army base hospital, Camp Beauregard).—* Ground leased; bed capacity, 1,000; opened April 18.

*Dansville, N. Y. (United States Army General Hospital No. 13).—* Leased; bed capacity, 250; opened May 1.

*Norfolk, Va. (Sewells Point) (United States Army Quartermaster terminal).—* Owned; bed capacity, 213; opened June 2.

*Chicago, Ill. (United States Army General Hospital No. 32).—* Leased; bed capacity, 550; opened June 13.

*Corpus Christi, Tex. (United States Army General Hospital No. 15).—* Owned; bed capacity, 235; opened June 22.

*Washington, D. C.—* Leased; bed capacity, 80; opened June 24.

*Jacksonville, Fla. (United States Army base hospital, Camp Joseph E. Johnston).—* Ground leased; bed capacity, 830; opened June 27.

*East Norfolk, Mass. (United States Army General Hospital No. 34).—* Leased; bed capacity, 300; opened June 30.

There were 118 other relief stations maintained under the authorization of T. D. 37671. During the latter part of the fiscal year plans were perfected and partially put into operation for a marked increase in the number of relief stations, particularly for the benefit of Bureau of War Risk Insurance patients.

#### RELIEF TO SEAMEN AND OTHER PATIENTS.

There were 93,719 patients treated at the various marine hospitals and relief stations of the service during the year, including the patients treated at the tuberculosis sanatorium at Fort Stanton, N. Mex. This number also includes patients treated by local physicians (93 in number) who were appointed to furnish professional services during the year to members of certain Coast Guard stations. Of the above-mentioned number 38,355 patients were treated in hospitals a total of 757,018 days, and 55,364 patients were treated at dispensaries a total of 104,763 times. In addition to the foregoing, medical officers detailed for duty on board various vessels of the Coast Guard furnished a great deal of medical relief both to beneficiaries of the service and to the natives of Alaska.

#### PHYSICAL EXAMINATIONS.

The medical officers of the service made 41,185 physical examinations of candidates for various positions during the year, as noted under the special headings given below:

*United States Coast Guard.*—Three thousand three hundred and ninety-seven applicants were examined, of whom 924 were rejected.

*Post Office Department.*—One thousand two hundred and eighty-eight applicants were examined, of whom 273 were rejected.

*Coast and Geodetic Survey.*—Four hundred and seventy-six applicants were examined, of whom 91 were rejected.

*Lighthouse Service.*—Two hundred and thirty-three applicants were examined, of whom 12 were rejected.

*Civil Service Commission.*—One thousand seven hundred and sixty-two applicants were examined, of whom 95 were rejected.

*Philippine Islands.*—Four applicants were examined and passed.

*Alaska Engineering Commission.*—Seven applicants were examined, of whom one was rejected.

*United States Navy.*—Thirty-one applicants were examined, of whom two were rejected.

*United States Army.*—One hundred and twenty-four applicants were examined, of whom two were rejected.

*Merchant seamen of the United States.*—Ten thousand three hundred and six applicants were examined, of which number 908 were rejected.

*Foreign seamen.*—One thousand seven hundred and forty-nine foreign seamen were examined for service, of whom 80 were rejected.

*United States Employees' Compensation Commission.*—Twenty-nine persons were examined on account of the United States Employees' Compensation Commission, of whom eight were rejected.

*Bureau of War Risk Insurance.*—Nine thousand six hundred and sixteen persons were examined on account of the Bureau of War Risk Insurance.

*United States Shipping Board.*—One thousand three hundred and eight applicants were examined, of whom 536 were rejected.

#### PURVEYING DEPOT.

The following statistics show the transactions of the purveying depot during the fiscal year:

#### *Supplies purchased.*

Alcohol and wines.....	\$1, 289. 39
Adding machines.....	738. 25
Arsphenamine.....	35, 000. 00
Bandages, gauze, cotton, etc.....	21, 358. 56
Beds.....	4, 905. 00
Bedspreads.....	20, 869. 95
Blankets.....	16, 782. 50
Bottles.....	949. 20
Books and journals.....	1, 101. 03
Chinaware.....	55, 826. 76
Corks.....	326. 73
Dry goods.....	947. 50
Drugs and chemicals.....	46, 071. 85
Electric fans.....	1, 537. 82
Electric lamps.....	2, 545. 15
Furniture.....	9, 114. 32
Garden and lawn implements.....	1, 637. 72
Hardware.....	496. 53
Hospital equipment.....	22, 162. 72
Hospital suits.....	7, 720. 00
Kitchen and dining room supplies and equipment.....	16, 730. 04
Laboratory equipment and supplies.....	2, 208. 06

Ligatures.....	\$3, 119. 70
Miscellaneous.....	2, 903. 43
Mattresses.....	7, 470. 00
Nightshirts.....	2, 756. 25
Packing material.....	1, 029. 60
Pillowcases.....	8, 875. 80
Plasters.....	2, 745. 83
Refrigerators.....	4, 950. 88
Rubber goods.....	4, 542. 31
Sheets, bed.....	13, 124. 92
Steel lockers.....	2, 386. 60
Surgical instruments and appliances.....	10, 647. 02
Tablecloth.....	2, 650. 00
Toweling.....	2, 010. 00
Thermometers.....	1, 624. 00
Typewriters.....	3, 742. 10
X-ray equipment.....	291. 26
X-ray supplies.....	7, 658. 19
<b>Total.....</b>	<b>352, 786. 96</b>

*Credit.*

## By bills paid direct from funds:

Care of seamen.....	\$1, 493. 64
Maintenance of marine hospitals.....	73, 693. 24
Furniture.....	2, 160. 38
Suppressing Spanish influenza.....	10, 860. 03
Furniture and equipment, 1918.....	11, 759. 59
Venereal diseases.....	23, 000. 00
Field investigation.....	161. 08
Quarantine service.....	2, 890. 12
Pay of personnel and maintenance of hospitals.....	145, 158. 61
	<hr/>
	271, 176. 69
	<hr/>
	81, 610. 27

## By transfer of funds to the credit of purveying depot supplies, Public Health Service, on account of articles furnished from stock:

Contingent expenses, Treasury Department, miscellaneous items.....	19. 59
Field investigation.....	4. 20
Care of seamen.....	4. 38
Treasury relief room.....	8. 31
Studies of rural sanitation.....	149. 92
Shipping Board, salaries and expenses.....	1. 73
Armament and fortifications, War Department.....	521. 07
Protecting health military forces.....	240. 72
Coast Guard.....	49. 61
Salaries and expenses, War Risk Bureau.....	156. 71
Quarantine service.....	367. 97
Collecting the war revenue.....	69. 11
Preventing spread of epidemic diseases.....	1, 118. 56
Venereal diseases.....	285. 29
Interstate quarantine.....	807. 70
	<hr/>
	3, 804. 87

## Net expenditures chargeable to the appropriation for purveying depot supplies, Public Health Service, 1919 (in amount of \$80,000).....

	77, 805. 40
<b>Operating expenses:</b>	
Salaries.....	11, 223. 76
Equipment (furniture, etc.).....	239. 96
Cartage of supplies.....	644. 04
Removal of ashes and rubbish.....	24. 00
	<hr/>
	12, 131. 76
<b>Total net expenditures.....</b>	<b>89, 937. 16</b>

TUBERCULOSIS SANATORIUM AT FORT STANTON, N. MEX.

REPORT FOR FISCAL YEAR ENDING JUNE 30, 1919, BY W. A. KORN, SURGEON.

General information.

Number of patients present July 1, 1918.....	236
Number of patients admitted during the year.....	364
<b>Total number treated during the year <sup>1</sup>.....</b>	<b>600</b>
Number of patients discharged during the year.....	400
Number of deaths (included in the preceding item).....	81
Number of bodies interred in the sanatorium cemetery.....	68
Number of patients present June 30, 1919.....	200
Maximum number of patients during the year.....	299
Minimum number of patients during the year.....	181
Total number of days' treatment furnished patients.....	90,085
Number of officers and attendants.....	108
Number of patients who left against advice.....	129
Number of patients who deserted.....	10
Number of patients discharged for causes affecting discipline.....	5
Number of patients transferred to other stations.....	6
Number of patients transferred to other sanatoria by Bureau of War Risk Insurance.....	34
Number of physical examinations during the year.....	1,682
Number of patients who returned at their own expense.....	15
Number of patients retransferred.....	7
<b>Total number readmitted.....</b>	<b>22</b>

Average duration of stay of patients discharged, 9 months 19 days.  
 Minimum stay, 1 day.  
 Maximum stay, 10 years 7 months 20 days.

Prognosis on arrival of patients discharged.

Favorable for apparent cure.....	1
Favorable for arrest.....	187
Favorable.....	73
Favorable for prolongation of life by living under proper conditions.....	127
Doubtful.....	6
Unfavorable.....	30
Not examined.....	15
Nontuberculous.....	10
No prognosis.....	1
<b>Total.....</b>	<b>400</b>

Patients discharged during the year, with stage of disease and result of treatment.

	Appar- ently cured.	Ar- rested.	Appar- ently arrested.	Quies- cent.	Im- proved.	Unim- proved.	Died.	Total.
Incipient.....	10	28	1	8	9	8	3	67
Moderately advanced.....		25	1	9	9	15	3	62
Far advanced.....		7	1	18	81	69	69	245
Nontuberculous.....								10
Not examined.....						9	6	15
Still under treatment <sup>2</sup> .....								1
<b>Total.....</b>	<b>10</b>	<b>60</b>	<b>3</b>	<b>35</b>	<b>99</b>	<b>101</b>	<b>81</b>	<b>400</b>
Average stay in days.....	72	169	399	436	265	188	614	.....

<sup>1</sup> Of the patients admitted, 299 were beneficiaries of the Bureau of War Risk Insurance.  
<sup>2</sup> One patient was discharged as a seaman and admitted as War Risk patient.

Sixty and one-tenth per cent of the cases were far advanced when admitted. Of the 81 who died, 22 remained over 2 years, 12 between 1 and 2 years, 16 between 6 and 12 months, 8 between 3 and 6 months, and 23 less than 3 months. Five necropsies were performed.

The causes of death were as follows:

Tuberculosis of lungs with usual terminal degenerative change of viscera.....	42
Tuberculosis of lungs with pulmonary hemorrhage.....	10
Tuberculosis of lungs with pulmonary hemorrhage and pneumonia.....	2
Tuberculosis of lungs with pulmonary hemorrhage and influenza.....	1
Tuberculosis of lungs with influenza.....	13
Tuberculosis of lungs with pneumonia.....	5
Tuberculosis of lungs with valvular disease of heart.....	1
Tuberculosis of lungs with gangrene of lung.....	1
Tuberculosis of lungs with convulsions.....	1
Tuberculosis with bone disease and amputation of arm.....	1
Tuberculosis of lungs with tubercular meningitis.....	1
Tuberculosis of lungs with mental delusions (fixed).....	1
Tuberculosis of lungs with chronic Brights disease.....	1
Tuberculosis of lungs with pneumo-thorax.....	1

Total..... 81

Treatment by artificial pneumo-thorax has been continued in selected cases, with generally beneficial results.

Patients under treatment July 1, 1918.....	11
Patients beginning treatment during year.....	2

Total..... 13

Total treatments given..... 99

Largest number to one patient..... 14

*Eye, ear, nose, and throat department.*

Total treatments for year..... 8,729

Most of the eye cases were refraction, acute and chronic conjunctivitis, and foreign bodies in conjunctiva and cornea.

Ear cases were principally tuberculosis of middle ear.

Nasal cases were principally chronic catarrhal conditions of various types, the majority complicated by deflections of septum and hypertrophied or deformed turbinates.

The principal throat conditions were tubercular laryngitis and pharyngitis, acute and chronic tonsillitis, and chronic catarrh of pharynx and nasopharynx.

**LABORATORY.**

The routine work of the laboratory included 1,893 sputum examinations, 441 urinalyses, 5 blood counts, 1 each examination of stomach contents and feces for tuberculosis.

A class in heliotherapy was formed early in the year but dwindled rapidly to such a small number that no conclusions of any value could be drawn.

Proteal treatment in tuberculosis has been carried out in a number of cases, and while no final conclusions have been reached, the results thus far have not been encouraging.

The dispensary has continued, as heretofore, to supply the station with soap for the kitchens to the amount of 400 gallons. Liquid soap, 26 gallons; baking powder, 57 pounds; lemon extract, 6 gallons; and vanilla extract, 10 gallons.



The treatment of patients of the Bureau of War Risk Insurance has added greatly to the work of the station, but in spite of the handicaps under which the station labors, the results attained have been generally satisfactory.

The employment of Chinese in the various kitchens has been a source of great satisfaction, and complaints which formerly were numerous have practically ceased.

In the drives which have been made during the past year for the Red Cross, United War Workers, and the various Liberty loans, the station has gone over the top in each instance.

*Earnings of patients and ex-patients during the fiscal year ended June 30, 1919.*

Patients.....	\$12,451.18
Ex-patients.....	3,101.67
Total.....	15,552.85

*Private enterprises of patients during the year.*

Occupation.	Hours.	Amount.	Occupation.	Hours.	Amount.
Tailor shop.....	2,428	\$552.20	Clerk in post store.....	2,920	\$480.00
Barber shop.....	1,383	427.20	Clubroom attendants.....	2,920	416.00
Shoemaker.....	834	323.15	Poultry farm.....	1,460	250.00
Watchmaker.....	127	59.00	Seamen's social club room receipts.....		\$32.00
Photographer.....	245	29.00			
Strikers.....	7,274	1,168.00	Total.....	19,591	4,557.10

In addition to the above there were miscellaneous details of 3,629 hours and walking exercises of 3,973 hours.

AMUSEMENTS.

As in the past, the amusement association, an organization composed of officers, attendants, and patients, has provided amusements, consisting principally of motion-picture performances. On March 16, 1919, the Army Y. M. C. A. took over the activities of the association and is now furnishing two feature pictures each week. The association, however, remains intact, having loaned their property, which consists of an up-to-date motion-picture equipment, to the Y. M. C. A. Forty-one picture shows were presented by the association and 30 by the Y. M. C. A. during the year. During the past 12 months the association received in the form of donations, receipts from special shows, and electric piano, \$1,141.77, and expended \$915.60. It now has on hand a balance of \$226.17, a fund sufficiently large to start operation at any time that the Y. M. C. A. may withdraw. The amusement hall provided by the Government is now too small to accommodate the crowds and steps have been taken to give outdoor performances, which will provide relief during the summer months, but some steps will be necessary to comfortably take care of the crowds during the winter months. The work of the association is supplemented by the Seamen's Social Club and the Sphinx Club, social organizations composed of patients and attendants. These clubs provide for Fourth of July and Christmas entertainments and give numerous smokers. All of this appeals to the

patients and adds to their contentment. The Seamen's Social Club have outfitted a small building with equipment for pool playing and other light amusement. It is their intention to erect an extension to this building at an early date.

The library consists at present of 3,021 volumes. Seven hundred and twenty-five books have been discarded because of bad condition. Three hundred and fifty-two books were donated by the American Library Association. During the year 7,680 books and 15,860 magazines were issued to patients and attendants.

*Items of expenditures.*

Item.	Per annum.	Per patient per day.
<b>Salaries:</b>		
Medical officers.....	\$15,486.94	\$0.1719
Office force.....	5,815.71	.0646
Nurses and orderlies.....	7,711.91	.0856
Cooks and waiters.....	11,366.77	.1262
Power plant.....	3,366.05	.0374
Laundry.....	1,614.90	.0179
Mechanics.....	3,379.66	.0375
Dairy.....	2,485.88	.0276
Farm.....	4,388.70	.0487
Range.....	2,885.50	.0320
Corral.....	547.50	.0061
Hogs.....	540.00	.0060
Electrician.....	309.10	.0034
General.....	6,253.57	.0694
<b>Total.....</b>	<b>66,152.19</b>	<b>.7343</b>
<b>Materials:</b>		
Subsistence supplies.....	54,041.93	.5999
Electrical supplies.....	672.11	.0075
Table and kitchenware.....	508.93	.0057
Laundry supplies (materials and machinery).....	10,052.79	.1116
Fuel (wood and coal).....	28,143.58	.3124
Power plant.....	891.11	.0099
Freight and transportation.....	6,103.19	.0677
Building materials (maintenance).....	714.74	.0079
Carpenters', painters', and plumbers' tools.....	66.56	.0007
Dairy supplies.....	1,387.85	.0154
Forage.....	39,525.50	.4388
Range supplies.....	5,128.72	.0569
Farm and garden.....	632.83	.0070
Hog yard.....	33.55	.0004
Burial of patients.....	550.80	.0061
Miscellaneous supplies.....	4,448.62	.0494
<b>Total.....</b>	<b>152,902.81</b>	<b>1.6973</b>
Supplies from purveying depot (incomplete accounting).....	12,883.50	.1430
<b>Total expenditure from bureau funds.....</b>	<b>231,938.50</b>	<b>2.5746</b>
<b>Supplies paid for from funds under control of Supervising Architect:</b>		
Mechanical equipment for public buildings.....	\$12,995.81	\$0.1442
Repairs and preservation of public buildings.....	4,368.93	.0485
Furniture and repairs to same.....	26.80	.0003
	17,391.54	.1930
<b>Total expenditures for year.....</b>	<b>249,330.04</b>	<b>2.7676</b>
<b>Reimbursements:</b>		
Bureau of War Risk Insurance.....	\$43,448.00	\$0.4823
United States Coast Guard patients.....	466.00	.0052
Foreign seamen.....	547.50	.0061
Sale of subsistence supplies to officers and attendants....	2,852.44	.0316
Sale of grain sacks.....	140.40	.0016
Sale of beef hides.....	907.43	.0101
Sale of hogs.....	3,377.06	.0375
Sale of old rubber.....	3.70	.....
Sale of scrap iron.....	48.82	.0005
<b>Total reimbursements.....</b>	<b>51,791.35</b>	<b>.5749</b>
<b>Net expenditures.....</b>	<b>197,538.69</b>	<b>2.1927</b>

Items of expenditures—Continued.

Item.	Per annum.	Per patient per day.
<b>Rations furnished:</b>		
American seamen.....	58,917	
Foreign seamen.....	365	
Coast Guard.....	1,653	
Bureau of War Risk Insurance beneficiaries.....	29,130	
United States Army.....	20	
	<u>90,085</u>	
Acting assistant surgeons, nurses, clerks, attendants, etc.....	27,643	
Total.....	<u>117,728</u>	
Average cost of purchased ration.....		\$0.4201
Average cost of station raised ration.....		.4351
Total cost of ration.....		<u>.8552</u>

Annual report of farm department for the fiscal year ending June 30, 1919.

Alfalfa hay:

Labor and rations—	
Farm attendants.....	\$703.19
Sanatorium attendants.....	141.07
Total cost, labor and rations.....	<u>844.26</u>
Proportion corral expense—expense of all horses used in haying.....	277.41
Proportion of account No. 7—general overhead expense, including repairs to farm machinery and office expense.....	15.69
Supplies as per voucher—repairs to wagons and machinery, rope, etc..	217.34
Total cost of alfalfa hay.....	<u>1,354.70</u>

Alfalfa hay produced:

August, 1918, 40,200 pounds, at \$26 per ton.....	\$522.60
September, 1918, 37,650 pounds, at \$29 per ton.....	545.92
October, 1918, 21,300 pounds, at \$29 per ton.....	308.85
June, 1919, 32,730 pounds, at \$25 per ton.....	409.12

Total credit, 65.94 tons..... 1,786.49

Earning on alfalfa hay..... 431.79

Other hay, barley, and rye:

Labor and rations, farm attendants.....	154.28
Proportion corral expense—expense of all horses used in seeding crop.....	122.78
Proportion of account 7A—plowing, fertilizing, and harrowing.....	32.48
Proportion of account No. 7—general overhead expense, including repairs to farm machinery and office expense.....	4.28
Supplies as per vouchers, including proportion of repairs to farm machinery, seed rye and barley.....	<u>215.56</u>

Total expense..... 529.38

Hay produced, none; 1918 crop total failure; deficit..... 529.38

Ensilage:

Labor and rations—	
Farm attendants.....	749.07
Sanatorium attendants.....	7.78

Total labor and rations..... 756.85

Proportion corral expense—expense of all horses used..... 449.15

Proportion of account 7A—plowing, harrowing, and fertilizing..... 48.76

Proportion of account No. 7—general overhead expense, including repairs to farm machinery and office expense..... 17.12

Supplies as per vouchers—seed corn, repairs to machinery, etc..... 188.65

Total expense..... 1,460.53

Ensilage produced: October, 1918, 53,550 pounds, or 26.775 tons, at cost price, \$54.55..... 1,460.53

The corn and sorghum crop of 1918 was a failure, due to drought. A large part of corn crop was destroyed by hot winds, so a large acreage was replanted, but this planting was so late and the drought so extended that only a few loads of corn and sorghum were gathered. All ensilage is charged to the dairy at the actual cost of production. The above costs include the cost of cultivation and seeding of the crop now in the fields and which will be credited to the present fiscal year.

*Annual report of hog department for fiscal year ended June 30, 1919.*

Labor and rations:	
Farm attendants.....	\$1, 664. 71
Sanatorium attendants.....	81. 15
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Total labor and rations.....	1, 745. 86
Proportion of corral costs, including feed and care of all horses used.....	323. 47
Feed used for hogs.....	11, 811. 39
Proportion of account 1F—cost of feed, storage, and distribution.....	63. 70
Proportion of account No. 7—general overhead expense, repairs to farm machinery, office expense, and other general expense.....	196. 86
Supplies purchased as shown by voucher.....	20. 29
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Total cost.....	14, 161. 57
Total credits, as shown below.....	15, 777. 48
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Total earnings.....	1, 615. 91
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Credits—meat products and hogs sold:	
250 pigs sold Oct. 15, 1918.....	\$332. 06
202 pigs sold Mar. 13, 1919.....	2, 445. 00
317 pounds dressed chicken, at 36 cents.....	114. 12
34½ dozen eggs, at 40 cents.....	13. 80
Proportion of sacks sold.....	35. 10
785 pounds fresh pork, at 25½ cents.....	203. 12
25,351 pounds fresh pork, at 28 cents.....	7, 098. 28
6,705 pounds fresh pork, at 27 cents.....	1, 810. 35
915 pounds sugar-cured ham, at 35 cents.....	320. 25
275 pounds sugar-cured ham, at 31½ cents.....	86. 97
1,336 pounds sugar-cured ham, at 33½ cents.....	447. 56
806 pounds sugar-cured ham, at 37 cents.....	293. 22
478 pounds sugar-cured ham, at 38 cents.....	181. 54
106 pounds sugar-cured shoulder, at 39 cents.....	41. 34
350 pounds sugar-cured shoulder, at 35 cents.....	122. 50
708 pounds sugar-cured shoulder, at 31½ cents.....	246. 67
1,067 pounds sugar-cured shoulder, at 33½ cents.....	357. 45
305 pounds sugar-cured shoulder, at 37 cents.....	112. 85
230 pounds sugar-cured shoulder, at 38 cents.....	87. 40
280 pounds sugar-cured bacon, at 45 cents.....	126. 00
165 pounds sugar-cured bacon, at 38 cents.....	62. 70
710 pounds sugar-cured bacon, at 35½ cents.....	253. 82
275 pounds sugar-cured bacon, at 38½ cents.....	105. 88
285 pounds sugar-cured bacon, at 42 cents.....	119. 70
390 pounds salt pork, at 30 cents.....	117. 00
135 pounds salt pork, at 28 cents.....	37. 80
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Total credits.....	15, 777. 48
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Average cost per pound of pork produced, 0.2545 cent.	
Average price received per pound, 0.293 cent.	

*Cost of garden for the fiscal year ended June 30, 1919.*

<b>Labor and rations:</b>	
Farm attendants.....	\$854. 10
Sanatorium attendants.....	2. 75
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Total labor and ration charge.....	856. 85
Proportion of corral costs, including feed and care of all horses used in garden.....	373. 21
Proportion of account 7A—plowing, harrowing, and fertilizing.....	16. 24
Proportion of account No. 7—general overhead expense, including cost of repairs to farm implements, expense of office clerk, and other general expenses.....	17. 11
Supplies purchased, as shown by vouchers, including garden seeds, proportion of wagon and harness repairs, and farm tools.....	164. 39
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Total cost.....	1, 427. 80
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<b>Credits—garden products:</b>	
<b>Beets—</b>	
2,190 pounds, at 6 cents.....	131. 40
430 pounds, at 7 cents.....	30. 10
<b>Lettuce—</b>	
139 pounds, at 18 cents.....	25. 02
110 pounds, at 20 cents.....	22. 00
<b>Spinach—</b>	
354 pounds, at 12 cents.....	42. 48
44 pounds, at 10 cents.....	4. 40
Turnips, 514 pounds, at 5 cents.....	25. 70
Radishes, 6 pounds, at 22 cents.....	1. 32
<b>Cabbage—</b>	
9,903 pounds, at 5 cents.....	495. 15
17,677 pounds, at 8 cents.....	1, 414. 16
<b>Rhubarb—</b>	
24 pounds, at 10 cents.....	2. 40
45 pounds, at 12 cents.....	5. 40
<b>Cauliflower—</b>	
680 pounds, at 12 cents.....	81. 60
1,220 pounds, at 20 cents.....	244. 00
<b>Onions, dry—</b>	
1,796 pounds, at 6 cents.....	107. 76
3,177 pounds, at 8 cents.....	254. 16
Onions, green, 344 pounds, at 14 cents.....	48. 16
Carrots, 118 pounds, at 6 cents.....	7. 08
Squash, 745 pounds, at 7 cents.....	52. 15
Corn, green, 60 dozen, at 35 cents.....	21. 00
<b>Apples—</b>	
619 pounds, at 3 cents.....	18. 57
813 pounds, at 4 cents.....	32. 52
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	3, 066. 53
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Earning on garden products.....	1, 638. 73

*Annual report of dairy department for fiscal year ended June 30, 1919.*

<b>Labor and rations:</b>	
Dairy and farm attendants.....	\$4, 729. 45
Sanatorium attendants.....	147. 94
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Total labor and rations.....	4, 877. 39
Proportion of corral expense, including feed and care of all horses used....	451. 27
Feed in dairy used.....	14, 867. 52
Ensilage used.....	1, 460. 53
Proportion of account 1F—cost of feed storage and distribution.....	63. 70
Proportion of account No. 7—general overhead expenses.....	288. 15

Supplies purchased, as per voucher.....	\$819.34
Live stock purchased, 2 bulls.....	625.00
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Total cost of dairy.....	23,452.90
Total credits, as shown below.....	22,399.58
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Deficit.....	1,053.32
Cost of milk per gallon, 51.46 cents.	
Credits—milk and beef produced:	
44,105 gallons milk, at 49.08 cents per gallon.....	21,646.73
Beef produced from slaughter of 37 bull calves, 5 cows, and 1 bull....	682.65
Proportion of sacks sold.....	70.20
<hr/>	
Total credits.....	22,399.58

*Annual report of range department for the fiscal year ended June 30, 1919.*

Labor and rations:	
Range hands, farm attendants, and expert farmer.....	\$4,990.87
Sanatorium force.....	47.24
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Total cost of labor and rations.....	5,038.11
Proportion of corral costs, including feed and care of all horses used on range.....	2,770.79
Feed used on range—cake, hay, and grain fed to range cattle and bulls....	3,982.59
Proportion of account 1F—cost of feed storage and distribution.....	63.68
Proportion of account No. 7—general overhead expenses, including cost of repairs to farm machinery and vehicles, expense of office clerk, and other general expense.....	168.33
Supplies as per voucher, including 2 months' pasturage for 500 head of cattle on Indian reservation, at \$125 per month.....	450.49
Live stock purchased, 15 head bulls; expense includes cost of bulls, cost of caretaker, cost of feed in transit, and expenses of expert farmer.....	5,099.36
Cost of boundary fence and two cross fences to make bull pasture in north pasture.....	664.06
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Total cost.....	18,237.41
Total credits, as shown below.....	14,905.88
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Deficit.....	3,331.53
<hr/>	
Range products:	
93,089 pounds beef from slaughter of 246 head, at 15 cents.....	13,963.35
3,685 pounds hide sold Feb. 7, 1919, at 24½ cents.....	907.43
Proportion of sacks sold.....	35.10
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Total credits.....	14,905.88

Cost of beef in cold storage, 18.578 cents per pound.

*System of symbols for farm accounts, effective July 1, 1918.*

Symbol.	Department and work.
1.....	All forage accounts.
1A.....	Alfalfa hay.
1H.....	Other hay.
1C.....	Silage.
1F.....	Purchased forage, distribution, storage, etc.
2.....	Range herd.
3.....	Dairy herd.
4.....	Garden.
5.....	Hog herd.
6.....	Horse corral.
7.....	Overhead expense on farm accounts not otherwise distributed; includes repairs to farm wagons, plows, manure spreader, general farm machinery, office expense, etc.

- 7A.....Plowing, harrowing, and general preparation of land, to be distributed to proper account at end of year.
- 8.....Roads and bridges.
- 9.....All labor loaned to sanatorium.
- 10.....Fences.
- 10A....Range fences.
- 10B....Farm fences.
- 10C....New division range fence.
- 10D.....New boundary range fence.

*Recapitulation of farm accounts for the fiscal year ended June 30, 1919.*

	Total labor, farm, and sanatorium forces.	Corral expenses.	Feed expenses.	Total labor, rations, and feed.			Total labor, feed, corral 1F, 7, 7A.	Supplies, live stock.	Total.
				District 1F.	District 7A.	District 7.			
Alfalfa hay (1A).....	\$844.26	\$277.41	.....	\$1,121.67	.....	\$15.69	\$1,137.36	\$217.34	\$1,354.70
Other hay (1H).....	154.28	122.78	.....	277.06	\$32.48	4.28	313.82	215.56	529.38
Ensilage (1C).....	756.85	449.15	.....	1,206.00	48.76	17.12	1,271.88	188.65	.....
Range (2).....	5,038.11	2,770.79	\$3,982.59	11,791.49	63.68	168.33	12,023.50	5,549.85	18,237.41
Dairy (3).....	4,877.39	451.27	14,867.52	20,196.18	63.70	288.15	20,548.03	1,444.34	23,452.90
Garden (4).....	856.85	373.21	.....	1,230.06	16.24	17.11	1,263.41	164.39	1,427.80
Hog (5).....	1,745.86	323.47	11,811.39	13,880.72	63.70	196.86	14,141.28	20.29	14,161.57
Roads (8).....	144.46	25.38	.....	169.84	.....	1.43	171.27	32.22	203.49
Sanatorium (9).....	1,210.85	3,473.02	.....	4,683.87	.....	65.63	4,749.50	178.23	4,927.73
Forage distribution (1F).....	167.02	24.08	.....	191.08	.....	.....	.....	.....	.....
Overhead (7).....	763.10	21.49	.....	784.59	.....	.....	.....	.....	.....
Plowing (7A).....	41.42	56.06	.....	97.48	.....	.....	.....	.....	.....
Boundary fence (10D).....	74.41	13.10	.....	87.51	.....	1.43	88.94	.....	.....
Division fence (10C).....	441.27	125.29	.....	566.56	.....	8.56	575.12	.....	.....
Corral expense (6).....	1,071.15	.....	7,435.33	.....	.....	.....	.....	.....	.....
	18,187.28	8,506.48	38,096.83	56,284.11	288.59	784.59	56,284.11	8,010.87	64,294.98

	Farm operations.	
	Expenses.	Credits.
Alfalfahay.....	\$1,354.70	\$1,786.49
Other hay.....	529.38	.....
Range.....	18,237.41	14,905.88
Dairy.....	23,452.90	22,399.58
Garden.....	1,427.80	3,066.53
Hogs.....	14,161.57	15,777.48
Total expenses.....	59,163.76	57,935.96
Total credit.....	57,935.96	.....
Total loss.....	1,227.80	.....

It will be noted on the recapitulation sheet that the total expense for all operations was \$64,294.98, of which the sum of \$59,163.76 covers the actual expense of the various departments of farm work, and the sum of \$5,131.22 covers the cost of road work and all labor performed by the farm force for the sanatorium.

The total labor and ration charge for the year was \$18,187.28, of which the sum of \$672.83 was for work performed by the sanatorium force for the farm. This charge includes all work done by carpenters, plumbers, painters, or utility men on farm machinery or buildings.

The summary shows that the total expense of all actual farm work was \$59,163.76, and the total credits from all departments was \$57,935.96. This leaves a deficit for the year of \$1,227.80 for the entire farm operations.

In general, the cause of this deficit was the very arid conditions that prevailed throughout the southwest for the last two or three years. Dry-farming crops were total failures, due to the lack of rain. The sorghum and corn crops grown for ensilage were failures, as will be noted on the detailed report covering these crops.

The first crop of alfalfa was pastured off by range cattle, horses, hogs, and dairy cattle. This was done to save a large number of stock that would otherwise have perished from starvation. No credit is taken for this first crop nor is any charge made against any of the departments for the pasturage. The second and third crops of alfalfa were very light, as no water was available for irrigation. At times there was no flowing water in the Bonito for several weeks at a time, and the question of obtaining a supply of stock water was a serious one for a while.

The dairy department shows a loss of \$1,053.32 for the year. This was due largely to the very heavy feed bill. All forage was purchased at unprecedented prices, as very little was raised on the station. There was no green pasture until the middle and latter parts of July. Milk production fell off at a time when the station was crowded with patients and when the demand for milk was great, so increased rations were fed with the view of increasing production. Many cows, nearly dry, were kept under feed in order to meet the demand for milk. Again, two registered bulls were purchased for the dairy at a cost of \$625, which is included in the cost for this year. Ordinarily, the cost of bulls would be charged out over a period of years instead of at one time.

Milk bottles were purchased during the year, a large number of which are on hand at the present time. One new milk cooler was purchased during the year and the old one was overhauled at considerable expense. It was necessary to purchase dairy suits and other supplies, which increased the expense materially. The cost of milk for this year was 51.46 cents per gallon, which is an increase of 2.38 cents over the cost for last year.

All milk produced was credited to the dairy at 49.08 cents per gallon, which was far below the market price of milk in this part of the country. No credit is taken for the increase of the herd.

The hog department shows a small earning for the year. Feed to the amount of \$11,811.39 was used, and this was all purchased at high prices. During the early part of last year the hogs were as drought stricken as the crops, and it was necessary to sell 250 pigs at auction to reduce the herd. These pigs were in poor condition, but at that only brought about half their value. Later in the year 202 pigs were sold at a good price, but these were excellent animals and in good condition. The curing of meat on quite an extensive scale was undertaken during the fall and winter with considerable success, considering the poor facilities. The cost of pork per pound, all classes figured together, was 25.45 cents. The average price received for the pork produced was 29.3 cents per pound. The price of fresh pork as credited was far below the market prices.

The range department shows a deficit of \$3,331.53 for the year. Due to the drought, it was necessary to pasture about 500 head of cattle on the Indian reservation. The cost of two months' pasture is included in this year. The gathering of these cattle and returning them to the station pastures added to the year's expenses.



Fifteen registered range bulls were purchased late in May and their cost is included in this year's expense. Ordinarily, this expense would be spread out over the number of years the bulls would be in service, instead of charging them in a lump sum.

Authority was asked of the bureau to sell about 14 bulls and several months' accumulation of beef hides, but authority to do so was received too late to enable us to sell them during this year. The credits for these sales would have helped to reduce the deficit to a considerable extent. The construction of a part of the boundary fence and the cost of constructing two cross fences to make a bull pasture is included in the expense.

The cost of beef for the year was 18.578 cents per pound, an increase of 3.578 cents per pound over the selling price.

It should be remembered that all farm labor received an increase of pay equal to about 30 per cent, and that the cost of rations was higher than on preceding years, all of which has increased the cost of farm operation to a considerable extent.

Mention should be made of the fact that we had intended selling about 200 range cows during the last year, which would have increased our earnings to a considerable extent. It was, however, thought advisable to hold these cattle, as there was some probability of enlarging the capacity of the station and the cattle could then be used for beef.

The past year has been a very hard and trying one, but, considering the many difficulties that have had to be overcome, it is my opinion that we have come through it very creditably.

The present year promises to be a good one, both for the stock and for the farm, and the earning should be large enough to make up for the poor showing of last year.

## DIVISION OF PERSONNEL AND ACCOUNTS.

During the fiscal year the work of the division of personnel and accounts has increased approximately 100 per cent owing to enlarged activities of the service, which may be considered under three specific headings in this relation.

1. Extra-cantonment sanitation was actively prosecuted for the first six months of the year, and this necessitated an increased personnel possessing medical and sanitary knowledge in order that this important work might be satisfactorily carried out.

2. The combating of the influenza epidemic and the increased accounting incident to the disbursements of the million dollar appropriation for the control of that disease imposed additional duties on this division and it became necessary to secure 900 acting assistant surgeons and about 1,500 nurses and attendants for duty in this particular. This necessitated appointment letters, payment of salaries, and traveling expense accounts, which threw an enormous amount of work on the division in a comparatively short time.

3. The enlarged activities of the division of marine hospitals and relief created by the act of March 3, 1919, providing that beneficiaries of the Bureau of War Risk Insurance should receive medical care from the Public Health Service, necessitated a marked increase of medical and other personnel for the satisfactory examination of these beneficiaries and the equipment and operation of a large number of new hospitals and additional beds in existing hospitals for the proper care of these patients. By the time the influenza had subsided and it had been possible to audit and close up the accounts incident to the control of that disease, this additional work, as a result of the enlargement of the hospital division, became urgent.

Fortunately, an act of Congress of October 27, 1918, provided for the creation of a Reserve Corps, as with the small corps of commissioned officers it would have been impossible to have provided adequate medical personnel for this enlarged activity except by utilization of the Reserve Corps, specific authority for which was given in the act of March 3, 1919.

In the formation of the Reserve Corps, two principles have been taken into consideration.

First. To provide a corps that could be called upon in national emergencies, like the last influenza epidemic, in order that medical personnel might immediately be available until a sufficient number of physicians could be secured.

Second. To supply the additional number of medical officers needed in the hospitals equipped for the treatment of patients of the War Risk Insurance Bureau and for the examination of these beneficiaries in the different districts throughout the country.

The formation of this Reserve Corps has necessitated an extensive correspondence and the consideration of the qualifications of the different applicants to determine if they are eligible for a commission, as careful study is given to the data submitted in order that satisfactory physicians for specific activities may be secured. During the year 404 commissions in the reserve were granted, of which 284 were inactive and 120 were active. On September 4, 1919, this

number had increased to 526, of whom 222 were on active status, the majority of whom have already been assigned to relief stations and hospitals. The others were retained on an available list for supplying additional medical personnel when the necessity arises.

The increase in the activities of any other division reflects itself in the increased work of the personnel and accounts division, as the necessity for supplying additional personnel and the auditing of pay rolls and accounts incident to these increased activities falls on this division.

#### COMMISSIONED MEDICAL OFFICERS.

At the commencement of the fiscal year July 1, 1918, the commissioned corps consisted of the Surgeon General, 1 Assistant Surgeon General at large, 16 senior surgeons, 70 surgeons, 61 passed assistant surgeons, and 63 assistant surgeons.

The changes during the fiscal year were as follows: Five passed assistant surgeons were promoted to the grade of surgeons, 21 assistant surgeons to the grade of passed assistant surgeons, and 3 candidates who passed the examination required by the laws and regulations of the service were commissioned assistant surgeons. On account of physical disability, 4 senior surgeons, 3 surgeons, and 2 passed assistant surgeons continued on waiting orders.

At the close of the fiscal year, the commissioned Medical Corps consisted of the Surgeon General, 1 Assistant Surgeon General at large, 16 senior surgeons, 70 surgeons, 60 passed assistant surgeons, and 70 assistant surgeons. Two senior surgeons and 5 surgeons were upon detail in the bureau as assistant surgeons general, in accordance with the act approved July 1, 1902.

*Assignments.*—Among other assignments of commissioned medical officers during the fiscal year were the following: Twenty were assigned to exclusive immigration duty, their services being supplemented by employment of acting assistant surgeons; 4 to the quarantine service of the Philippine Islands; 16 to vessels of the Coast Guard; 21 to the quarantine stations in the continental United States, Porto Rico, the Hawaiian Islands, and the Virgin Islands; 1 to duty in foreign countries to prevent the introduction of epidemic diseases into the United States. Three commissioned officers were detailed for duty in Europe in connection with quarantine connected with the return of the Expeditionary Forces and future immigration from foreign countries.

*Special details.*—One commissioned medical officer continued on detail duty under the Governor of the Panama Canal.

*Field investigations of public health.*—In accordance with the act of Congress approved August 14, 1912, authorizing the service to study and investigate the diseases of man, and conditions influencing the propagation and spread thereof—including sanitation and sewage, and the pollution, either directly or indirectly, of the navigable streams and lakes of the United States—the following officers and corps of special assistants were detailed to make these special investigations.

## STUDIES OF RURAL SANITATION (HEADQUARTERS, WASHINGTON, D. C.)

*Brunswick, Ga.*  
 Scientific Asst. G. L. KRAUSE.  
 Field Agent R. W. TODD.

*Charleston, S. C.*  
 Scientific Asst. H. C. ROBLES.

*Chattanooga, Tenn.*  
 Scientific Asst. I. B. KRAUSE.

*Columbus, Ga.*  
 Field Agent D. C. STEELSMITH.

*Fayetteville, N. C.*  
 Scientific Asst. W. C. VERDERY, health officer of  
 Cumberland County.

*Florence, Ala.*  
 Field Agent W. H. ABERNATHY.

*Gulfport, Miss.*  
 Scientific Asst. D. I. WILLIAMS.

*Huntsville, Ala.*  
 Field Agent CARL A. GROTE.

*Jasper, Ala.*  
 Field Agent A. M. WALDROP.

*Joplin, Mo.*  
 Passed Asst. Surg. O. H. COX.  
 Asst. Surg. THOMAS PARRAN, Jr.  
 Acting Asst. Surg. J. C. MONTGOMERY.  
 Scientific Asst. H. S. LUCAS.  
 Scientific Asst. HOMER I. HUNTINGTON.

*Mayeville, Ky.*  
 Field Agent J. L. RICE.

*Raleigh, N. C.*  
 Scientific Asst. GEO. S. BOTE.

*Talladega, Ala.*  
 Field Agent W. E. BURT.

*Tarboro, N. C.*  
 Field Agent W. B. ROBERTSON.

*Richmond, Va. (Virginia at large).*  
 Passed Asst. Surg. W. F. DRAPER.  
 Passed Asst. Surg. J. D. APPLEWHITE.  
 Asst. Surg. H. S. MUSTARD.  
 Asst. Epidemiologist JOHN W. COX.

*Rural sanitation supervision.*  
 Surg. L. L. LUMSDEN, in charge of studies of rural  
 sanitation.  
 Asst. Surg. K. E. MILLER.  
 Epidemiologist F. E. HARRINGTON.  
 Associate Epidemiologist C. C. APPLEWHITE.  
 Associate Epidemiologist WILLIAM K. SHARP, Jr.

## FIELD INVESTIGATIONS OF PUBLIC HEALTH.

## MALARIA.

(Headquarters, Memphis, Tenn.)

*Americus, Ga.*  
 Asst. Sanitary Engineer W. D. TIEDEMAN.

*Chico, Calif.*  
 Special Expert W. C. PURDY.

*Columbia, S. C.*  
 Associate Sanitary Engineer L. M. FISHER.

*Columbus, Ga.*  
 Asst. Sanitary Engineer W. E. HARDENBURGH.

*Fayetteville, N. C.*  
 Asst. Sanitary Engineer J. G. FOSTER.

*Jackson, Miss.*  
 Asst. Sanitary Engineer A. F. ALLEN.  
 Asst. Sanitary Engineer H. R. FULLERTON.

*Memphis, Tenn. (headquarters).*  
 Asst. Surg. Gen. H. R. CARTER.  
 Surg. L. D. FRICKS, in charge.  
 Senior Sanitary Engineer J. A. LEPRINCE.  
 Associate Sanitary Engineer W. G. STROMQUIST.  
 Technical Asst. BRUCE MAYNE.

*Memphis, Tenn. (headquarters)—Continued.*  
 Asst. Sanitary Engineer J. V. DONLEY.  
 Epidemiologist J. C. GRIGER.  
 Collaborating Biologist C. W. METZ, with Carnegie  
 Institute.

*Montgomery, Ala.*  
 Asst. Sanitary Engineer W. H. W. KOMP.

*New Orleans, La. (State of Louisiana).*  
 Asst. Sanitary Engineer H. C. WOODFALL.

*Norfolk, Va.*  
 Epidemiologist T. H. D. GRIFFITHS.

*Sales City, Ga.*  
 Acting Asst. Surg. M. P. McNEIL.

*Texarkana, Ark.*  
 Associate Sanitary Engineer H. W. VAN HOVEN-  
 BERG. (On leave of absence for one year from  
 Mar. 1, 1919.)

*Wilmington, N. C.*  
 Asst. Sanitary Engineer A. W. FUCHS.

## MORBIDITY STATISTICS.

(Headquarters, Washington, D. C.)

Surg. W. H. FROST, in charge.  
 Statistician EDGAR SYDENSTRICKER.

Statistical Expert DEAN K. BRUNDAGE

**PELLAGRA.**

(Headquarters, Hygienic Laboratory.)

*Washington, D. C. (Hygienic Laboratory).*

Surg. JOSEPH GOLDBERGER, in charge.

*Spartanburg, S. C.*

Passed Asst. Surg. G. A. WHEELER.

Statistician WILFORD I. KING.

Scientific Asst. SWOFFORD LINDSAY.

*Milledgeville, S. C.*

Asst. Surg. W. F. TANNER.

**PUBLIC HEALTH ADMINISTRATION.**

Passed Asst. Surg. C. E. WALLER, State health officer, Santa Fe, N. Mex.

Asst. Sanitary Engineer L. C. FRANK, city health officer, Dallas, Tex.

**CHILD HYGIENE AND ORAL HYGIENE.**

(Headquarters, Washington, D. C.)

Asst. Surg. Gen. (Reserve) T. CLARK, in charge.

Passed Asst. Surg. C. P. KNIGHT, Missouri.

Acting Asst. Surg. LYDIA ALLEN DE VILBISS, Missouri.

Acting Asst. Surg. HARRY B. BUTLER, West Virginia.

Surg. (Reserve) W. H. PRICE, Boston, Mass.

Acting Asst. Surg. E. BLANCHE STERLING.

Acting Asst. Surg. MILTON V. VELDEE, Boston, Mass.

Consultant S. JOSEPHINE BAKER, New York City.

Consulting Hygienist McCLINTOCK HAMIL, Philadelphia, Pa.

Consulting Hygienist L. EMMETT HOLT, New York City.

Consulting Hygienist J. P. SEDGWICK, Minneapolis, Minn.

Consulting Hygienist FRITZ B. TALBOT, Boston, Mass.

Consulting Hygienist HERMAN SCHWARTZ.

Consulting Hygienist RICHARD M. SMITH.

**SEWAGE DISPOSAL.**

(Headquarters, Hygienic Laboratory.)

*Wilmington, N. C.*

Directing Zoologist CHARLES W. STILES, in charge.

Associate Sanitary Engineer H. R. CROHURST.

Asst. Sanitary Engineer W. A. HARDENBURGH.

Bacteriologist C. L. PFAU.

*Consultants on sewage-disposal board.*

Consulting Engineer GEORGE C. WHIPPLE, Cambridge, Mass.

*Consultants on sewage-disposal board—Continued.*

Consulting Hygienist EDWIN O. JORDAN, Chicago, Ill.

Consulting Hygienist W. S. RANKIN, Raleigh, N. C.

Consultant E. B. PHELPS, New York City.

Consultant VICTOR C. VAUGHAN.

*Newport News, Va.*

Asst. Epidemiologist J. J. DURRETT.

Scientific Asst. C. L. ISLEY.

**STREAM-POLLUTION STUDIES.**

(Headquarters, Cincinnati, Ohio.)

*Washington, D. C.*

Surg. W. H. FROST, in charge.

*Cincinnati, Ohio.*

Passed Asst. Surg. PAUL PREBLE.

Associate Sanitary Engineer J. K. HOSKINS.

Associate Sanitary Engineer H. B. HOMMON.

Associate Sanitary Engineer H. W. STREETER.

Associate Sanitary Engineer R. E. TARBETT.

Asst. Sanitary Engineer H. H. WAGENHALS, State health department, Des Moines, Iowa.

*Cincinnati, Ohio—Continued.*

Sanitary Bacteriologist EMORY J. THERIAULT.

Bacteriologist CHESTER T. BUTTERFIELD.

Pharmacist F. J. HERTY.

*Consultants in stream pollution.*

Consultant GEORGE W. FULLER.

Consulting Sanitary Engineer ALLEN HASEN.

Consulting Engineer CALEB. M. SAVILLE.

Consultant F. W. ROSE.

**TRACHOMA STUDIES.**

(Headquarters, Louisville, Ky.)

*Greenville, Ky.*

Acting Asst. Surg. JOE C. JOHNSTON.

Consulting Epidemiologist WILLIAM B. WHERRY.

*La Moure, N. Dak.*

Acting Asst. Surg. CLARENCE E. DOWNS.

Acting Asst. Surg. GEORGE B. RIBBLE.

*Louisville, Ky. (headquarters).*

Surg. JOHN McMULLEN, in charge.

Acting Asst. Surg. JAMES E. SMITH.

*Louisville, Ky. headquarters—Continued.*

Acting Asst. Surg. F. B. EATON, special duty.

Acting Asst. Surg. HERBERT HARLAN, special duty.

Pharmacist L. W. RYDER.

*Pikeville, Ky.*

Acting Asst. Surg. RUSSELL W. RAYNOR.

*Tazewell, Tenn.*

Acting Asst. Surg. F. G. ELLIS.

Acting Asst. Surg. JOSEPH L. GOODWIN.

## SPECIAL STUDIES OF PELLAGRA.

(Headquarters, Pellagra Hospital, Spartanburg, S. C.)

Surg. JOSEPH GOLDBERGER, in general charge,  
Hygienic Laboratory.  
Passed Asst. Surg. G. A. WHEELER, in immediate  
charge of hospital.  
Biochemist M. X. SULLIVAN.  
Acting Asst. Surg. J. G. CULLINS.

Asst. Biochemist PAUL R. DAWSON.  
Sanitary Bacteriologist K. MARDEN.  
Scientific Asst. JOHNSON C. COUGE.  
Scientific Asst. GEORGE A. JECCELL.  
Pharmacist L. G. SMITH.

## INDUSTRIAL SANITATION.

(Headquarters, Washington, D. C.)

Passed Asst. Surg. A. J. LANZA, in charge.  
Passed Asst. Surg. R. R. SPENCER.  
Asst. Surg. R. C. WILLIAMS.  
Pharmacist Wm. G. BEUCLER, executive officer.  
Consulting Physiologist F. S. LEE.  
Consulting Hygienist BERNARD J. NEWMAN.  
Consulting Hygienist W. G. THOMPSON.  
Consulting Hygienist ALFRED G. STENGEL.  
Consulting Hygienist DAVID L. EDSALL.  
Consulting Hygienist ROGER G. PERKINS.  
Consulting Hygienist C. E. A. WINSLOW.  
Consulting Hygienist EMERY R. HAYHURST.  
Consulting Hygienist C. D. SELBY.  
Physiological Chemist ERNEST G. MARTIN.  
Physiologist ANDREW H. RYAN.  
Field Director FRANCIS D. PATTERSON.  
Field Director JOHN ROACH.  
Scientific Asst. P. SARGENT FLORENCE.  
Scientific Asst. NORRIS P. BRYAN.  
Scientific Asst. JAMES G. MELLISH.

Scientific Asst. FORREST E. DEEDS.  
Scientific Asst. FRANK L. RECTOR.  
Scientific Asst. GORDON E. P. WRIGHT.  
Scientific Asst. GEORGE E. MCELROY.  
Scientific Asst. MARVIN D. SHIE.  
Scientific Asst. EDWARD H. REEVES.  
Scientific Asst. LEONARD GREENBURG.  
Scientific Asst. Wm. J. CURRY.  
Scientific Asst. CLARENCE A. WARD.  
Scientific Asst. JOHN A. TURNER.  
Scientific Asst. GOBIN STAIR.  
Scientific Asst. ELOISE MEEK.  
Scientific Asst. VIRGIN A. DAVIS.  
Scientific Asst. EDWARD M. MARTIN.  
Scientific Asst. ELLA C. BOYER.  
Scientific Asst. GEORGE W. BIRCH, Jr.  
Asst. Sanitary Chemist A. B. HASTINGS.  
Chief Nurse LAURIE JEAN REID.  
Asst. Chief Nurse EMMA L. BROWNE.

## VENEREAL-DISEASE CONTROL MEASURES.

The following acting assistant surgeons were detailed for duty with State health officers as directors of antivenereal measures:

(Headquarters, Washington, D. C.)

Jos. P. BOWDOIN, Atlanta, Ga.  
Wm. A., BRUMFIELD, Richmond, Va.  
G. M. BYINGTON, Lansing, Mich.  
Z. CAUSEY, Phoenix, Ariz.  
WILBUR S. CONKLING, Des Moines, Iowa.  
OSCAR DAVIS, Austin, Tex.  
F. F. FARNSWORTH, Charleston, W. Va.  
O. W. GARRISON, Little Rock, Ark.  
ROBT. E. GRAMLING, Salt Lake City, Utah.  
GEO. A. HAYS, Nashville, Tenn.  
H. E. HITCHCOCK, Augusta, Me.  
R. E. HOLT, Portland, Oreg.  
C. HAMPSON JONES, Baltimore, Md.  
B. K. KILBOURNE, Topeka, Kans.  
H. W. KIMBALL, Providence, R. I.  
Wm. F. KING, Indianapolis, Ind.  
E. E. LAUBAUGH, Boise, Idaho.  
JOS. S. LAWRENCE, Albany, N. Y.

RICHARD T. LEADER, Lincoln, Nebr.  
GEO. S. LUCKETT, Santa Fe, N. Mex.  
SHERMAN LULL, Waubay, S. Dak.  
J. R. MCDOWELL, Columbus, Ohio.  
JOHN C. MAHR, Oklahoma City, Okla.  
J. F. O'DONNELL, Cheyenne, Wyo.  
H. L. PACHE, Burlington, Vt.  
T. E. REEKS, Hartford, Conn.  
RICHARD L. RUSSELL, Jefferson City, Mo.  
F. R. SMYTH, Bismarck, N. Dak.  
L. L. SOLOMON, Louisville, Ky.  
HOWARD A. STREETER, Boston, Mass.  
G. G. TAYLOR, Springfield, Ill.  
IRA F. THOMPSON, Madison, Wis.  
Wm. VAN PATTEN, Seattle, Wash.  
CHAS. A. WEAVER, Concord, N. H.  
ALLEN WINTER, San Francisco, Calif.

The following acting assistant surgeons were detailed for duty in venereal-disease clinics:

EDW. C. HELWIG, Indianapolis, Ind.  
HERMAN MORGAN, Indianapolis, Ind.  
C. E. PFEIPHER, Columbus, Ohio.  
PAUL G. POPE, Columbia, Miss.  
ORAN PROVINCE, Indianapolis, Ind.

LEOPOLD M. ROBE, Trenton, N. J.  
Wm. SHIMER, Indianapolis, Ind.  
S. B. SMITH, New York City.  
PAUL D. VANN, Anniston, Ala.

The following officers were also on duty in connection with carrying out the plan for venereal-disease control:

## SCIENTIFIC ASSISTANTS.

W. C. BLASINGAME, Montgomery, Ala.  
C. S. BROWN, Philadelphia, Pa.  
C. W. CRANE, Hattiesburg, Miss.  
WILLIAM G. EDLER, New Orleans, La.  
L. W. FEEZER, St. Paul, Minn.

CLARENCE D. HART, Wilmington, Del.  
PERRY L. HELMICK, Columbia, S. C.  
S. R. MCKELVEY, Denver, Colo.  
F. J. O'DONNELL, Helena, Mont.

## REGIONAL CONSULTANTS.

JOHN W. HART, Jacksonville, Fla.  
LOUIS HOUGH, Denver, Colo.  
H. M. KECK, Washington, D. C.  
MILLARD KNOWLTON, Raleigh, N. C.  
HOWARD A. LAONPHEE, Washington, D. C.

EDITH MEEK-RABE, Boston, Mass.  
DAISY O. ROBINSON, Washington, D. C.  
LEE A. STONE, Chicago, Ill.  
MABEL S. ULRICH, Minneapolis, Minn.  
OLIVER C. WENGER, Washington, D. C.

## LECTURER.

R. C. BROWN, Washington, D. C.

## COLLABORATING EPIDEMIOLOGISTS.

The following collaborating epidemiologists were engaged in collecting statistics regarding morbidity and the prevalence of infectious and contagious diseases:

T. F. ABERCROMBIE, Atlanta, Ga.  
 JOHN B. ANDERSON, Seattle, Wash.  
 JOHN T. BLACK, Hartford, Conn.  
 FRANK G. BOUDREAU, Columbus, Ohio.  
 DAVID C. BOWEN, Trenton, N. J.  
 H. M. BRACKEN, St. Paul, Minn.  
 M. E. BRYDON, Richmond, Va.  
 BERNARD W. CAREY, Boston, Mass.  
 S. J. CRUMBINE, Topeka, Kans.  
 CHARLES F. DALTON, Burlington, Vt.  
 OSCAR DOWLING, New Orleans, La.  
 C. ST. CLAIR DRAKE, Springfield, Ill.  
 C. W. GARRISON, Little Rock, Ark.

JAMES A. HAYNE, Columbia, S. C.  
 C. HAMPSON JONES, Baltimore, Md.  
 WILFRED H. KELLOGG, Sacramento, Calif.  
 W. S. LEATHERS, Jackson, Miss.  
 A. R. LEWIS, Oklahoma City, Okla.  
 A. T. MCCORMACK, Louisville, Ky.  
 H. G. PERRY, Montgomery, Ala.  
 CARL F. RAYER, Charleston, W. Va.  
 F. M. REGISTER, Raleigh, N. C.  
 JOHN J. SIPPY, Helena, Mont.  
 GUILFORD H. SUMNER, Des Moines, Iowa.  
 STEWART G. THOMPSON, Jacksonville, Fla.  
 CHESTER H. WELLS, Wilmington, Del.

## PLAGUE ERADICATIVE MEASURES.

The following officers were detailed for duty in plague-eradication measures in the States of Louisiana, California, and Washington:

## LOUISIANA.

Passed Asst. Surg. M. S. LOMBARD, 535 St. Charles Street, New Orleans.

## CALIFORNIA.

Asst. Surg. W. T. HARRISON, 76 New Montgomery Street, San Francisco.

## WASHINGTON.

Surg. HUGH DE VALIN, 416 Central Building, Seattle.

Officers assigned to duty in following States as epidemiologic aids to the State health officers for the prevention of the interstate spread of disease:

## ARKANSAS.

Asst. Surg. R. E. DYER, care of State health officer, Little Rock

## GEORGIA.

Asst. Surg. W. S. BEAN, care of State health officer, Atlanta.

## INDIANA.

Asst. Surg. M. V. ZIEGLER, care of State health officer, Indianapolis.

## LOUISIANA.

Passed Asst. Surg. C. L. WILLIAMS, care of State health officer, New Orleans.

## MARYLAND.

Asst. Surg. R. B. NORMENT, care of State health officer, Baltimore.

## MASSACHUSETTS.

Asst. Surg. L. L. WILLIAMS, Jr., care of State health officer, Boston.

## MISSISSIPPI.

Asst. Surg. M. F. HARALSON, care of State health officer, Jackson.

## OHIO.

Asst. Surg. C. ARMSTRONG, care of State health officer, Columbus.

## SOUTH CAROLINA.

Passed Asst. Surg. C. V. ARIN, care of State health officer, Columbia.

## WISCONSIN.

Passed Asst. Surg. ROBERT OLESEN, care of State health officer, Madison.

Engineers assigned to duty in following States to assist the State health officer to properly supervise water supplies used in interstate traffic:

## ARKANSAS AND OKLAHOMA.

Associate Sanitary Engineer SOL PINCUS, Little Rock, Ark.

## NEBRASKA, NORTH DAKOTA, AND SOUTH DAKOTA.

Asst. Sanitary Engineer C. H. SPAULDING, Lincoln, Nebr.

## TENNESSEE.

Associate Sanitary Engineer C. N. HARRUB, Nashville, Tenn.

## IOWA.

Asst. Sanitary Engineer H. H. WAGENHALS, Des Moines, Iowa.

## PERSONNEL, HYGIENIC LABORATORY.

At the close of the fiscal year there were on duty in the Hygienic Laboratory, in addition to the director and the assistant director, 2 chiefs of divisions, 1 assistant chief, 4 surgeons, 5 passed assistant surgeons, 2 pharmacists, 1 artist, 5 technical assistants, 5 sanitary bacteriologists, 1 chemist, 5 assistant chemists, 2 physiologists, 2 pharmacologists, and 8 other technical employees and 61 attendants.

## ACTING ASSISTANT SURGEONS.

The number of acting assistant surgeons has increased from 383 at the beginning of the fiscal year to 701 at the close. This increase is due to the opening of United States Public Health Service hospitals for the care of beneficiaries of the Bureau of War Risk Insurance; also to the establishment of 17 districts, each under a supervisor, covering the United States and insular possessions, for the examination and care of these beneficiaries. Acting assistant surgeons are appointed locally, upon the recommendation of the district supervisors, when there is a sufficient number of beneficiaries in a locality to warrant such appointments.

## MEDICAL INSPECTORS.

One female inspector served during the entire year for the inspection of women passengers at Honolulu, Hawaii.

## PHARMACISTS.

At the beginning of the fiscal year there were on duty 49 pharmacists, divided as follows: Pharmacists of the first class, 31; second class, 15; third class, 3. One pharmacist of the first class died and 1 pharmacist of the third class resigned. Three pharmacists of the second class and 1 of the third class were promoted, leaving at the close of the fiscal year 47 pharmacists on duty, as follows: Pharmacists of the first class, 33; second class, 13; third class, 1.

## HOSPITAL AND QUARANTINE ATTENDANTS.

At the beginning of the fiscal year, 954 attendants were employed at the various marine hospitals, quarantine stations, and on epidemic duty, including 65 such employees on duty in the Philippine Islands, 1,500 on extra-cantonment sanitation, and 73 on public health investigations. At the close of the fiscal year there were so employed, as follows:

Marine hospitals.....	679
Quarantine (including Porto Rico and Hawaii).....	280
Epidemic.....	52
Public Health Service hospitals.....	1, 617
Field investigations of public health.....	85
Philippine Islands.....	65
<b>Total.....</b>	<b>2, 778</b>



## RECAPITULATION.

Commissioned medical officers.....	218
Chiefs of divisions, Hygienic Laboratory.....	2
Advisory board, Hygienic Laboratory.....	5
Acting assistant surgeons:	
General service.....	256
Cantonment.....	17
Venereal clinics.....	41
Attending physicians, Coast Guard.....	79
Acting assistant surgeons, United States Public Health Service hospitals and relief stations.....	342
Collaborating epidemiologists.....	26
Pharmacists.....	47
Sanitary engineers, scientific assistants, bacteriologists and other scientific employees.....	445
Attendants.....	2,778
Total.....	<u>4,256</u>

## BOARDS CONVENED.

Seventeen boards were convened at different times at various stations through the United States for the physical examination of officers of the Coast Guard and applicants for entrance therein, 2 for the physical examination of detained aliens, 9 for the examination of commissioned officers to determine their fitness for promotion to the next higher grades of the service, 5 for examination of applicants for appointment as assistant surgeons, and 3 for the examination of pharmacists to determine their fitness for promotion to a higher grade.

The bureau sanitary board has been convened in nine sessions to pass upon reports of inspections of establishments engaged in the manufacture of vaccines, serums, toxins, etc., prior to recommending a license, and to pass upon advertised remedies and appliances to determine if said advertisements should be excluded from the mails.

## CHIEF CLERK'S OFFICE.

*Bureau personnel.*—The general growth of the service was reflected in the pronounced expansion of the administrative bureau in Washington. The fiscal year began with 61 officers and employees on duty. During the ensuing 12 months this number steadily increased to 220. Even this number proved inadequate, and at the time of making this report the personnel on duty in the bureau exceeds 300. A large part of this force of necessity consisted of new employees without experience in Government methods. To bring them to a satisfactory state of efficiency required a considerable period of training, and in the meantime the veteran employees of the bureau worked under pressure and after hours in a very commendable effort to keep official business current. At the present time conditions are rapidly becoming more satisfactory, and the personnel of the bureau is developing into an efficient and smooth-working machine.

It is apparent that in order to adequately carry out the provisions of recent congressional legislation it will be necessary to continue to enlarge the working force for some time to come. The bureau expects, however, to make a very favorable showing in the matter of the proportion which the administrative force in Washington bears to the volume and scope of the operations in the field.

*Methods of work.*—With the added responsibilities and enlarged operations, an effort has been made to improve existing methods of office administration by avoiding duplication, eliminating non-essential steps, adopting short cuts, installing labor-saving devices, and speeding up methods of communication between the various parts of the bureau and with outside agencies. This effort has resulted in a considerable saving in clerical force, besides materially facilitating official transactions. Measures are now under way to coordinate and systematize the financial transactions of the bureau divisions, and studies are about to be instituted to ascertain whether further improvements may be possible in other features of office work.

*Bureau office quarters.*—As a result of the growth before mentioned, the bureau building proved too small, and it became necessary to secure office quarters in two additional buildings, located at 228 First Street NW and Fifteenth Street and Ohio Avenue NW. Through this action the square feet of floor space occupied by the bureau increased during the year from 13,374 to 35,024, and at the date of this report the congestion is so serious as to necessitate the immediate securing of additional space.

The separation of the divisions of the bureau into buildings a mile or more apart has added to the difficulties and expense of administration and should be remedied. It is therefore recommended that as soon as practicable an authorization be requested from Congress for the erection of a separate building of adequate size for the accommodation of all the administrative activities of the Public Health Service in the city of Washington.

*Public Health library.*—The growth of the bureau library was greatly promoted through the authorization for a trained librarian allowed in the legislative appropriation act for the fiscal year 1919. New material has been secured and a comprehensive index and catalogue begun. However, the lack of adequate quarters for the library is an extremely serious handicap. At present the books are distributed throughout the rooms of the Butler Building because there is no separate room or rooms where they can be assembled. It is impossible for the library to be handled properly or to function adequately until quarters are available where modern and efficient library methods may be put into operation.

## NEEDS OF THE SERVICE.

*Bureau office quarters.*—It is desired to invite attention to the importance of providing an adequate building for the bureau in Washington. During the past two years the Public Health Service has experienced the greatest expansion in its history, and its administrative force is now occupying space in several widely separated buildings in the District. It is difficult to maintain administrative efficiency under such conditions, and some provision should be made at the earliest possible date for housing all of the divisions of the bureau under the same roof.

*After-the-war program.*—To carry into effect the after-the-war program of the Public Health Service it is absolutely necessary that greatly increased appropriations be made for the expansion of research work and cooperation with the States along the lines of general sanitation and disease prevention. It is earnestly recommended, therefore, that the fullest consideration be given to the estimates submitted by the department for the expenses of the Public Health Service for the ensuing fiscal year.

*Publications.*—In view of the rapidly growing demands for service publications and educational material, including exhibits, lantern slides, etc., relating to health and sanitation, the recommendation of previous years for larger appropriations is hereby renewed.

RUPERT BLUE, *Surgeon General.*

To the honorable CARTER GLASS,  
*Secretary of the Treasury.*

## MISCELLANEOUS APPROPRIATIONS.

## LEPROSY HOSPITAL, HAWAII.

Balance, June 30, 1919 (act Mar. 3, 1906)..... \$16,956.35

## MARINE HOSPITALS.

Baltimore, Md. (act Mar. 28, 1918):

Balance, July 1, 1918..... \$17,985.00  
Expenditures..... 1,086.66

Balance, June 30, 1919..... 16,898.34

Boston, Mass. (act Mar. 28, 1918):

Balance, July 1, 1918..... 21,337.80  
Expenditures..... 1,422.64

Balance, June 30, 1919..... 19,915.26

New Orleans, La. (act Mar. 28, 1918):

Balance, July 1, 1918..... 18,000.00  
Expenditures..... 3,321.34

Balance, June 30, 1919..... 14,678.66

New York, N. Y. (act Mar. 28, 1918):

Balance, July 1, 1918..... 44,870.00  
Expenditures..... 7,101.41

Balance, June 30, 1919..... 37,768.59

San Francisco, Calif. (act Mar. 28, 1918):

Balance, July 1, 1918..... 22,500.00  
Expenditures..... 1,744.80

Balance June 30, 1919..... 20,755.20

Savannah, Ga. (act Mar. 28, 1918):

Balance, July 1, 1918..... 9,000.00  
Expenditures..... 2,793.86

Balance June 30, 1919..... 6,206.14

## (Balances June 30, 1919.)

Cleveland, Ohio (act Mar. 4, 1909)..... 100.00  
Cleveland, Ohio (act Mar. 4, 1907)..... 374.95  
Cleveland, Ohio (act July 26, 1916)..... 1,000.00  
Fort Stanton, N. Mex. (act Aug. 24, 1912)..... 3.20

## QUARANTINE STATIONS.

Boston, Mass. (act Oct. 6, 1917)..... \$34,800.00  
Expenditures..... 15,212.21

Balance June 30, 1919..... \$19,587.79

Cape Charles (act Nov. 4, 1918)..... 100,000.00

Gulf (act June 12, 1917)..... 8,000.00

Key West (act June 12, 1917)..... 7,000.00

Reedy Island (act Nov. 4, 1918)..... \$40,000.00

Expenditures..... 3,423.25

Balance June 30, 1919..... 36,576.75

Savannah, Ga. (act Nov. 4, 1918)..... 28,000.00

## (Balances June 30, 1919.)

Brunswick (act June 25, 1910)..... 1,708.87  
Charleston (act Mar. 4, 1909)..... 634.46  
Columbia River (act June 25, 1910)..... 745.47  
Columbia River (act June 12, 1917)..... 4,201.19  
Delaware Breakwater (act Mar. 4, 1907)..... 857.00  
Gulf (act Mar. 4, 1907)..... 353.35  
Honolulu (act Sept. 8, 1916)..... 10,000.00  
Honolulu (act Mar. 4, 1907)..... 390.52  
Mobile (act July 1, 1916)..... 10,000.00  
New Orleans (act July 1, 1916)..... 25,000.00  
Pensacola (act Mar. 4, 1907)..... 18.02  
Reedy Island (act Mar. 4, 1909)..... 66.71  
San Francisco (act Mar. 27, 1908)..... 180.75  
San Francisco (act June 30, 1906)..... 1,511.71  
Savannah (act Mar. 4, 1909)..... 410.85

## UNDER SUPERVISING ARCHITECT.

## MARINE HOSPITALS.

Buffalo, N. Y. (act July 1, 1918)..... \$2,000.00  
Memphis, Tenn. (act July 1, 1918)..... 1,500.00  
Mobile, Ala. (act July 1, 1918)..... 10,000.00  
St. Louis, Mo. (act July 1, 1918)..... 4,000.00

## QUARANTINE STATIONS.

Charleston, S. C. (act July 1, 1918)..... \$19,000.00  
Galveston, Tex. (act July 1, 1918)..... 70,000.00  
New Orleans, La. (act July 1, 1918)..... 4,000.00  
Port Townsend, Wash. (act July 1, 1918)..... 1,000.00  
Reedy Island, Del. (act July 1, 1918)..... 4,000.00

STATISTICAL TABLES.

TABLE 1.—Comparative table of number of patients annually treated, 1868 to 1919.

Fiscal year.	Sick and disabled patients furnished relief.	Fiscal year.	Sick and disabled patients furnished relief.
Prior to reorganization:		After reorganization—Continued.	
1868.....	11,535	1894.....	52,803
1869.....	11,356	1895.....	52,643
1870.....	10,560	1896.....	53,804
After reorganization:		1897.....	54,477
1871.....	14,256	1898.....	52,709
1872.....	13,156	1899.....	55,489
1873.....	13,529	1900.....	56,355
1874.....	14,356	1901.....	58,381
1875.....	15,009	1902.....	56,310
1876.....	16,808	1903.....	58,573
1877.....	15,175	1904.....	58,556
1878.....	18,223	1905.....	57,043
1879.....	20,922	1906.....	54,363
1880.....	24,860	1907.....	55,129
1881.....	32,613	1908.....	54,301
1882.....	36,184	1909.....	53,704
1883.....	40,195	1910.....	51,443
1884.....	44,761	1911.....	52,209
1885.....	41,714	1912.....	51,078
1886.....	43,822	1913.....	50,604
1887.....	45,314	1914.....	53,226
1888.....	48,203	1915.....	55,782
1889.....	49,518	1916 <sup>1</sup> .....	68,398
1890.....	50,671	1917 <sup>2</sup> .....	64,022
1891.....	52,992	1918 <sup>2</sup> .....	71,806
1892.....	53,610	1919 <sup>2</sup> .....	93,719
1893.....	53,317		

<sup>1</sup> Includes patients treated at trachoma hospitals.

<sup>2</sup> Does not include patients treated at trachoma hospitals.

TABLE 2.—Transactions at marine hospitals and other relief stations, fiscal year 1919.

	Total number of patients treated.	Total number treated in hospital.	Died.	Re-main-ing in hospital June 30, 1919.	Number of days' relief in hospital.	Number of patients furnished office relief.	Number of times office relief was furnished.	Number of persons ex-amin-ed physi-cally, in-cluding pilots.	Amount ex-pended.
<b>Grand Total.....</b>	<b>93,719</b>	<b>38,355</b>	<b>1,264</b>	<b>3,173</b>	<b>757,010</b>	<b>55,364</b>	<b>104,763</b>	<b>41,185</b>	<b>\$1,601,592.81</b>
<i>First-class stations.</i>									
Baltimore, Md.....	3,810	1,758	81	133	48,863	2,052	3,392	2,059	74,198.24
Boston, Mass.....	1,842	1,842	85	128	34,239	.....	.....	2,432	60,539.04
Buffalo, N. Y.....	1,620	508	15	29	11,264	1,112	2,056	718	29,111.13
Calo, Ill.....	606	148	4	13	983	458	763	94	5,231.44
Chicago, Ill.....	4,395	3,243	57	224	42,683	1,152	1,466	2,589	92,479.26
Cleveland, Ohio.....	3,016	1,115	25	51	19,352	1,901	2,921	2,054	41,465.35
Detroit, Mich.....	1,469	646	24	47	14,508	823	1,633	525	37,622.34
Evansville, Ind.....	611	338	9	33	9,226	273	377	117	27,806.00
Fort Stanton, N. Mex..	600	600	81	200	90,085	.....	.....	.....	209,102.60
Key West, Fla.....	471	227	16	6	4,287	244	313	42	19,216.89
Louisville, Ky.....	1,310	524	7	34	9,631	786	1,403	165	23,403.73
Memphis, Tenn.....	1,103	497	14	41	7,946	606	1,269	127	20,728.08
Mobile, Ala.....	1,154	622	19	48	10,752	532	948	262	25,288.63
New Orleans, La.....	3,620	1,806	45	122	40,284	1,874	4,051	587	73,069.92
New York, N. Y.....	14,400	4,582	133	243	82,479	9,818	19,909	5,635	200,882.86
Pittsburgh, Pa.....	1,355	486	16	44	6,955	869	1,525	588	23,529.54
Portland, Me.....	848	585	27	31	11,929	263	373	307	37,309.37
Port Townsend, Wash..	645	588	23	63	22,655	57	98	3	37,294.88
St. Louis, Mo.....	2,462	1,187	23	132	26,737	1,275	2,048	313	55,771.29
San Francisco, Calif....	6,792	2,646	132	141	64,170	4,146	8,808	2,335	99,454.48
Savannah, Ga.....	2,356	1,146	13	72	25,437	1,210	1,984	598	51,146.89
Vineyard Haven, Mass.	229	135	3	10	5,254	94	177	14	16,154.43
<b>Total.....</b>	<b>54,774</b>	<b>25,229</b>	<b>852</b>	<b>1,848</b>	<b>589,719</b>	<b>29,545</b>	<b>55,514</b>	<b>21,564</b>	<b>1,261,205.39</b>

TABLE 2.—Transactions at marine hospitals and other relief stations, fiscal year 1919—  
Continued.

	Total number of patients treated.	Total number treated in hospital.	Died.	Re-remaining in hospital June 30, 1919.	Number of days' relief in hospital.	Number of patients furnished office relief.	Number of times office relief was furnished.	Number of persons examined physically, including pilots.	Amount expended.
<i>Public Health Service hospitals.</i>									
Boston (Roxbury), Mass.	1,207					1,207	2,138		
Dansville, N. Y.	86	85		80	1,626	1	1		
Corpus Christi, Tex.	39	39		37	323				
Chicago, Ill.	387	387		230	2,587				
Alexandria, La.	61	40	2	21	988	21	21		
Palo Alto, Calif.	192	182	4	154	6,152	10	30	55	
Jacksonville, Fla.	14	14		14	53				
Greenville, S. C.	615	615	8	408	17,117				
Augusta, Ga.	81	81		1	1,372			7	
Houston, Tex.	175	134	3		220	41	41		
Hudson and Jay Streets, New York.	288	185	2		2,672	103	103		
<b>Total</b>	<b>3,145</b>	<b>1,762</b>	<b>19</b>	<b>945</b>	<b>33,108</b>	<b>1,383</b>	<b>2,334</b>	<b>62</b>	
<i>Second, third, and fourth class stations.</i>									
Albany, N. Y.	125	17	5		196	108	175	166	\$793.32
Ancon and Colon, Canal Zone.	1,097	737	9	30	8,205	360	424	1	17,782.73
Apalachicola, Fla.	153	43	1		455	110	368		1,463.38
Ashland, Wis.	113	22	2		290	91	116		814.65
Ashtabula, Ohio.	204	21			352	183	295	33	1,586.70
Astoria, Oreg.	207	46	5	1	409	161	300	42	2,380.15
Bangor, Me.	21	7	1		82	14	41	73	676.00
Bay City, Mich.	28	5		1	41	23	46	5	275.99
Beaufort, N. C.	75	6		2	34	69	303	38	541.75
Beaufort, S. C.	5					5	5		3.78
Bellingham, Wash.	61	13	1		213	48	124	6	959.75
Boothbay Harbor, Me.	71	34	1	2	412	37	119	17	958.16
Bridgeport, Conn.	206	202	1	1	202	4	6		270.00
Brunswick, Ga.	109	80	2	1	713	20	37	11	1,223.85
Burlington, Iowa.	35	32		1	318	3	3	107	397.44
Cambridge, Md.	28	24	2		441	4	4	8	868.02
Cedar Keys, Fla.	16	11			108	5	7		22.50
Charleston, S. C.	504	97	4	3	930	407	580	67	4,193.64
Chattanooga, Tenn.	3	3			30				62.50
Cincinnati, Ohio.	161	25		1	190	136	273	385	929.30
Cordova, Alaska.	51	17		2	283	34	34		1,724.00
Crisfield, Md.	28	17			144	11	14		538.67
Delaware Breakwater, Del.	139	2			9	137	316	22	100.00
Duluth, Minn.	334	51	6	2	797	283	365	454	2,039.00
Eastport, Me.	81	18			33	63	80	24	7.60
Edenton, N. C.	60	30			90	30	90	32	158.78
Elizabeth City, N. C.	129	10			72	119	287	201	703.85
Erle, Pa.	282	73	4	1	1,135	209	694	75	2,461.50
Esکانaba, Mich.	46	22		1	181	24	25	55	546.50
Eureka, Calif.	67	2			6	65	114		1,476.20
Fernandina, Fla.	22					22	103		300.00
Gallipolis, Ohio.	86	40	1		653	46	81	188	1,609.01
Galveston, Tex.	1,806	471	8	3	7,391	1,335	3,087	205	13,713.84
Georgetown, S. C.	83	6	1		66	77	176	19	732.00
Gloucester, Mass.	206	35	7		543	171	258	799	1,910.30
Grand Haven, Mich.	41	1			11	40	96	340	553.10
Green Bay, Wis.	45	26	1	1	206	19	40	124	503.37
Gulfport, Miss.	34	3			7	81	31	970	133.20
Hancock, Mich.	29	2			14	27	45	32	300.00
Hartford, Conn.	10	10	2	1	111			9	148.35
Honolulu, Hawaii.	1,279	348	7	19	7,267	933	1,648	64	18,137.00
Hoquiam, Wash.	117	35	7	1	326	82	152	21	719.65
Irvington, Va.	23					23	30		315.00
Jacksonville, Fla.	645	395	15	7	2,552	250	420	315	14,019.11
Juneau, Alaska.	115	78	2		1,076	37	137	11	3,953.50
Kansas City, Mo.	193	73			821	120	253	665	2,089.23
Ketchikan, Alaska.	187	30		2	843	157	389	9	1,930.15
La Crosse, Wis.	16	2		1	62	14	24	172	399.00
Little Rock, Ark.	238	8		1	62	280	298		268.00
Los Angeles, Calif.	1,196	302	7	17	3,799	894	1,241	801	10,602.05
Ludington, Mich.	169	30	4		350	139	353	49	1,420.30

TABLE 2.—Transactions at marine hospitals and other relief stations, fiscal year 1919—  
Continued.

	Total number of patients treated.	Total number treated in hospital.	Died.	Remain- ing in hospital June 30, 1919.	Num- ber of days' relief in hospital.	Num- ber of patients fur- nished office relief.	Num- ber of times office relief was fur- nished.	Num- ber of persons ex- amined phys- ically, in- cluding pilots.	Amount ex- pended.
<i>Second, third, and fourth class stations—Contd.</i>									
Machias, Me.....	26	10	.....	.....	149	16	24	42	\$514.00
Manistee, Mich.....	32	10	.....	.....	160	22	32	35	503.72
Manitowoc, Wis.....	78	47	2	.....	560	31	52	15	1,150.56
Marquette, Mich.....	55	16	4	.....	188	39	39	57	752.75
Marshfield, Oreg.....	58	13	2	.....	81	45	97	18	543.05
Menominee, Mich.....	64	10	1	.....	77	54	59	3	188.40
Milwaukee, Wis.....	582	260	14	27	4,623	322	522	1,199	9,961.32
Nantucket, Mass.....	25	.....	.....	.....	25	25	82	8	250.00
Nashville, Tenn.....	97	44	1	13	538	53	144	266	590.05
Natchez, Miss.....	65	13	3	.....	118	52	134	143	375.00
New Bedford, Mass.....	95	24	2	1	319	71	85	234	977.20
New Bern, N. C.....	261	116	.....	3	1,219	145	293	1	3,551.29
New Haven, Conn.....	20	13	3	.....	184	7	7	168	1,875.75
New London, Conn.....	62	24	3	.....	304	38	41	102	2,600.47
Newport, Ark.....	98	6	1	.....	37	92	152	44	576.65
Newport, Oreg.....	7	.....	.....	.....	7	7	28	.....	67.50
Newport, R. I.....	90	41	2	2	426	49	56	15	1,190.00
Newport News, Va.....	852	135	9	.....	1,175	717	883	8	1,981.14
Nome, Alaska.....	.....	.....	.....	.....	.....	.....	.....	.....	231.70
Norfolk, Va.....	5,782	1,802	71	5	27,312	3,980	5,772	1,774	54,877.22
Ogdensburg, N. Y.....	73	33	2	.....	359	40	87	6	1,322.25
Oswego, N. Y.....	.....	.....	.....	.....	.....	.....	.....	.....	1,239.40
Paducah, Ky.....	76	13	.....	1	187	63	104	45	746.30
Pensacola, Fla.....	276	67	1	1	593	209	445	32	1,434.81
Perth Amboy, N. J.....	1,081	194	8	3	2,151	887	1,073	193	2,130.35
Philadelphia, Pa.....	3,367	803	36	50	9,745	2,564	5,408	2,023	26,278.45
Ponce, P. R.....	60	10	.....	2	257	50	164	.....	368.00
Port Angeles, Wash.....	14	12	.....	.....	25	2	2	6	.....
Port Arthur, Tex.....	278	68	1	.....	500	210	881	48	1,434.12
Port Huron, Mich.....	127	23	2	2	292	104	470	196	416.08
Portland, Oreg.....	1,097	432	21	22	5,933	665	1,020	519	11,999.41
Portsmouth, N. H.....	8	5	2	.....	41	3	4	.....	120.00
Providence, R. I.....	501	236	7	9	2,724	265	377	588	5,609.52
Provincetown, Mass.....	121	10	.....	.....	32	111	456	28	938.60
Richmond, Va.....	307	71	4	.....	981	236	291	130	1,677.21
Rockland, Me.....	146	16	2	.....	96	130	303	172	677.44
St. Elizabeths Hospital, Washington, D. C.....	.....	.....	.....	.....	.....	.....	.....	.....	19,963.22
St. Paul, Minn.....	.....	.....	.....	.....	.....	.....	.....	845	.....
Saginaw, Mich.....	54	14	.....	1	225	40	42	116	396.07
Salem, Mass.....	1	1	.....	.....	40	.....	.....	.....	.....
San Diego, Calif.....	162	24	1	.....	365	128	390	106	937.00
Sandusky, Ohio.....	24	5	1	.....	30	19	21	61	273.48
San Juan, P. R.....	444	185	7	15	2,327	259	467	175	2,263.93
Sault Ste. Marie, Mich.....	279	193	6	3	2,187	86	176	64	3,702.50
Seattle, Wash.....	1,998	734	29	23	7,065	1,264	3,130	1,750	23,386.50
Seward, Alaska.....	60	11	.....	.....	320	49	144	.....	1,703.10
Sheboygan, Wis.....	43	28	1	.....	184	15	20	76	527.10
Solomons, Md.....	119	2	.....	.....	7	117	162	.....	616.25
Superior, Wis.....	252	82	6	5	1,087	170	281	34	2,389.50
Tacoma, Wash.....	123	24	1	4	162	99	149	188	1,917.85
Tampa, Fla.....	144	87	4	.....	1,118	57	60	288	2,996.25
Toledo, Ohio.....	360	148	8	.....	2,081	212	407	815	3,006.00
Unalaska, Alaska <sup>1</sup> .....	.....	.....	.....	.....	.....	.....	.....	.....	199.00
Valdez, Alaska.....	13	2	1	.....	10	11	13	.....	687.25
Vicksburg, Miss.....	211	88	4	2	834	123	198	71	1,941.00
Washington, D. C.....	1,763	441	4	62	6,051	1,322	3,181	679	6,585.85
Washington, N. C.....	48	16	.....	.....	110	32	34	42	903.50
Wilmington, N. C.....	201	110	6	2	1,070	91	204	40	7,345.82
United States Coast Guard vessels.....	399	59	.....	.....	247	340	856	15	.....
Keepsers and surfmen, United States Coast Guard <sup>2</sup> .....	2,131	919	.....	.....	5,140	1,212	3,179	448	.....
Quarantine stations.....	121	54	3	1	344	67	107	12	.....
<b>Total.....</b>	<b>35,800</b>	<b>11,364</b>	<b>393</b>	<b>380</b>	<b>134,191</b>	<b>24,436</b>	<b>46,915</b>	<b>19,559</b>	<b>340,387.42</b>

<sup>1</sup> No reports received.<sup>2</sup> Treatment by private physicians and a visit to a patient is counted as a day's treatment in hospital.



TABLE 2.—Transactions at marine hospitals and other relief stations, fiscal year 1919—  
Continued.

	Total number of patients treated.	Total number treated in hospital.	Died.	Re-main-ing in hospital June 30, 1919.	Num-ber of days' relief in hospital.	Num-ber of patients fur-nished office relief.	Num-ber of times office relief was fur-nished.	Num-ber of persons ex-amin-ed physi-cally, in-cluding pilots.	Amount ex-pended.
<i>Second, third, and fourth class stations—Contd.</i>									
Of the above number relief was furnished as follows to:									
United States Army— Marine hospitals...	1,039	657	.....	.....	9,822	3,382	644	.....	.....
United States Public Health Service hospitals. Relief stations.....	20 227	19 166	.....	.....	214 1,924	1 61	1 136	.....	.....
United States Navy— Marine hospitals...	2,348	1,866	.....	.....	29,286	482	995	.....	.....
United States Public Health Service hospitals. Relief stations.....	..... 865	..... 509	.....	.....	..... 4,952	..... 356	..... 921	.....	.....
War Risk Insurance— Marine hospitals...	8,835	7,409	.....	.....	12,380	1,428	2,034	.....	.....
United States Public Health Service hospitals. Relief stations.....	1,115 3,906	1,059 1,224	.....	.....	22,576 13,026	56 2,682	168 4,169	.....	.....
United States Em-ployees' Compensa-tion Commis-sion— Marine hospitals...	3,577	957	.....	.....	18,077	2,620	8,162	.....	.....
United States Public Health Service hospitals. Relief stations.....	79 2,809	22 783	.....	.....	561 11,166	57 2,026	179 6,069	.....	.....
Total.....	24,820	14,671	.....	.....	123,983	10,149	23,478	.....	.....

Total expenditures for first-class stations.....	\$1,261,205.39
Total expenditures for second, third, and fourth class stations.....	340,387.42
Washington, D. C.:	
Bureau.....	60,632.14
Hygienic Laboratory.....	161,062.26
Purveying Depot.....	120,795.45
Coast Guard cutters and other duty.....	91,373.47
Immigration.....	172,845.79
Railroad transportation, freight charges, etc.....	17,130.54
Miscellaneous.....	30,483.03
Total expenditures.....	2,255,915.49

NOTE.—In some cases the full pay of an officer may be included in the cost of operation of a relief station, though not devoting his entire time to that work, being also engaged on work under other branches of the service.