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OPPORTUNITIES IN PSYCHIATRIC NURSING

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The present demand for nurses prepared to care for psychiatric patients greatly exceeds the supply. Moreover, the present and postwar rehabilitation program will make additional inroads on this already too limited number. Nurses must be ready to meet these demands.

A recent communication from the Nursing Committee of the American Psychiatric Association indicates that approximately 47,000 registered nurses will be needed in hospitals for psychiatric patients after the war. The American Psychiatric Association recommends not less than 1 nurse to 20 patients: a considerable number of State hospitals have only one registered nurse for thousands of patients. At present the ratio of nurses to patients in non-Federal mental hospitals is 1 nurse to 135 patients.

Dr. Karl Menninger states: "Whatever the reasons may be, at least one-third of the patients with whom the physicians of the Army, Navy, and Veterans' Administration must deal today are psychiatric patients. If one includes those cases in which the emotional features determine the occurrence of physical symptoms, you might almost double this figure."¹

Some institutions for psychiatric patients have not been able to meet the demand for student experience because of insufficient nursing staff personnel, inadequately prepared instructional staff, and lack of housing facilities. Even with these limitations, affiliating students have been accepted. However, this experience may be of limited benefit because the educational program including clinical teaching has not been well planned and carried out. In a few instances investigated, it was learned that the educational plan for affiliates has

¹ Menninger, Karl: The future of psychiatric care in hospitals. *The Modern Hospital*, 60: 43-45 (May 1945).

not been cooperatively developed. It is believed that the director of the home school has a responsibility in assisting with the development of a sound program in the affiliating institutions through cooperative planning and well-defined contractual agreements. Furthermore, it is the responsibility of the director of the home school to help develop in the students a desirable attitude and understanding toward psychiatric patients and their care. This implies that directors of schools of nursing should have complete knowledge of the details of the program offered.

The place of an affiliation in psychiatric nursing in the total nursing program depends on the length of experience the student needs to have in general medical, surgical, obstetric, and pediatric nursing at the home school before affiliation. By the end of the first year, a normally well-adjusted young woman should be sufficiently capable to care for the psychiatric patient and to profit by the experience herself. When the affiliation is given early the student may make use of the principles she has learned in the further care of patients in the home, hospital, and elsewhere as she continues in nursing. If it is postponed until the last service the student may miss the opportunity for application and hence lose some of the values in the experience.

In estimating the advantages offered by the particular mental hospital selected, officials of a school of nursing should use the same standards they find appropriate in evaluating the clinical experience for other services. For example, approval by the American College of Surgeons is considered of basic importance where general surgery and medicine are taught and practiced. Approval by the American Psychiatric Association is considered essential for hospitals with psychiatric patients which offer clinical experience to student nurses. It is important that the director of nursing in the affiliating hospital be specially qualified in psychiatric nursing. All instructional and supervisory personnel should meet the standards set by the National League of Nursing Education.

After a suitable mental hospital has been selected for student experience, plans may be made for establishing the affiliation. A conference should be arranged of all persons concerned with the student program of studies and experience to make plans. Visits should be exchanged by the nursing directors and instructors of the hospitals involved, for the purpose of getting acquainted with the educational policies in effect and making mutually agreeable arrangements for the affiliation. If the services of a psychiatric nurse adviser are desired to help evaluate the quality of the clinical service offered, she should be invited to be present at these meetings and be allowed sufficient time to plan the visit.

In setting up educational programs in psychiatric nursing, it is important to estimate the costs as well as the values. Room, laundry,

and food must be provided for the students; salaries for lecturers and instructors and for residence personnel are necessary. A budget based upon the estimated maintenance and subsistence costs for graduate nurses may be found suitable. If the groups are larger than 30, the number of nurse instructors should be increased accordingly. The program is intensive and requires considerable special preparation and experience, and these factors should be considered in estimating the salary of instructors. The expense of the affiliation should be paid out of student fees. Where the receiving institution is supported by public funds and not permitted to receive fees, some method of compensation should be worked out. Student service will be beneficial to the psychiatric hospital. A cost analysis might be made to determine the monetary value of such service.

Policies for the handling of students and their problems while on affiliation should be set up jointly by the home school and the affiliating school. Such matters as medical care during illness, permission for late leave, request for leave of absence, lack of interest in the work, or failure in class work, should be taken into consideration. The status of the student should be clearly defined in order to avoid future misunderstanding.

The State Board of Nurse Examiners must approve the affiliating program before the arrangements for a contract can be completed. When this approval has been granted, the contractual agreement is entered into by persons representative of the two institutions. Information concerning the preparation of such agreements may be found in the *American Journal of Nursing*, November 1943 and April 1944.

The following are recommendations which may help to solve some of the existing problems:

1. Institutions accepting affiliating students should seek consultation service from experts in:
 - a. Developing a well-organized clinical teaching program, based on sound principles of education.
 - b. Organizing regular meetings of directors of participating schools with affiliating organization personnel.
 - c. Developing contractual agreements between the affiliating organization and the home school.
2. A study should be made of the availability of community housing facilities. It might be possible to secure dormitories, apartment houses, or family-type houses which could be converted. Consideration may also be given to reconstructing buildings within the hospital area.
3. To provide staff nurses for nursing care of psychiatric patients, more basic programs will need to include this type of experience for all students. Such programs should be well planned to prepare nurses to help meet present and future demands of both the military and civilian population. The Senior Cadet period provided for through the United States Cadet Nurse Corps program makes it possible for additional students to have psychiatric nursing experience in Federal or other institutions for psychiatric patients.

4. Every affiliating institution with an inadequately prepared instructional staff should attempt to release at least one graduate who will qualify for admission to a university offering an advanced program in psychiatric nursing. She should have at least one year's work in an advanced psychiatric nursing program.

Other members of the instructional staff may secure additional preparation through regional workshops or intensive on-the-job courses. Such programs might be sponsored by the State Leagues of Nursing Education or the State Boards of Nurse Examiners in cooperation with the Division of Nurse Education and psychiatric nursing experts.

Programs for advanced psychiatric nursing have been offered and continue to be offered at Catholic University, Washington, D. C.; the University of Minnesota, Minneapolis, Minn.; Teachers College, Columbia University, New York, N. Y.; and Western Reserve University, Cleveland, Ohio. Plans are under way for additional programs of this type, some of which may be completed this fall. Graduate nurses will continue to be assisted through Bolton Act funds during the current fiscal year. Inquiries regarding these advanced programs should be made directly to the individual universities offering the study.

It is of interest to note that 126 postgraduate students enrolled in advanced psychiatric nursing programs in three universities have been assisted through Bolton Act funds since September 1943. This is in addition to graduate nurses enrolled in regular advanced nursing programs, which may or may not include advanced psychiatric nursing. These graduates may have had experience in psychiatric nursing as a student or a graduate nurse and are now preparing for higher positions in hospitals for psychiatric patients.

Students enrolled in these advanced programs have made valuable contributions to the basic affiliating student program in the hospitals used as a practice field for advanced psychiatric nursing.

For the fiscal year 1946, the number of schools offering psychiatric nursing experience has increased. A study of 1,107 schools in the country participating in the United States Cadet Nurse Corps program indicates that 48 percent now offer experience in psychiatric nursing to all students and an additional 11 percent to some students, making a total of 59 percent. Students in 457 schools, or 41 percent, do not receive any psychiatric nursing experience. Of the 153 institutions offering experience in psychiatric nursing, 100 institutions receive affiliating students and 53 institutions have schools of nursing which include this experience.

Through the combined efforts of the home schools and affiliating institutions, it should be possible to offer programs which will not only give students a broader experience and self-satisfaction but also an understanding of the need for psychiatric nursing. It should help

them to gain the necessary knowledge and develop the skills needed for quality care of psychiatric patients.

Such an extension in a specialized field is completely in harmony with the plans for provision of a more complete health program for the country in the postwar years.

PSYCHIATRIC NURSING EXPERIENCE BY AFFILIATION¹

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For many years nurse educators have recommended experience in nursing mental patients as part of the basic nursing course (1). More nursing schools are seeking affiliation with mental hospitals than can be accommodated at present. Every State should provide facilities so that all nurses could have the experience. "Fifty-eight percent of the hospital beds in the country are occupied by mental patients" (2). Nurses need experience and patients need care. Means to bridge the gap are available. The mental hospital that establishes an educational program for student nurses by affiliation will offer a much needed service. The hospital will benefit by the improved care provided for its patients, by the stimulus that study and research programs give to personnel, and by improved public relations. Every student nurse will interpret the mental hospital as she finds it to those with whom she makes contact at home, at school, and in her community. If she has had suitable teaching and good clinical experience, the benefits will be mutually advantageous.

EDUCATION AND EXPERIENCE BY AFFILIATION

Start.—A date for starting a course in psychiatric nursing in affiliation with a mental hospital should be selected sufficiently in advance to permit directors of nursing education to change plans. Four to eight months may be needed for adequate preparation. Occasionally a selected group of students can be assembled to start at shorter notice.

Length.—Thirteen weeks is a satisfactory length of time for experience in psychiatric nursing in a basic program. A week may be spent in orientation; thereafter, three 4-week assignments or four 3-week assignments may be arranged for each student. Students have expressed preference for the longer assignments. Eight weeks for affiliation in psychiatry is shorter than is desirable. Owing to popular concepts of mental disease, students often are fearful of patients; several weeks are needed for them to adjust to the situation.

¹ From the Mental Hygiene Division, Bureau of Medical Services.

In an 8-week course, the time is up at the point where the work becomes interesting and meaningful. If the course must be as short as 8 weeks, two 4-week assignments probably will be better than shorter periods. Students say that 2 weeks is too short a time to become acquainted and at ease with mental patients.

Number.—The number of students sent by each school will depend upon its enrollment. The mental hospital accepting students will be guided by the facilities and qualified personnel which it can make available. One nurse instructor or clinical supervisor can do justice to a unit of 20 to 30 students. More than that number requires supplementary nurse supervisors or instructors.

Groups.—The number of students in each group should be kept about the same or with small variation. If groups are larger than thirty or so, the affiliating students should come at intervals. Admitting some students at monthly or 6-week intervals stabilizes the ward assignments and living-quarters routine. The number of classes in orientation and psychiatric nursing will need to be increased.

Personnel increase.—A hospital staff contemplating accepting student nurses for education in psychiatric nursing assumes an obligation. Sufficient qualified personnel should be on hand or provided. General hospitals may supply a well-qualified nurse supervisor or instructor to acquire psychiatric experience. She could then serve as a clinical instructor for affiliating students in a mental hospital. The psychiatric hospital could select a nurse who has the educational background necessary for acquisition of teaching methods at a suitable institution. She could then become a qualified instructor. Salary appropriations will be needed for nurse instructors, clinical supervisors, and residence and health directors.

The duties, responsibilities, and authority of each member of the nursing staff should be defined. Each person involved should know her particular duties and how they fit into the entire program. The status and salary assigned to the nursing director, instructors, nurse supervisors, and head nurses will indicate the value which the hospital directors place on nursing care. If nurses are considered necessary to the welfare and recovery of the patients, they are given dignified status. If less is expected of them, they are treated accordingly. It is useless to proclaim a policy of good nursing standards unless the governing board and the hospital officials support their announced policy by good personnel practice.

Equipment.—Schools should be provided with sufficient, appropriate equipment to make possible good teaching and rapid learning without extraordinary effort on the part of instructor or students. Books of reference are necessary. They should be appropriate, up to date, and in sufficient quantity to be conveniently available.

Charts, models, slides, and motion-picture films should be provided as aids to teaching. These items are of importance to students coming to a special hospital where they are expected to acquire understanding of psychiatry (a difficult subject) in a short period of time. Good teaching equipment, reading material, and reading and lecture rooms make the difference between learning and confusion, between liking and aversion.

Illness.—During the course, a student may take cold or get sunburned or fall down and hurt herself badly enough to need a day or so off duty. Agreement should be made between the sending and receiving nursing directors as to how such temporary absences will be managed. For longer absence, the law of the State concerning nurse education or the State Board of Nurse Examiners may have regulations. In that case the regulation should be known to all concerned. Usually if a student is seriously ill and can be moved safely, her home school may prefer to have her return. Mental hospitals usually have an infirmary or provide care for sick employees. If it is suitable and properly directed, the student may be as well off if she remains.

A week lost from an 8-week course, or 2 weeks out of 13, usually means that the student has lost too much teaching and experience to go on with the group. She should be permitted to return to her home school and come back with a later group. Each situation should be considered separately.

Budget and accounts.—Good business practice requires budgeting of funds. Money for the operation of a nursing school should be appropriated separately from hospital funds used for the care of patients and for hospital activities.

PRELIMINARY PREPARATIONS

Following the conferences at which agreements and policies are established, the receiving hospital is in a position to proceed. Before the students arrive, preparations should be made for class programs, as well as for rooms, meals, laundry, mail, and other personal details.

Education.—Schedules of classes in each topic should be arranged. Physicians and other instructors should be consulted so that their preferences may be considered. Classes should be held in the daytime or compensating free time planned for recreation, if some must be held at night.

The length of class periods depends upon the type of class. Lectures of 50 to 60 minutes are suitable. Demonstration classes, clinics, and laboratory classes of 90 to 120 minutes are economical of time and effort. Longer periods become tiresome and the value of the teaching effort is lost to some extent. The nursing director will probably

assign duties to each of her associates concerned with student nurse education and accommodation. The director of nursing education will plan classes, rotations, and all the details of education. She will arrange with others on the teaching staff for hours, locations, and materials. Should an instructor fail to appear at class, she should be able to arrange a substitute activity so the students' time will not be wasted. She will be responsible for keeping and completing the students' records. She should not be held responsible for residence management or social and health programs.

Instructors will be responsible for preparation and presentation of the topic they agree to present. Each one should maintain order during class. Failures should not occur. A student's inability or inattention should be noticed and counsel made available for her before it is too late to be effective.

Students should have experience, not only with the nursing care of chronic psychotic patients, but with those newly admitted, acute cases of psychosis, convalescents, and patients under active treatment. A student may not always see a patient enter the hospital and recover during her training period, but she will get a good overview by observing a number of patients being admitted, during progress, and at recovery.

Lecturers and instructors.—Psychiatrists should conduct the classes having to do with psychiatry and should conduct clinics at which patients are presented. Social workers should teach sociology as it relates to mental disease. Occupational therapists, recreation directors, physiotherapists, and dietitians should be placed on the schedule of classes.

An affiliation involves repetition of the lectures about four times a year. If the instructor is required to repeat the lectures too frequently he may become disinterested. Senior psychiatrists or other well-prepared instructors might divide the classes and plan for alternates in order that all of the objectives may be attained. It is preferable that the psychiatrists or other special lecturers be compensated. Full-time nurse instructors should be employed for formal and informal teaching. The clinical and classroom topics may be divided in such a way that each nurse instructor teaches some classes and spends some time on the wards. It may be desirable for instructors to alternate classroom teaching and clinical supervision with each group of students admitted.

Nurse instructors.—Psychiatric nursing is the major topic for student nurses. Nurse instructors should be qualified by experience in psychiatry and by preparation in teaching methods to present the topic convincingly. The nurse instructor should attend some of the classes given by other instructors so that she may correlate material to the advantage of the students.

Payment.—Physicians and others who are asked to conduct classes for student nurses in addition to their full-time duties should be paid for their effort. Preparation for classes, arranging illustrative material, and reading notebooks require time and effort. Instructors should be provided with the materials they require for demonstration.

Living conditions.—Student nurses should be provided with adequate living quarters under the supervision of a qualified residence director. A matron should be on duty in the evening until all students are in the house for the night. Students out with late permission should not have to wait for someone to come from another building to let them in. Graduate nurses should not be burdened in their off-duty hours with responsibility for students unless they are employed for that purpose.

Students should have an opportunity for recreational activities at proper hours without disturbing others. Transportation to shops, recreation centers, and churches should be available without excessive expense or delay. Provision should also be made for laundering lingerie. Analysis of frequent complaints of misdemeanors committed by students indicated that the violations of residence rules concerned noise, food, and laundering. When provision is made for these normal needs the difficulties are reduced.

Residence directors should be informed in plenty of time that the students are coming. In planning the day and hour groups are to come, the residence director should be consulted. A specific day in the week may be selected for the starting date of the affiliating program and may be found more convenient than if students come at the beginning or end of a month. From a housekeeping point of view, group changes are inconvenient over week ends. An entrance date should be selected when the housekeeping personnel, porters, and others needed for help with the moving and housework are available. Forty or more residents leaving rooms after the noon meal and a different group due for supper presents a gigantic task to the housekeeping staff. Plans for rooms and service in the dining room should be made before the students arrive.

Hospitals vary according to local custom in their methods for quartering students. If the method works satisfactorily in the situation, it has merit.

Final responsibility.—The nursing director is finally responsible for the educational program and welfare of the students as well as for the standard of nursing care maintained for patients.

Students' records showing class attendance, experience, grades, health, and personality estimate should be prepared from class books, ward reports, and other sources. The educational director should check the records and prepare them for the signature of the nursing director.

The nursing director depends upon her associates for accuracy and promptness in preparing and sending records. She may need to review the circumstances of a report of failure on the ward or in residence routine. It should be understood and agreed that students coming for affiliation are adults and that they should not need special discipline while they are away from their home schools. The nursing director may need to consult with the director of a student's home school concerning illness, absence for valid reason, or other such items. If a student fails to adjust sufficiently, which seldom happens, or is too immature to direct her own program and behavior, which occasionally happens, she should be asked to return to her home school after arrangements have been made for her to go.

The home school should accept responsibility for disposal of the problems and for arranging the student's return with a group later if feasible.

Counsel.—Psychiatric nursing may confront the student with problems which she needs help in solving. Opportunity to consult a mental hygiene clinic or a psychiatrist for personal guidance is helpful. An announcement of who may be consulted, where, and when, should be included in the general information provided during orientation. Students should be given to understand that such consultation is a usual routine the same as reporting a cold or other indisposition.

Occasionally a problem of behavior arises. Class and educational problems should be dealt with by the instructor and educational director. Ward problems should be dealt with by the charge nurse and nursing supervisor and residence affairs by the matron on duty and the residence director.

If the ward and residence problems are more complicated than the persons concerned can manage, the educational director or clinical instructor may advise if they are requested to do so.

Instructors and educational and nursing directors should offer the students help with their difficulties. The student should go on the wards secure in her belief that she is surrounded by well-disposed, experienced nurses who are desirous of helping her acquire ability in caring for patients having mental illnesses.

If the affiliation is successful, the student benefits personally by her experience in the mental hospital. She should obtain insight into her problems and become better adjusted and more efficient. The patients she cares for in general hospitals or in their homes, when she is a graduate nurse, will benefit by her increased understanding of their emotional problems. Her family and friends should find her more companionable because of her increased poise and dependability. The community in which she lives should benefit by her ability to understand the problem of caring for mental patients. She can be

an effective mental hygienist if she becomes a public health nurse, helping patients and their families maintain emotional equilibrium in times of stress.

The final test of effectiveness of the affiliation is the return of the affiliating nurses to psychiatric nursing either to the hospital where they had their experience, or elsewhere.

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PATHOLOGY OF EXPERIMENTAL TULAREMIA IN THE GOLDEN HAMSTER (*CRICETUS AURATUS*)¹

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The gross and microscopic pathology is described from a series of 25 hamsters derived from the experiments of Larson (1).

Intraperitoneal inoculations of 0.3 cc. of a 10^{-6} dilution of the above "T-500" suspension were made in 16 hamsters. Four were injected subcutaneously and 1 intramuscularly with 0.3 cc. of dilutions varying from 10^{-1} to 10^{-7} . Two received intranasal instillations of 0.3 cc. of a 10^{-2} dilution and 2 were inoculated intracerebrally with 0.03 cc. of 10^{-2} and 10^{-6} dilutions, respectively.

The animals were killed or died at the following intervals: 2 on the first day, 3 on the second, 4 each on the third and fourth, 10 on the fifth, and 2 on the seventh day after inoculation.

GROSS LESIONS

Grossly, inoculation lesions were not dissociated from the local inguinal lymph node reaction in the four animals inoculated by the

¹ From the Pathology Laboratory and the Division of Infectious Diseases, National Institute of Health.

subcutaneous route. In Nos. 12, 18, and 19, the inguinal node was enlarged, hemorrhagic, and necrotic, and adjacent tissue was adherent. In No. 25, necrosis of the site of injection was noted, and in No. 23 there was swelling, hemorrhage, and necrosis at the site of intramuscular injection.

Clear to turbid exudates were present in the abdominal and chest cavities in many of the intraperitoneally inoculated animals, more often in the peritoneum than pleura, and also in 2 hamsters inoculated subcutaneously. Pleural exudate was present in 9 animals, 8 dying on the fifth day and 1 on the third. Peritoneal fluid was present in 15 animals, 1 on the second day, 4 on the third, 2 on the fourth, and 8 on the fifth. Fibrinous exudates on omentum and surfaces of liver and spleen were present only after intraperitoneal injection and only on the third to fifth days, appearing in 9 animals in all.

Swelling and hemorrhage in Peyer's patches of the intestine appeared in 5 animals dead on the third to fifth days. Focal necroses were seen in the liver in 10 and in the spleen in 11 animals, chiefly on the fourth to seventh days.

Focal hemorrhage or hemorrhagic consolidation of the lungs was noted in 10 hamsters, dead 1 each on the second, third, and fourth days, 6 on the fifth, and 1 on the seventh.

Enlargement of the spleen was noted in nine animals dead, two on the fourth, five on the fifth, and two on the seventh day. These nine animals were inoculated, four by the subcutaneous route, two by the intraperitoneal route, and one each by intracerebral, intranasal, and intramuscular routes. Six of the remaining seven animals dead on the fourth, fifth, and seventh days were inoculated intraperitoneally, and five of these showed copious fibrin exudates on the spleen capsule. Only hamster No. 21 killed 5 days after intraperitoneal inoculation showed both splenic enlargement and capsular exudation.

SITE OF INOCULATION

Histologic study was made of the site of the subcutaneous or intramuscular inoculation in four hamsters (Nos. 12, 18, 23, and 25), killed on the fourth, fifth, sixth, and seventh days. The first of these showed cytoplasmic oxyphilia of the epidermis, few focal hemorrhages in the papillary layer of the derma, focal lymphocyte infiltration of derma and subcutaneous fat with many clusters of coccoid organisms and irregular karyorrhexis, and an area of necrosis involving the deeper layers of the derma, the skin muscle, and subcutaneous tissue. In this area of necrosis there were fibrin exudation, hemorrhage, and much nuclear debris. Fibers of the skin muscle were intensely oxyphil and karyolytic. Lymphatic vessels near the regional node were filled

with nuclear debris and blood vessels contained hyaline and necrotic cellular thrombi.

In the second animal the process was similar, but mammary gland tissue was also included and exhibited extensive coagulative to caseous necrosis, and organisms were few or absent in most of the lesion. The third, inoculated intramuscularly, showed extensive caseous and coagulative necrosis of fascia and muscle, centering about arteries. In the fourth there was a small area of coagulation necrosis of the epidermis overlying a larger area of caseous necrosis of derma and subcutis in which the coagulated fibers of the skin muscle remained recognizable.

The primary lesions studied in man have usually represented later phases of a basically similar process, complicated by secondary infection. Such primary skin lesions apparently did not develop in jack rabbits or mice. Cottontails showed more organisms and less local destruction, while in ground squirrels large hemorrhagic coagulated lesions developed, and similar lesions have been reported in guinea pigs and sheep.

LYMPH NODES

Mesenteric and axillary lymph nodes were routinely sectioned. Frequently the latter were so small that only fat and muscular tissues appeared in the sections. Inguinal nodes as well were taken in the four animals inoculated subcutaneously.

Both grossly and microscopically the inguinal and axillary nodes of animals inoculated subcutaneously showed more severe lesions than did axillary nodes of animals infected by other routes. Enlargement, congestion, hemorrhage, and necrosis were recorded grossly, extensive karyorrhexis to caseous necrosis of the nodes, and caseous lymphangitis in adjacent tissues microscopically. In such nodes no great numbers of organisms were identified.

Mesenteric nodes were more prone to show sinus dilatation than axillary, but this tendency seems common as a relatively normal anatomical difference in rodents. Lymphoid follicles often presented pale centers with phagocytic reticulum cells ingesting more or less nuclear debris. While significant of cell destruction, this finding may appear in uninfected rodents, and was seen in two hamsters killed 1 day after inoculation. No other changes appeared in animals killed 3 days or less after inoculation.

The two hamsters that died on the third day showed focal hemorrhage in mesenteric node sinus areas, with reticuloendothelial swelling and clusters of coccoid organisms in their cytoplasm. Erythrophagia was present also in one, slight focal karyorrhexis in the other. A single focal necrosis with karyorrhexis, reticulum cell swelling, and clusters of intra- and extracellular coccobacillary organisms appeared in an axillary node of one of these two hamsters.

In animals dying or killed later essentially similar lesions appeared, but karyorrhexis was often more extensive and more advanced, so that in some nodes there was diffuse caseous necrosis of pulp, follicles, and sinus areas. Generally changes were more advanced in sinus areas. Pulp sometimes presented hyaline thrombi with clusters of small coccoid organisms in small blood vessels.

Generally similar changes are observed in tularemic lymph nodes in all species. Fibrin exudation, seen in some other species, is inconspicuous in most of these hamsters. Similar reduction of number of evident organisms in the presence of extensive necrosis is seen in jack rabbits, cottontails, and cotton rats showing many organisms in surviving reticuloendothelium. White mice and some guinea pigs also showed many organisms.

SPLEEN

Six animals killed during the first 3 days after inoculation showed only moderate pulp congestion and slight to moderate pulp lymphocyte infiltration, less often a rather marked myelosis with large myeloid cells, normoblasts, and a few megakaryocytes. Beginning with animals dying on the third day, and in three of the four killed on the fourth day, lesions were constantly present, with the exception of hamsters Nos. 11 and 22, which showed no lesions, gross or microscopic, in any of their organs.

The first observed changes were colonization of the more or less swollen pulp reticuloendothelium by clusters of small coccoid organisms, a patchy hyaline thrombosis of the pulp, with clusters of organisms also in the thrombus material and karyorrhexis of the included cells. This graded into dense accumulations of fragmented nuclei, among which organisms seemed less numerous than in marginal surviving tissue. Fibrin is seldom apparent in these focal lesions. Such areas of necrosis were usually present and often involved splenic follicles as well. Surviving follicles not infrequently presented swollen phagocytes with ingested nuclear fragments along their lymph clefts, and clusters of organisms were sometimes present in these phagocytes as well.

Vague borders of foamy epithelioid cells around sharply defined foci of necrosis were suggested in two hamsters killed on the fourth and fifth days. Otherwise, splenic lesions were essentially similar to those seen in acute tularemia in jack rabbits, cottontails, cotton rats, and mice. The sharply defined focal necrosis of Belgian hares, guinea pigs, and man are infrequent. In a naturally infected hamster Dwijkoff noted a diffuse, partly focal necrosis with fibrin in the spleen.

HEART

In hamster No. 12 (4 days) a mass of hyaline thrombus containing red corpuscles, clumps of nuclear fragments, and clusters of coccoid

organisms was present in the atrioventricular orifice in contact with a leaflet of the tricuspid valve. Otherwise, rather pronounced atrial dilatation was noted in four hamsters, congestion of ventricular muscle in three, and focal epicardial lymphocyte infiltration in two.

According to Lillie and Francis, intrinsic cardiac lesions have been absent in 13 human autopsies, 2 quail, 4 cotton rats, 3 ground squirrels, 3 mice, and 3 foxes. In 1 man interstitial lymphocyte infiltration was noted. In Belgian hares acute tularemia gave focal lesions in 1 of 28, while in subacute infections 20 percent of the hares had cardiac focal lesions. Focal necrosis of heart muscle occurred in 3 of 9 rats and 1 of 10 guinea pigs and clumps of organisms were found in hyaline thrombi or swollen endothelial cells in both of 2 cottontail rabbits.

LUNG

Lung tissue from 24 hamsters was studied. No lesions were seen in Nos. 1, 4, 7, and 23, killed on the first, second, third, and fifth days, and occasional focal hemorrhages were the only lesions in Nos. 2, 6, 11, and 22, killed on the first, second, fourth, and fifth days. Congestion, hemorrhage, and edema were noted in No. 3, which died on the second day. In No. 10, killed on the fourth day, the only finding was parasitization of scattered intraseptal cells by clumps of small coccoid organisms, while in No. 13, also killed on the fourth day, two foci of septal karyorrhectic necrosis containing few coccoid organisms were the only lesions. One similar focal septal necrosis was seen in one other hamster.

In the remainder, capillary or venous thrombi, usually both, were observed. Capillary thrombi were commonly hyaline and often contained clumps of small coccoid to bacilliform organisms. Similar organisms occurred also in scattered intraseptal cells, and less often in evident alveolar lining cells. The venous thrombi were composed of hyaline material, of masses of nuclear debris, and of entrapped red corpuscles, and also contained clusters of organisms. They often showed prolongation into small tributary veins when they did not completely occlude the lumen. Often unclotted blood occupied part of the vein lumen beside the thrombus, but even lobar veins were sometimes completely occluded.

In 8 of the 12 cases with venous thrombosis more or less extensive alveolar hemorrhage was observed, and in 3 of these 8 there was also slight to marked hemorrhage in the periarterial spaces. This hemorrhage is regarded as probably obstructive in etiology. In 1 of the 4 cases of venous thrombosis without hemorrhage densely basophilic masses in the thrombi were observed (fifth day). The basophilic material occurred as coarse, intensely basophilic granules and lobate masses. These stained black with iron chloride hematoxylin, dark

blue with an alizarin red S,² toluidin blue sequence, were iron negative, and unstained by alizarin red S alone.

For tularemia this propagation of the otherwise common capillary thrombi into pulmonary veins with resultant venous occlusion and extensive alveolar and lymphatic hemorrhage appears to be unique in this species. Hyaline capillary thrombi and clusters of organisms in septal cells as well as thrombi have been reported also in jack rabbits, cottontails, cotton rats, mice, and occasional guinea pigs (Lillie and Francis).

PLEURA AND PERICARDIUM

Consistently with the lack of appreciable reaction in the peritoneum when other than the intraperitoneal route of inoculation was used, and with the previously reported findings in other experimental animals (Francis generally employed cutaneous or subcutaneous or oral routes of infection), histologic lesions of the pulmonary pleura and of the epicardium were absent. Serous pleural exudates were noted grossly in one 3-day hamster and in eight of the ten 5-day animals. Focal lymphocyte infiltration and focal hemorrhage in mediastinal fat were noted in one hamster each. Three showed necrosing mediastinal lymph nodes similar to those seen in the abdomen at similar stages.

PERITONEUM

Grossly, serous peritoneal exudation appeared as early as the second day in one of two intraperitoneally inoculated hamsters, and was present in all intraperitoneally inoculated animals that survived 3 days or longer. Fibrinous deposits on the viscera were observed in the two intraperitoneally inoculated animals which died on the third day, but not in those killed, and were present in three of the four animals killed 4 days after intraperitoneal inoculation and in all six of those dead 5 days after intraperitoneal inoculation.

Serous exudation was observed also in two hamsters killed 5 days after subcutaneous inoculation, but fibrinous exudates were not seen in any of the nine animals infected by other than the intraperitoneal route.

Histologically the fibrinous exudate was found on the splenic omentum, the capsules of the liver and spleen, less often and less marked on the serosae of the intestine, tube, and epididymis. In addition to the animals in which reactions were grossly evident, focal reactions were seen on the testicular capsule 1 day after intraperitoneal injection, in one hamster killed 3 days after intraperitoneal inoculation on the omentum and mesentery, and on the liver capsule in an animal killed on the seventh day.

² Stain 1 hour in 1:1,000 aqueous solution, rinse and counterstain 30 seconds in 1:1,000 toluidin blue. Dehydrate and clear with acetone and xylene in sequence.

The exudate consisted of fibrin and necrosing cells. These were commonly unidentifiable from karyorrhexis, but sometimes lymphocytes, red corpuscles, and neutrophil leucocytes were identifiable. Often numerous clusters of more or less densely packed coccoid organisms were present, both free and in cells.

Beneath this exudate were often seen swollen mesothelial cells, some of which were packed with organisms. In omental and mesenteric tissues there was commonly a thick layer of underlying nuclear debris, sometimes surviving lymphocytes, monocytes, and neutrophil leucocytes. Mast cells were readily identified both in surviving and necrotic areas, and were readily distinguished from the numerous clusters of coccoid organisms occurring free and in monocytoïd cells in the exudate. Necrosis was perhaps less frequent in the earlier animals, recognizable cells in the later.

Beneath capsular exudates on the liver there were sometimes increased numbers of liver cells packed with organisms.

ESOPHAGUS

No lesions were observed in 7 hamsters, and no specific lesions were reported by Lillie and Francis in 3 men, 19 guinea pigs, 9 rats, 5 ground squirrels, 2 cotton rats, or 1 cottontail rabbit.

INTESTINE

Grossly, swelling, hemorrhage, and often necrosis were observed in the agminated lymphoid follicles of Peyer in the small intestine in five hamsters.

Small intestine was studied histologically in 15 hamsters, colon in 8. There were no lesions of the colon. Small intestine was recorded as normal in 13 sections from 10 hamsters, but in 2 of these lesions were present in other levels, making a total of 7 showing lesions. These lesions usually involved the lymphoid follicles, less often the adjacent mucosa. Follicles generally were quite active, with moderate phagocytosis of nuclear debris by the reticuloendothelium of the lymph clefts, which also contained free nuclear fragments in some. Follicular hemorrhage was present in 2 animals, extending into submucosa in both and mucosa in 1, accompanied by hyaline capillary thrombi in the mucosa and follicles in both. In 3 other animals there were mucosal foci of coagulation necrosis of stroma in which there were numerous hyaline eosinophilic globules about the size of lymphocytes. Associated with these there were swollen mucosal reticulum cells sometimes apparently ingesting the globules. Clumps of small coccoid organisms were found in 5 cases, occurring in swollen mucosal reticulum cells adjacent to focal lesions and in hyaline thrombi. In 2 hamsters serosal mesothelial cells were swollen and packed with

organisms. Diffuse karyorrhexis of lymphoid tissue was noted in 1 hamster.

Focal necroses in intestinal mucosa have been noted previously in one cottontail, two guinea pigs, five Belgian hares, two men, one ground squirrel, and in the lymphoid follicles in cotton rats. Organisms were seen in and near lesions in cottontails and cotton rats.

LIVER

As in the spleen, lesions were constant on the fourth to seventh days, except for the apparently uninfected hamsters Nos. 11 and 22, and appeared in the two which died on the third day.

Almost regularly there are seen more or less numerous scattered isolated coagulated and necrotic liver cells. Their cytoplasm is strongly oxyphil, their nuclei absent or in varying phases of karyolysis. Infrequently they contain clusters of small coccoid and short bacillary organisms. Such clusters of organisms are more often seen in surviving, basophilic liver cells, occurring in 11 of the 16 animals in which lesions were present. These bacterial clusters are more often loose and small, but in 5 hamsters numbers of cells were solidly filled with closely packed coccoid organisms. Such cells were sometimes more numerous just beneath the fibrinocellular capsular exudate seen in some animals.

Hyaline and necrosing cellular capillary thrombi were also a frequent lesion, and again often contained clusters of organisms. Such thrombi graded into small foci of karyorrhectic necrosis and also formed part of the foci of mixed coagulative and karyorrhectic necrosis.

Focal necroses were sharply defined, ranging from small cell clusters up to 50μ in diameter, less often larger, perhaps to 500μ in an occasional animal. Some were purely coagulative, some composed of coagulated liver cells with karyorrhectic thrombus between, some solidly karyorrhectic in whole or in part with admixture of one of the preceding types in part of their area, and a few showed conversion of cells and vessels into concentric fibrinoid masses enmeshing numbers of intact erythrocytes as well as clusters of organisms. In a few animals vague, or less often definite, borders of epithelioid cells appeared around focal necroses. Most of these occurred in killed animals rather than in those that died of the infection.

Compared with certain other infections, fatty changes in liver cells are relatively inconspicuous. Fine fat droplets occur in some cells, not in others, sometimes accumulated in the perinuclear zone of cytoplasm, and then more common in the periportal zones of the lobules. Kupffer cell fat phagocytosis appeared in a few hamsters, and some showed diffuse sudanophilia of vascular serous contents.

Dwijkoff (1930) noted fatty infiltration, capillary endothelial swelling, and desquamation, thrombi of coccoid organisms, and miliary

necrobiotic foci in the liver of a naturally infected hamster (*Cricetus* sp.).

There is much similarity between the foregoing picture and that seen in cottontail rabbits and jack rabbits, less with that in cotton rats and in white mice.

PANCREAS

This organ was studied in 12 hamsters, of which 5 showed focal lesions of liver and spleen. Of these 5, one showed irregular interstitial lymphocyte infiltration. In the rest there were no lesions.

This accords with the absence of focal lesions in 15 men, 2 cottontail rabbits, 1 cotton rat, 4 mice, 7 rats, 1 ground hog, 3 foxes, and 1 dog, and the single lesions in single animals noted in series of 55 Belgian hares, 11 guinea pigs, 1 ground squirrel, and 1 opossum reported by Lillie and Francis.

ADRENAL

Adrenals were studied histologically in 15 hamsters. No lesions were observed in the 9 dead before the fifth day. The 5 dying on the fifth day, and the 1 dying on the seventh all showed few to numerous oxyphil, coagulated, and necrotic isolated cortex cells, and 4 of them showed more or less extensive interstitial cortical hemorrhage. Hyaline thrombi and clumps of coccoid organisms were less often seen in the cortex, and endothelial parasitization was seen in both cortex and medulla in 1 hamster only.

Hemorrhages have been reported in cotton rats, isolated necrotic cortex cells in jack rabbits, hyaline thrombi with organisms in jack rabbits and cottontails, endothelial parasitization in mice, guinea pigs, and cottontails. Cortex cell parasitization as seen in jack rabbits, mice, and cottontails was lacking in this species, as were the well-defined focal necroses of Belgian hares, jack rabbits, ground squirrels, rats, guinea pigs, and water rats (Lillie and Francis).

KIDNEY

Kidney was studied histologically in 20 hamsters. As in the liver, fatty changes were relatively infrequent and slight, perhaps more in collecting and loop tubules than in convoluted. More frequent and more striking was an accumulation of fine fat droplets in interstitial and glomerular capillary endothelium. This was noted in 7 animals, involving glomeruli in 6, interstitial capillaries in 5. In the 6 hamsters with glomerular fat deposits, and in 6 others there was noted a diffuse sudanophilia of the blood plasma in larger vessels as well as capillaries.

Intratubular casts were noted in 13 animals, usually hyaline and oxyphil, sometimes epithelial in nature. Few blood casts were seen in 2 animals, and hemoglobin casts in one of these. In a few animals

there was slight to rather extensive necrosis of convoluted tubule epithelial cells.

A single focus of karyorrhectic necrosis was noted in the renal cortex in hamster No. 12 (4 days). Hyaline thrombi in isolated glomerular loops, usually with clusters of small coccoid organisms in the thrombus or in adjacent cells, appeared in 5 of 11 animals dead on the fourth and fifth days. In one hamster dying on the seventh day there was extensive deposition of material resembling amyloid in many glomeruli. Few foci of karyorrhectic necrosis of isolated glomerular loops were observed in one other hamster killed on the fifth day.

Clusters of coccoid organisms, though usually restricted to glomeruli, occasionally appeared in the endothelium of intertubular capillaries.

Similar glomerular thrombi and bacterial clusters are reported in white and gray mice, cottontails, fewer jack rabbits, guinea pigs, cotton rats, ground squirrels, probably in Dwijkoff's water rats, and in one quail. Focal necrosis is infrequent also in other species, including man, guinea pigs, Belgian hares, ground squirrels, and water rats (Lillie and Francis, literature).

TESTIS AND EPIDIDYMIS

Active spermatogenesis was noted in four hamsters (fourth, fourth, fifth, seventh days), tubular degeneration or atrophy in four others (first, first, second, and fifth days). Normal epididymis was noted in all eight and in one other. There were no focal lesions. The foci of capsular exudate observed in four hamsters are discussed with the peritoneal reaction.

Lillie and Francis noted degeneration but no focal lesions in eight human cases and three guinea pigs, no lesions in two cottontail rabbits and one California ground squirrel. Focal hemorrhage in the polar fat and in the testis were noted respectively in two other ground squirrels. One guinea pig had a periorchitis.

OVARY, TUBE, AND UTERUS

In hamster No. 8 a corpus luteum showed coagulation necrosis of moderate numbers of isolated lutein cells, and small clumps of lutein and endothelial cells packed with small coccoid organisms. In one other ovary there was hemorrhage in a corpus luteum, but no other changes suggesting a tularemic focal lesion. The other seven ovaries studied were normal.

In hamster No. 14 there was endometrial engorgement with much focal hemorrhage, moderate numbers of small hyaline thrombi, and moderately numerous clumps of coccoid organisms in thrombi, in endothelial cells, and in endometrial stroma cells. In four other animals the uterus was normal, though there was an organizing parametrial thrombophlebitis in a hamster 3 days after inoculation.

Tubes from 12 hamsters showed no intrinsic focal lesions, though serosal reactions as a part of a general peritoneal process were seen in 2.

References to studies of female internal genitalia are almost absent from the literature. Lillie and Francis include references to the uterus in two women, ovary in one, tubes and adnexa in two ground squirrels, and ovary and tubes in one mouse. No lesions were recorded.

BRAIN

Sections of brain from the two intracerebrally inoculated hamsters showed no lesions. These were dead 2 and 4 days, respectively, after inoculation.

SUMMARY

Acute tularemia in hamsters is characterized by extensive necrosis, hemorrhage, and fibrin exudation at the site of inoculation, producing local sloughs after subcutaneous injection, and fibrinous peritonitis with intraperitoneal inoculation. There are hyaline and necrosing cellular capillary thrombi containing clusters of organisms in liver, kidney, lung, lymph nodes, adrenals, and elsewhere. There is coagulation necrosis of isolated cells in adrenal cortex and liver parenchyma, and a focal mixed karyorrhectic and coagulative necrosis is seen in the liver. Focal sinus thrombosis grading into karyorrhexis and caseous necrosis occurs in spleen and lymph nodes and spreads to involve pulp and follicles generally. In the lung there is venous thrombosis with secondary alveolar and periarterial hemorrhage. Loose to dense clusters of coccoid and bacillary *P. tularensis* occur in liver cells, in peritoneal mesothelial cells, in capillary endothelial cells, and in reticuloendothelial cells in spleen, lymph nodes, lungs, intestines, and liver. Organisms are fewer in necrotic than in marginal surviving areas.

REFERENCES

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NUMBER OF VACANCIES FOR FULL-TIME PUBLIC HEALTH PERSONNEL IN STATE AND LOCAL HEALTH DEPARTMENTS, JULY 1945

The Surgeon General's Committee on Postwar Training of Public Health Personnel, which consists of representatives of the United States Public Health Service, the Conference of State and Territorial Health Officers, the Association of Schools of Public Health and the American Public Health Association, has sponsored a survey of the

Number of vacancies¹ for full-time public health personnel reported in 98 State and 990 local health departments in 42 States, July 1945

State	Type of position																		
	Health officer	Epi- demi- ologist	Other M. D.	Gradu- ate nurse	Sani- tary or public health engi- neer	Sani- tarian	In- spec- tor	Veter- inarian	Den- tist	Statis- tician	Health educa- tor	Nutri- tion- ist	Bac- teriolo- gist, serolo- gist	Chem- ist	Lab- oratory techni- cian	X-ray tech- nician	Dental hygi- enist	V. D. inves- tigator	Medi- cal social worker
Total.....	99	31	208	1,313	110	212	113	24	38	47	50	26	98	26	105	50	15	11	17
Alabama.....	3	1	2	29	3	14	2	3	1	0	1	0	17	0	3	0	0	0	1
Arizona.....	1	0	2	8	0	4	1	0	0	1	0	0	1	1	0	1	1	1	0
Arkansas.....	0	0	2	1	0	6	1	0	0	0	1	0	0	1	0	1	0	0	0
California.....	1	2	24	96	4	32	21	1	2	8	1	6	3	1	1	1	2	0	2
Colorado.....	1	0	2	11	1	2	1	0	0	0	1	1	0	1	1	0	0	0	0
Connecticut.....	0	2	2	7	2	3	2	0	0	0	0	0	2	0	0	0	1	0	0
Delaware.....	1	1	1	5	2	0	1	0	0	0	0	0	0	0	7	1	7	0	5
District of Columbia.....	0	0	6	0	0	15	3	0	2	0	0	1	0	0	0	2	1	0	0
Florida.....	4	0	0	17	0	3	3	0	1	0	0	1	2	1	15	8	0	0	0
Georgia.....	13	1	14	57	17	7	5	1	1	1	2	1	2	1	0	0	0	0	0
Idaho.....	1	1	1	17	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Illinois.....	0	0	1	7	1	1	0	0	1	1	2	0	0	0	0	0	0	0	0
Indiana.....	0	0	3	132	15	11	3	0	1	2	5	1	2	3	0	3	1	0	1
Iowa.....	0	0	0	19	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
Kansas.....	2	0	5	11	4	1	0	1	0	0	1	0	3	2	1	1	0	2	0
Kentucky.....	18	0	3	71	2	13	0	0	3	0	0	1	0	1	4	3	0	0	0
Maine.....	0	0	0	35	5	8	13	1	0	3	1	3	3	1	0	0	0	2	2
Maryland.....	2	0	10	3	3	1	2	0	2	0	5	1	1	1	3	0	0	2	2
Massachusetts.....	3	1	3	169	3	4	19	5	3	1	5	2	8	2	10	1	0	0	0
Michigan.....	9	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Minnesota.....	1	0	0	5	1	0	2	0	0	0	0	0	0	0	1	0	0	0	0
Mississippi.....	0	0	1	25	0	6	0	0	0	0	0	0	0	0	0	0	1	1	1
Missouri.....	11	2	8	55	8	5	6	0	4	2	0	0	0	1	0	3	1	1	1
Montana.....	1	0	2	13	0	0	1	0	1	0	0	1	0	0	0	1	1	0	0
Nebraska.....	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nevada.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Hampshire.....	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Jersey.....	0	0	5	2	2	0	3	2	0	1	0	0	2	0	3	0	0	0	0
New Mexico.....	0	0	1	19	0	0	0	1	0	0	0	2	0	0	0	2	2	1	1
New York.....	0	10	35	181	2	12	12	4	0	17	4	3	18	2	21	4	0	0	0

personnel of State and full-time local health departments. The purpose of the survey was to obtain complete and accurate information on the number of existing positions, both filled and vacant, in order to appraise the opportunities and openings in the field of public health.

Copies of the survey questionnaire were sent to all State health departments and to all local health departments listed in the 1945 Directory of Full-time Local Health Officers. Returns have been received from 38 State and 930 local health departments. This represents about 80 percent returns. No questionnaires at all were received from Louisiana and North Dakota. Three States, Indiana, Nevada, and Tennessee returned only the questionnaires for their State health departments.

The accompanying table shows the number of vacancies reported for 19 types of public health personnel, by State. In addition, 144 vacancies were reported for "other technical" and unspecified types of personnel. The figures shown do not include approximately 2,000 positions, vacant or filled by temporary appointees, which are held for persons in the armed services.

DEATHS DURING WEEK ENDED SEPTEMBER 22, 1945

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Sept. 22, 1945	Correspond- ing week, 1944
Data for 93 large cities of the United States:		
Total deaths.....	8, 205	8, 027
Average for 3 prior years.....	8, 049	
Total deaths, first 38 weeks of year.....	341, 548	343, 526
Deaths under 1 year of age.....	607	567
Average for 3 prior years.....	608	
Deaths under 1 year of age, first 38 weeks of year.....	23, 051	23, 476
Data from industrial insurance companies:		
Policies in force.....	67, 310, 855	67, 291, 680
Number of death claims.....	11, 633	11, 846
Death claims per 1,000 policies in force, annual rate.....	9. 0	9. 2
Death claims per 1,000 policies, first 38 weeks of year, annual rate.....	10. 2	10. 1

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED SEPTEMBER 29, 1945

Summary

The incidence of poliomyelitis declined for the second consecutive week. A total of 774 cases was reported, as compared with 864 last week and 962 for the next earlier week, 976 for the corresponding week last year, and a 5-year (1940-44) median of 679. Declines occurred in each of the 9 geographic divisions except the West North Central.

Of the 21 States reporting 10 or more cases each, 7 recorded an increase of 37 cases (161 to 198), while in 12 States a decline of 82 cases occurred (from 534 to 452). States reporting 15 or more cases each are as follows (last week's figures in parentheses): *Increases*—Pennsylvania 52 (48), Michigan 19 (12), Wisconsin 56 (48), Minnesota 26 (23), Iowa 23 (14); *decreases*—Massachusetts 39 (51), New York 108 (110), New Jersey 47 (55), Ohio 36 (37), Illinois 71 (93), Texas 36 (39), Utah 15 (22), California 52 (54). The total to date for the country as a whole is 9,657, as compared with 14,546 last year, 9,309 in 1943, and a 5-year median of 6,394, for the corresponding periods.

The seasonal low for meningococcus meningitis has been reached and increased incidence of the disease may now be expected. A total of 101 cases was reported currently, as compared with 83 last week, 127 and 192, respectively, for the corresponding weeks of 1944 and 1943, and a 5-year median of 48. States reporting the largest numbers are New York 12, Pennsylvania and Missouri 10 each, and California 7. The total to date is 6,679, as compared with 13,856 and 14,523, respectively, for the corresponding periods of the epidemic years of 1944 and 1943, and a 5-year median of 2,671.

Ten cases of anthrax were reported for the week—8 in Pennsylvania and 1 each in Massachusetts and California.

Of the 17 diseases included in the following tables, the cumulative totals for only the following are above the respective figures for the corresponding period last year (approximate percentages of excess in parentheses): Diphtheria (28), the dysenteries combined (19), Rocky Mountain spotted fever (0.01), tularemia (33), whooping cough (33), undulant fever (17).

Deaths recorded during the week in 93 large cities of the United States totaled 8,380, as compared with 8,205 last week, 7,993 for the corresponding week last year, and a 3-year (1942-44) average of 8,280. The total to date is 349,928, as compared with 351,519 for the corresponding period last year.

Telegraphic morbidity reports from State health officers for the week ended September 29, 1945, and comparison with corresponding week of 1944 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none was reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1940-44	Week ended—		Median 1940-44	Week ended—		Median 1940-44	Week ended—		Median 1940-44
	Sept. 29, 1945	Sept. 30, 1944		Sept. 29, 1945	Sept. 30, 1944		Sept. 29, 1945	Sept. 30, 1944		Sept. 29, 1945	Sept. 30, 1944	
NEW ENGLAND												
Maine.....	0	0	0	—	—	—	0	0	1	0	0	1
New Hampshire.....	0	0	0	—	—	—	0	0	0	0	0	0
Vermont.....	1	0	0	—	—	—	2	1	3	0	0	0
Massachusetts.....	7	1	2	—	—	—	37	30	53	2	5	3
Rhode Island.....	0	0	0	14	6	—	1	3	3	0	1	1
Connecticut.....	0	1	2	—	—	1	2	6	6	2	4	1
MIDDLE ATLANTIC												
New York.....	14	6	9	(1)	1	14	12	15	48	12	14	5
New Jersey.....	2	3	3	3	1	2	12	10	27	1	6	3
Pennsylvania.....	9	5	10	—	1	1	53	20	51	10	17	4
EAST NORTH CENTRAL												
Ohio.....	22	8	8	5	7	5	4	6	22	4	7	0
Indiana.....	8	7	8	10	3	4	3	2	4	5	1	0
Illinois.....	3	6	8	1	—	3	33	15	18	5	12	1
Michigan ¹	26	7	5	—	—	—	38	7	38	3	6	1
Wisconsin.....	0	3	2	14	5	27	22	40	48	4	2	0
WEST NORTH CENTRAL												
Minnesota.....	6	9	2	—	—	1	4	3	4	1	0	0
Iowa.....	2	6	6	—	—	—	0	0	2	2	0	0
Missouri.....	8	1	3	—	2	1	1	0	3	10	2	1
North Dakota.....	0	2	2	1	—	—	0	0	4	0	0	0
South Dakota.....	3	4	4	—	—	—	1	1	1	0	0	0
Nebraska.....	1	0	1	—	—	—	1	5	5	0	0	0
Kansas.....	10	4	4	—	—	2	7	4	5	0	3	1
SOUTH ATLANTIC												
Delaware.....	0	0	0	—	—	—	0	2	2	0	0	0
Maryland ¹	17	2	3	—	—	2	1	0	7	2	2	2
District of Columbia.....	0	0	0	—	—	—	0	1	1	0	0	0
Virginia.....	13	11	16	148	72	53	7	0	16	6	2	3
West Virginia.....	6	6	6	—	2	2	0	0	2	0	1	1
North Carolina.....	82	24	46	—	3	2	6	4	9	1	1	0
South Carolina.....	20	17	25	166	202	171	8	29	15	0	2	2
Georgia.....	24	10	25	3	6	20	4	2	5	2	1	0
Florida.....	1	12	6	4	3	4	0	0	1	3	0	1
EAST SOUTH CENTRAL												
Kentucky.....	22	5	12	—	2	2	5	1	2	3	1	0
Tennessee.....	54	14	19	14	4	7	9	5	5	4	2	1
Alabama.....	25	39	29	15	4	4	8	2	7	2	6	0
Mississippi ¹	21	20	10	—	—	—	—	—	—	—	4	0
WEST SOUTH CENTRAL												
Arkansas.....	16	4	12	10	27	23	3	4	3	2	0	0
Louisiana.....	13	7	6	26	2	2	1	0	1	1	3	2
Oklahoma.....	4	4	9	17	25	11	0	2	2	0	0	0
Texas.....	46	52	34	625	451	379	34	24	15	5	5	2
MOUNTAIN												
Montana.....	1	0	0	2	5	1	63	1	14	0	0	0
Idaho.....	0	0	0	3	—	—	37	0	2	0	0	0
Wyoming.....	0	2	0	—	1	1	0	1	1	0	0	0
Colorado.....	6	6	4	14	15	16	2	5	8	1	1	1
New Mexico.....	3	5	3	5	2	—	2	6	1	0	0	0
Arizona.....	1	0	1	12	16	36	0	2	5	0	0	0
Utah ¹	2	0	0	—	—	—	4	3	3	0	0	0
Nevada.....	0	0	0	—	—	—	0	0	0	0	0	0
PACIFIC												
Washington.....	6	8	4	—	—	1	65	9	9	1	3	3
Oregon.....	1	1	1	—	4	5	10	23	22	0	2	2
California.....	26	30	17	3	15	15	110	110	75	7	11	6
Total.....	532	352	425	1,115	888	888	612	404	668	101	127	48
29 weeks.....	10,749	8,429	9,374	76,184	342,470	172,013	104,737	593,899	542,892	6,679	13,856	2,671

¹ New York City only.

² Period ended earlier than Saturday.

Telegraphic morbidity reports from State health officers for the week ended September 29, 1945, and comparison with corresponding week of 1943 and 5-year median—Continued

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever ¹		
	Week ended—		Median 1940-44	Week ended—		Median 1940-44	Week ended—		Median 1940-44	Week ended—		Median 1940-44
	Sept. 29, 1945	Sept. 30, 1944		Sept. 29, 1945	Sept. 30, 1944		Sept. 29, 1945	Sept. 30, 1944		Sept. 29, 1945	Sept. 30, 1944	
NEW ENGLAND												
Maine.....	2	1	1	12	15	6	0	0	0	0	0	0
New Hampshire.....	2	4	0	4	2	1	0	0	0	0	0	0
Vermont.....	2	1	0	2	3	2	0	0	0	0	2	1
Massachusetts.....	39	22	15	63	64	68	0	0	0	3	7	7
Rhode Island.....	3	0	0	1	4	3	0	0	0	1	0	0
Connecticut.....	11	10	10	16	6	13	0	0	0	2	7	1
MIDDLE ATLANTIC												
New York.....	108	366	52	99	73	93	0	0	0	11	7	16
New Jersey.....	47	52	9	22	21	31	0	0	0	3	2	2
Pennsylvania.....	52	52	13	93	77	80	0	0	0	9	10	16
EAST NORTH CENTRAL												
Ohio.....	36	63	42	99	110	93	0	1	0	10	7	9
Indiana.....	8	16	10	23	29	25	0	1	0	2	0	2
Illinois.....	71	37	37	68	81	81	1	0	0	2	4	13
Michigan ²	19	46	26	61	59	59	0	0	0	16	3	4
Wisconsin.....	56	12	12	36	43	57	0	0	0	0	1	1
WEST NORTH CENTRAL												
Minnesota.....	26	32	16	30	26	28	1	0	0	0	0	0
Iowa.....	23	9	9	19	20	26	0	0	0	0	18	1
Missouri.....	12	19	19	35	17	19	0	0	0	3	5	7
North Dakota.....	0	1	1	5	3	3	0	0	0	1	0	0
South Dakota.....	7	1	1	3	5	5	0	0	0	0	1	0
Nebraska.....	6	4	8	5	15	12	0	0	0	2	0	0
Kansas.....	8	7	9	44	30	30	0	0	0	0	1	2
SOUTH ATLANTIC												
Delaware.....	1	7	2	4	1	2	0	0	0	2	0	1
Maryland ³	412	29	3	29	33	18	0	0	0	1	5	7
District of Columbia.....	8	9	1	9	9	10	0	0	0	0	2	1
Virginia.....	11	23	8	70	25	25	0	0	0	17	2	8
West Virginia.....	5	18	4	63	58	45	0	1	0	1	4	15
North Carolina.....	47	18	8	55	37	18	0	0	0	4	3	3
South Carolina.....	2	3	3	13	9	12	0	0	0	3	6	6
Georgia.....	1	3	2	16	13	26	0	0	0	4	2	4
Florida.....	12	4	2	2	9	5	0	0	0	2	6	4
EAST SOUTH CENTRAL												
Kentucky.....	3	24	7	34	28	35	0	0	0	3	1	6
Tennessee.....	12	6	6	42	36	47	0	0	0	6	3	12
Alabama.....	8	4	2	16	23	26	0	0	0	6	7	7
Mississippi ²	4	9	1	8	7	9	0	0	0	4	4	3
WEST SOUTH CENTRAL												
Arkansas.....	3	1	1	18	6	4	2	0	0	5	5	5
Louisiana.....	1	4	4	16	9	6	0	0	0	2	3	5
Oklahoma.....	6	2	2	4	10	10	0	0	0	3	3	4
Texas.....	36	7	4	85	34	22	0	0	0	12	13	13
MOUNTAIN												
Montana.....	10	5	3	7	8	10	0	0	0	1	1	1
Idaho.....	2	0	0	7	15	10	0	0	0	2	2	2
Wyoming.....	2	0	1	1	1	1	0	0	0	0	0	0
Colorado.....	4	4	2	8	11	11	0	0	0	0	1	1
New Mexico.....	0	0	1	6	3	1	0	0	0	6	2	6
Arizona.....	1	2	1	4	5	2	0	0	0	1	0	1
Utah ²	15	0	1	11	11	7	0	0	0	0	0	1
Nevada.....	0	1	0	0	0	0	0	0	0	0	0	0
PACIFIC												
Washington.....	13	8	8	22	29	21	0	0	0	0	2	2
Oregon.....	5	12	5	9	16	10	0	0	0	0	1	1
California.....	52	18	17	109	104	72	0	0	0	0	2	7
Total.....	774	976	679	1,408	1,253	1,270	4	3	3	150	155	213
39 weeks.....	9,657	14,546	6,394	140,762	162,962	104,359	283	320	640	3,821	4,835	5,350

¹ Period ended earlier than Saturday.

² Including paratyphoid fever cases reported separately, as follows: Massachusetts, 3; New York, 2; New Jersey, 2; Michigan, 15; Oklahoma, 2; Texas, 1.

³ Poliomyelitis: North Carolina, week ended Sept. 15, 4 cases (instead of 5); Maryland, 1 August case, delayed report, which is included in the cumulative total only.

Telegraphic morbidity reports from State health officers for the week ended September 29, 1945, and comparison with corresponding week of 1944 and 5-year median—Con.

Division and State	Whooping cough			Week ended Sept. 29, 1945								
	Week ended—		Med- ian 1940- 44	Dysentery			En- ceph- alitis, infect- ious	Rocky Mt. spot- ted fever	Tula- remia	Ty- phus fever, en- demic	Un- dulant fever	
	Sept. 29, 1945	Sept. 30, 1944		Ame- bic	Bacil- lary	Un- spec- ified						
NEW ENGLAND												
Maine.....	57	4	16	0	0	0	0	0	0	0	0	
New Hampshire.....	6	12	2	0	0	0	0	0	0	0	0	
Vermont.....	11	5	9	0	0	0	0	0	0	0	0	
Massachusetts.....	114	52	104	0	0	0	0	0	0	0	0	
Rhode Island.....	20	19	26	0	0	0	0	0	0	0	0	
Connecticut.....	22	27	31	0	4	0	0	0	0	0	1	
MIDDLE ATLANTIC												
New York.....	316	197	224	7	27	0	5	0	0	0	3	
New Jersey.....	156	70	118	1	0	3	0	0	0	1	1	
Pennsylvania.....	142	109	173	1	0	0	0	0	0	1	0	
EAST NORTH CENTRAL												
Ohio.....	107	138	138	0	0	2	0	0	0	0	0	
Indiana.....	13	6	21	1	0	5	1	0	0	0	0	
Illinois.....	82	72	145	5	0	0	0	0	3	0	12	
Michigan.....	88	60	193	3	1	0	0	0	0	0	6	
Wisconsin.....	69	106	187	1	0	0	0	0	0	0	4	
WEST NORTH CENTRAL												
Minnesota.....	11	37	38	0	0	0	1	0	0	0	2	
Iowa.....	1	2	21	0	0	0	0	0	0	0	4	
Missouri.....	24	24	23	0	0	0	1	0	2	0	2	
North Dakota.....	5	4	22	0	0	0	0	0	0	0	0	
South Dakota.....	5	4	4	0	0	0	0	0	0	0	0	
Nebraska.....	4	0	7	0	0	0	0	0	0	0	1	
Kansas.....	8	28	28	0	0	0	1	0	0	1	5	
SOUTH ATLANTIC												
Delaware.....	4	2	3	0	0	0	0	0	0	0	0	
Maryland.....	52	47	64	0	0	8	0	0	0	0	0	
District of Columbia.....	13	1	6	0	0	0	0	0	0	0	0	
Virginia.....	41	11	45	0	0	298	0	5	0	0	0	
West Virginia.....	12	10	10	0	0	0	0	0	0	0	0	
North Carolina.....	54	150	103	0	2	0	0	4	1	3	0	
South Carolina.....	43	62	39	1	40	0	0	0	1	8	0	
Georgia.....	3	6	10	0	2	1	0	2	0	43	6	
Florida.....	1	1	5	2	0	0	0	0	0	7	1	
EAST SOUTH CENTRAL												
Kentucky.....	52	24	33	2	1	0	0	0	0	0	0	
Tennessee.....	14	19	21	0	0	1	2	0	0	1	1	
Alabama.....	11	16	16	4	0	0	1	1	0	21	2	
Mississippi.....	1	1	5	0	0	0	0	0	0	3	0	
WEST SOUTH CENTRAL												
Arkansas.....	15	28	20	2	29	0	0	0	2	0	1	
Louisiana.....	2	5	5	2	0	0	0	0	1	29	0	
Oklahoma.....	5	2	3	0	5	4	0	5	0	0	1	
Texas.....	124	157	117	12	337	50	0	0	1	46	19	
MOUNTAIN												
Montana.....	5	10	10	0	0	0	0	0	0	0	0	
Idaho.....	10	0	2	0	0	0	0	0	0	0	1	
Wyoming.....	3	10	6	0	0	0	0	0	1	0	2	
Colorado.....	27	14	19	1	0	0	0	0	0	0	0	
New Mexico.....	7	0	18	0	10	2	0	0	0	0	0	
Arizona.....	3	2	9	0	0	18	1	0	0	0	1	
Utah.....	11	21	21	0	0	0	0	0	1	0	2	
Nevada.....	0	0	0	0	0	0	0	0	0	0	0	
PACIFIC												
Washington.....	16	14	36	0	0	0	0	0	0	0	1	
Oregon.....	6	24	19	0	0	0	0	0	0	0	1	
California.....	155	64	202	4	3	0	15	0	0	2	6	
Total.....	1,950	1,676	2,450	49	461	392	28	17	13	166	86	
Same week, 1944.....	1,676	1,676	2,450	26	478	236	18	3	14	142	85	
Average, 1942-44.....	2,153	2,153	2,450	36	409	210	14	* 4	10	* 93	85	
31 weeks, 1945.....	97,536	97,536	1,432	20,071	8,734	483	437	589	3,674	3,607		
31 weeks, 1944.....	73,563	73,563	1,301	17,134	6,879	509	433	444	3,742	3,685		
Average, 1942-44.....	120,203	120,203	*139,386	1,270	13,218	6,205	497	* 433	608	* 2,587		

* Period ended earlier than Saturday.

* 5-year median, 1940-44.

Anthrax: Massachusetts, 1; Pennsylvania, 8; California, 1. Leprosy: Illinois, 1 case.

WEEKLY REPORTS FROM CITIES

City reports for week ended September 22, 1945

This table lists the reports from 89 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Enecephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Polymyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland.....	0	0	-----	0	0	0	4	2	2	0	0	2
New Hampshire:												
Concord.....	0	0	-----	0	0	0	1	0	1	0	0	0
Vermont:												
Barre.....	0	0	-----	0	2	0	0	0	0	0	0	0
Massachusetts:												
Boston.....	1	0	-----	0	5	2	6	30	8	0	1	23
Fall River.....	0	0	-----	0	1	0	2	0	5	0	0	0
Springfield.....	0	0	-----	0	2	0	0	0	2	0	0	1
Worcester.....	0	0	-----	0	6	0	5	0	1	0	0	8
Rhode Island:												
Providence.....	0	0	-----	0	1	0	1	0	1	0	0	16
Connecticut:												
Bridgeport.....	0	0	-----	0	0	0	0	1	2	0	0	0
Hartford.....	0	0	-----	0	0	0	1	1	1	0	0	1
New Haven.....	0	0	-----	0	0	0	1	0	1	0	0	13
MIDDLE ATLANTIC												
New York:												
Buffalo.....	0	0	-----	0	0	0	2	6	2	0	0	13
New York.....	6	2	-----	2	0	4	8	34	23	0	3	131
Rochester.....	0	0	-----	0	0	1	4	15	1	0	0	9
Syracuse.....	0	0	-----	0	0	0	2	0	7	0	0	22
New Jersey:												
Camden.....	0	0	-----	0	0	0	2	1	0	0	0	4
Newark.....	0	0	-----	1	0	5	1	5	2	0	1	17
Trenton.....	0	0	-----	0	0	1	1	3	0	0	0	1
Pennsylvania:												
Philadelphia.....	0	0	-----	2	10	1	20	14	19	0	3	102
Pittsburgh.....	1	0	-----	1	0	0	4	7	10	0	0	10
Reading.....	0	0	-----	0	1	0	2	0	1	0	0	0
EAST NORTH CENTRAL												
Ohio:												
Cincinnati.....	1	0	-----	0	0	1	4	4	1	0	0	8
Cleveland.....	0	1	-----	0	1	2	1	5	13	0	0	29
Columbus.....	3	0	-----	0	0	0	2	1	12	0	2	6
Indiana:												
Fort Wayne.....	0	1	-----	0	0	0	3	0	0	0	0	0
Indianapolis.....	2	0	-----	0	1	1	2	0	5	0	1	6
South Bend.....	0	0	-----	0	0	0	0	1	1	0	0	5
Terre Haute.....	1	0	-----	0	0	0	1	0	1	0	0	0
Illinois:												
Chicago.....	0	0	-----	0	25	0	20	19	14	0	1	47
Springfield.....	0	0	-----	0	0	0	1	0	0	0	0	7
Michigan:												
Detroit.....	3	0	-----	1	7	1	3	1	18	0	1	75
Flint.....	0	0	-----	0	5	0	2	1	0	0	0	3
Grand Rapids.....	0	0	-----	0	0	0	1	0	2	0	1	1
Wisconsin:												
Kenosha.....	0	0	-----	0	0	0	0	0	0	0	0	0
Milwaukee.....	0	0	-----	0	5	0	0	16	4	0	0	10
Racine.....	0	0	-----	0	3	0	0	0	0	0	0	7
Superior.....	0	0	-----	0	0	0	0	0	0	0	0	1
WEST NORTH CENTRAL												
Minnesota:												
Duluth.....	0	0	-----	0	0	0	1	1	2	0	0	0
Minneapolis.....	1	0	-----	0	1	0	0	12	5	0	0	4
St. Paul.....	0	0	-----	0	1	0	4	3	2	0	0	15
Missouri:												
Kansas City.....	4	0	-----	0	1	0	5	1	6	0	0	8
St. Joseph.....	0	0	-----	0	0	1	0	0	2	0	0	0
St. Louis.....	0	1	-----	2	0	2	6	11	2	0	0	13

City reports for week ended September 23, 1945—Continued

	Diphtheria cases	Encephalitis, infections, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Polymyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
North Dakota:												
Fargo.....	0	0	-----	0	0	0	0	0	0	0	0	0
Nebraska:												
Omaha.....	1	0	-----	0	1	0	0	2	2	0	0	0
Kansas:												
Topeka.....	0	0	-----	0	0	0	3	0	0	0	1	0
Wichita.....	0	0	-----	0	1	0	1	0	1	0	0	4
SOUTH ATLANTIC												
Delaware:												
Wilmington.....	0	0	-----	0	0	0	0	0	0	0	0	0
Maryland:												
Baltimore.....	8	0	1	1	1	1	3	2	3	0	0	21
Cumberland.....	0	0	-----	0	0	0	0	0	0	0	0	3
Frederick.....	0	0	-----	0	0	0	0	0	0	0	0	0
District of Columbia:												
Washington.....	0	0	-----	0	0	1	4	7	9	0	1	7
Virginia:												
Lynchburg.....	0	0	-----	0	0	0	1	0	1	0	0	0
Richmond.....	0	0	-----	0	1	0	2	18	9	0	0	2
Roanoke.....	0	0	-----	0	0	0	0	0	1	0	0	0
West Virginia:												
Charleston.....	0	0	-----	0	0	0	0	0	1	0	0	0
Wheeling.....	0	0	-----	0	0	0	0	0	0	0	0	0
North Carolina:												
Raleigh.....	0	0	-----	0	0	0	1	1	0	0	0	0
Wilmington.....	2	0	-----	0	0	0	1	0	4	0	2	4
Winston-Salem.....	0	0	-----	0	0	0	0	0	1	0	0	2
South Carolina:												
Charleston.....	0	0	-----	0	0	0	0	1	0	0	0	0
Georgia:												
Atlanta.....	0	0	1	1	0	0	2	1	1	0	0	0
Brunswick.....	0	0	-----	0	0	0	0	0	2	0	0	0
Savannah.....	0	0	1	1	0	0	0	0	0	0	0	0
EAST SOUTH CENTRAL												
Tennessee:												
Memphis.....	1	0	-----	1	1	1	9	0	4	0	0	8
Nashville.....	0	0	-----	0	0	0	1	2	4	0	0	0
Alabama:												
Birmingham.....	0	0	2	0	0	0	1	1	2	0	2	1
Mobile.....	2	0	-----	0	0	0	2	0	1	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock.....	0	0	-----	0	0	0	1	0	2	0	0	0
Louisiana:												
New Orleans.....	0	0	1	1	0	0	3	7	5	0	0	1
Shreveport.....	1	0	-----	0	0	0	1	0	0	0	0	0
Texas:												
Dallas.....	3	0	-----	0	0	0	0	0	9	0	0	1
Galveston.....	2	0	-----	0	0	0	2	0	0	0	0	0
Houston.....	5	0	-----	0	0	1	3	2	3	0	1	1
San Antonio.....	1	0	1	1	1	0	2	1	1	0	0	0
MOUNTAIN												
Montana:												
Billings.....	0	0	-----	0	0	0	0	3	0	0	0	0
Great Falls.....	0	0	-----	0	0	0	0	0	0	0	0	1
Helena.....	0	0	-----	0	0	0	0	0	0	0	0	0
Missoula.....	0	0	-----	0	0	0	1	0	0	0	1	0
Idaho:												
Boise.....	0	0	-----	0	0	0	0	0	0	0	0	0
Colorado:												
Denver.....	1	0	2	0	2	0	5	5	2	0	2	16
Pueblo.....	0	0	-----	0	0	0	1	0	0	0	0	4
Utah:												
Salt Lake City.....	1	0	-----	0	1	0	1	6	2	0	0	3

City reports for week ended September 22, 1945—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle.....	0	0	-----	0	11	1	4	2	1	0	0	2
Spokane.....	0	0	1	0	2	0	1	0	1	0	1	1
Tacoma.....	0	0	-----	0	4	0	0	2	1	0	0	0
California:												
Los Angeles.....	5	0	2	0	8	1	1	14	13	0	2	26
Sacramento.....	0	0	-----	0	5	1	1	0	0	0	0	12
San Francisco.....	1	0	1	0	49	2	6	6	8	0	0	3
Total.....	57	5	21	8	175	30	219	278	273	0	27	741
Corresponding week, 1944	68	-----	15	5	90	-----	223	-----	273	0	26	526
Average, 1940-44.....	56	-----	37	11	153	-----	236	-----	302	0	35	907

¹ 3-year average, 1942-44.

² 5-year median, 1940-44.

Dysentery, amebic.—Cases: Boston, 2; New York, 1; Chicago, 1; Detroit, 3; Memphis, 1; Los Angeles, 2.
Dysentery, bacillary.—Cases: New Haven, 2; New York, 10; Syracuse, 1; Philadelphia, 1; Detroit 1; Baltimore, 3; Charleston, S. C., 16; Los Angeles, 1.

Dysentery, unspecified.—Cases: Baltimore, 6; Richmond, 4; San Antonio, 5.

Rocky Mountain spotted fever.—Cases: Richmond, 1.

Typhus fever, endemic.—Cases: New York, 1; Wilmington, N. C., 1; Atlanta, 6; Brunswick, 1; Savannah, 1; Nashville, 2; Birmingham, 6; Little Rock, 1; New Orleans, 1; Shreveport, 6; Dallas, 1; Houston, 3; San Antonio, 9.

Rates (annual basis) per 100,000 population, by geographic groups, for the 89 cities in the preceding table (estimated population, 1943, 34,276,500)

	Diphtheria case rates	Etiophallitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Pollomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England.....	2.6	0.0	0.0	0.0	44	5.2	54.9	88.9	63	0.0	2.6	167
Middle Atlantic.....	2.2	0.9	2.8	0.5	29	5.6	34.1	39.3	30	0.0	3.2	143
East North Central.....	6.1	1.3	0.0	0.6	29	2.0	34.2	32.2	43	0.0	2.6	125
West North Central.....	11.9	2.0	4.0	0.0	10	6.0	39.8	59.7	44	0.0	2.0	88
South Atlantic.....	17.0	0.0	5.1	5.1	3	3.4	23.8	50.9	54	0.0	5.1	66
East South Central.....	17.7	0.0	11.8	5.9	3	5.9	76.7	17.7	65	0.0	11.8	58
West South Central.....	34.4	0.0	5.7	5.7	2	2.9	34.4	29.7	57	0.0	2.9	9
Mountain.....	15.9	0.0	15.9	0.0	24	0.0	63.5	111.2	32	0.0	15.9	191
Pacific.....	9.5	0.0	6.3	0.0	125	6.3	20.6	38.0	38	0.0	4.7	70
Total.....	8.7	0.8	3.2	1.2	27	4.6	33.4	42.4	42	0.0	4.1	113

PLAGUE INFECTION IN PLACER COUNTY, CALIF.

Under date of September 21, plague infection was reported proved on September 20 in a pool of 54 fleas from 9 ground squirrels, *C. beecheyi*, shot 1½ miles north of Tahoe, Placer County, Calif., in the Tahoe National Forest.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended September 8, 1945.—During the week ended September 8, 1945, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunsw- wick	Que- bec	On- tario	Mani- toba	Sas- katch- ewan	Al- berta	British Colum- bia	Total
Chickenpox		1		6	42	4	10	13	14	90
Diphtheria		3	2	12	7	6	1	1		32
Dysentery, bacillary				1	1				2	4
German measles				1	7			1	3	11
Influenza		2			3				1	6
Measles			1	13	36		18	13	45	126
Meningitis, meningococ- cus			1	2	1				1	5
Mumps				10	14	8	2	13	8	55
Pollomyelitis		3		6	21	1	6	2	11	50
Scarlet fever		3	10	35	32	3		6	9	98
Tuberculosis (all forms)		5	7	77	50	6	1	17		163
Typhoid and paraty- phoid fever				13				1	3	17
Undulant fever				3	2					5
Venereal diseases:										
Gonorrhoea		20	9	106	163	60	40	42	69	509
Syphilis		8	4	117	61	9	10	7	25	241
Other forms				1						1
Whooping cough		14		224	24	3	8	4	11	288

¹ Includes 2 cases, delayed reports.

REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

NOTE.—Except in cases of unusual incidence, only those places are included which had not previously reported any of the above-named diseases, except yellow fever, during the current year. All reports of yellow fever are published currently.

A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday of each month.

Typhus Fever

Greece—Athens and Piraeus.—For the month of August 1945, 69 cases of endemic typhus fever with 1 death were reported in Athens and Piraeus, Greece.

Yellow Fever

Gold Coast—Tamale.—For the week ended September 15, 1945, one fatal case of suspected yellow fever was reported in Tamale, Gold Coast.