Public Health Reports

Vol. 63 • FEBRUARY 27, 1948 • *No. 9*

Printed With the Approval of the Bureau of the Budget, as Required by Rule 42 of the Joint Committee on Printing

EPIDEMIC TINEA CAPITIS: A PUBLIC HEALTH PROBLEM [1]

By RICHARD K. C. LEE, M. D., DR. P. H.

Ringworm of the scalp is caused by several species of fungi, the most common being the *Microsporon audouini* and *Microsporon lanosum*. The *M. audouini* is capable of causing widespread outbreaks. Other species of fungi causing sporadic cases of tinea capitis are the *M. fulvum*, *Achorion schoenleinii* (*favus*), and other trichophyton organisms. This paper will deal chiefly with the *M. audouini* infections.

In recent years, epidemic outbreaks of ringworm of the scalp in large city areas, especially in the eastern United States, have been repeatedly reported in dermatological and general medical literature. Little has been written in public health journals and the author believes that there should be greater recognition by public health officials of the seriousness of this communicable disease.

INCIDENCE

As early as 1899, Dr. C. J. White reported on ringworm as it existed in Boston. Lewis and Hopper in 1939 reported a series of 278 cases observed and treated at the New York Post Graduate Medical School and Hospital during the period between 1935 and 1938. All of these cases were proved by culture— *M. audouini* accounting for 39.3 percent and *M. lanosum*, 39.6 percent, together causing 229, or 78.9 percent, of the cases. Benedeck and Felscher of Chicago reported 140 cases for the period between May 1, 1940, through August 31, 1942. Of this number, 81.5 percent were due to *M. audouini* and 12.2 percent to *M. lanosum*. Livingood and Pillsbury of Philadelphia in 1941 reported a series of 130 cases, 125, or 96.2 percent of which were due to *M. audouini*.

Lewis, Hopper, and Reiss reported 312 cases at the New York Hospital from July 1, 1943, to June 30, 1945. *M. audouini* was present in 275 of these cases.

Miller, Lowenfish, and Beattie at the Vanderbilt Clinic in New York City reported from January 1, 1943, to May 1, 1945, 928 new cases of which 96.9 percent were caused by *M. audouini*. In their report it is stated that in 1931, of the 52 cases treated at the Vanderbilt Clinic, 70 percent were due to *M. audouini* and 30 percent to *M. lanosum*. In 1944, at this same clinic, 509 cases were treated, 96.7 percent of which were due to *M. audouini* and 2.5 percent to *M. lanosum*.

[1] Reprinted with emendations, by permission from the Winslow Anniversary number of the Yale Journal of Biology and Medicine, Vol. 18, No. 4, 1947.

Lewis, Silvers, Cipollaro, Muskatblit, and Mitchell reported in 1944 that of the 432 cases occurring in Astoria Queens, New York, during an epidemic in 1943, 411 were due to the *M. audouini*. Statistics at the New York Skin and Cancer Hospital show that during the period from 1935 to 1942, 292 of the 616 cases of tinea capitis reported were due to *M. audouini*. In 1943, of 572 cases of tinea capitis treated there, 496 were due to *M. audouini*.

Lynch reported that the estimates of the incidence of the infection in Chicago varied from 5,000 to 65,000 cases. In St. Paul the disease increased to a point where the Minnesota Dermatological Society was impelled in 1944 to call to the attention of public health authorities, the danger of an impending epidemic. At the time of his report he estimated that there were between 150 and 500 cases of the disease in St. Paul.

Carrick has reported on an interesting and valuable survey in 1946 among Detroit elementary school children. Of 3,565 children selected at random in a city-wide survey, 96, or 2.7 percent, showed evidence of infection under filtered ultraviolet light. On the basis of total enrollment of children susceptible to tinea, it was estimated that there were about 6,000 cases of ringworm of the scalp among the 220,291 children in Detroit public schools. In this survey, the principal of each of the 21 schools of the 7 large districts in Detroit selected alphabetically every fifth child under 13 years of age for examination under Wood's light.

Ringworm of the scalp has an epidemic character and is prevalent and widespread in schools and institutions. Many children with this infection are kept out of school for an average of 6 months or more. Some cases are cured in 6 months but others remain under treatment and out of school for several years.

Epidemics of ringworm of the scalp resulting from *M. audouini* have occurred in Europe, especially in France and England, for years. In the United States, sporadic epidemics have been observed and reported but it was not until about 1942 that widespread epidemics were reported in the large eastern cities. One of the first outbreaks was reported in Astoria, New York City, by Lewis, Silvers, Cipollaro, Muskatblit, and Mitchell. They felt that the outbreaks resulted from the fact that during the war there was decreased maternal care and supervision, and that infected children were moved from place to place because of changes of residence of their parents who were in the armed forces or were war workers. During this period most of the children's institutions were crowded and had inefficient supervision. It is also pointed out that the disease was inadequately dealt with by health authorities, partly because of ignorance concerning its epidemiology, lack of experience with the epidemic character of the disease, procrastination because the disease causes no mortality, and the difficulty of carrying out a diagnostic and treatment program of city-wide proportions.

CHARACTERISTICS OF THE DISEASE

Ringworm of the scalp is characterized by localized, round scaly patches of alopecia with short broken-off hair. The fungus invades the hair and hair follicle, multiplies, and progresses down the wall of the follicle. Soon large numbers of mycelia form around the hair between it and the walls of the follicle. The mycelia and spores increase and proceed downward in the hair to the point where the hair bulb begins. The hair papilla which is responsible for the reproduction of new hair is never involved in this process. However, the hair will break off at the weakest point, which is the position of greatest parasitic invasion, just a few millimeters above the surface of the scalp. The bottom end of the hair is still infected and because it remains in the follicle, the infection goes on. As fast as the hair grows upward, it is filled with spores and mycelia. Until some means is used to get the whole hair out en masse, or there is developed a vehicle containing the fungicide that can penetrate into the hair follicle, it is practically impossible to cure this disease. The X-ray has fortunately furnished one such means.

The spread of infection to other parts of the scalp and to other persons is easily brought about by thousands of parasites on the smallest piece of hair which breaks off and falls on new regions of the skin or scalp. Infection is readily transmitted from one child to another by the interchange of caps, mufflers, barber shop instruments, backs of subway and theater seats, etc.

In *M. audouini* infections there is very little inflammatory reaction around the lesion and only a small percentage of cases show this. Livingood and others have found that where there is a localized inflammatory reaction manifested by redness, pustular or true kerion reaction, the prognosis for cure by local medication is very good. Tinea capitis caused by the animal type fungus, which produces an inflammatory reaction of varying degrees, gives a much better prognosis and responds readily to treatment without the need of such intensive therapy as X-ray epilation. The pustular and inflammatory reaction aids in the spontaneous expulsion of the infected hair.

The incubation period of this infection is undetermined, the period of communicability remaining as long as the fungus or its spores can be found at the site of the lesions. Susceptibility in childhood is universal. Reinfection is common and there is no immunity after cure. *M. audouini* infection, known as the human type, is rare after puberty, while adults as well as children are susceptible to the animal type, *M. lanosum*, which is transmitted by contact with lesions or hairs from lesions of cats and dogs.

PREVENTION AND CONTROL

Methods for prevention and control include the early recognition and reporting of the disease. It, like any other communicable disease, requires isolation and early and adequate treatment of each case to prevent spread of the infection to other areas of the scalp and body of the same individual as well as to prevent its spread to other children. Infected children should be excluded from school until recovery, and in institutions the infected should be separated from healthy children. Each child should use a stocking cap or other type of inexpensive head covering which can be destroyed by burning after use. All home, school, and other contacts with children under fifteen years of age should be examined with suitably filtered ultraviolet light at regular intervals until the source case is completely cured. The health or school department should have available filtered ultraviolet equipment and a nurse trained in the technique of examining the scalp under the Wood's light to carry on the case-finding activity in the school and among preschool children in the home. Schools and institutions in epidemic areas should carry on a case-finding program every 3 months. The examining team should be equipped or have available instruments to take material for microscopic examination and cultures. The general practitioner's responsibility is limited primarily to suspicion of the disease and referral of the child to clinics or specialists where all facilities for adequate diagnosis and treatment can be carried out.

Funds should be available to provide adequate personnel and diagnostic and treatment facilities for the early and immediate treatment of infected cases. Educational material describing ringworm of the scalp in simple terms should be given to every parent of the school child. Other educational tools should be used in epidemic areas. In *M. audouini* infections X-ray epilation is still the treatment of choice followed by local fungicide treatment. Such treatment results in the most rapid cure and least loss of school time. Precautions should be taken to prevent reinfection after X-ray treatment. Cleanliness of the hair and scalp and education of the parents and school authorities must be maintained on a continual basis. The health department should register all cases of ringworm of the scalp to insure prompt and adequate treatment for every infected child. Public health nurses should be available for the follow-up of cases after epilation to insure adequate treatment.

Schwartz, Peck, Botvinick, Leibovitz, and Frasier have advocated that infected children be permitted to attend school provided they have had their hair cut closely and wear caps while on the school premises and that treatments are given with topical medicaments. In the Hagerstown, Maryland, outbreak which started in 1944, a full-time officer of the United States Public Health Service was assigned to work with the deputy State health officer. He remained in charge from August 1944 to November 1945 with a staff assisting him. During that period a total of 8,657 children ranging from 6 weeks to 18 years of age were examined. Five hundred sixty-five (479 boys and 86 girls) were found to be infected. Of the cases among these children only eight were not due to *M. audouini*. It was found that over 65 percent of the boys had the infection in the "clipper area." In the treatment program, in which 17 topical remedies were tried, trained personnel carried on intensive, closely supervised care through daily treatments at clinics. The results achieved among the 493 treated at the United States Public Health Service clinic were as follows: (*a*) 48 were cured by manual epilation with 1 or 2 treatments; (*b*) 274 were cured by topical application; (*c*) 126 discontinued treatment before being pronounced cured; and (*d*) 45 were under treatment at the close of the study period. Salicylanilide ointment 5 percent in carbowax 1500 and copper undecylenate saturated solution in carbowax 1500 were the most effective remedies.

Thallium sulfate for epilation of the hair is not recommended because of the danger of complications. Preparations as recommended by MacKee, Hermann, and Karp at the New York Skin and Cancer Hospital and by Schwartz, Peck, Botvinick, Leibovitz, and Frasier of the United States Public Health Service should be utilized especially in areas where there is a lack of qualified dermatologists, roentgenologists, and technicians capable of the exacting technique and after-care. In restless and young children and in cases where X-ray treatment is not always successful or advisable, local therapy must be tried. Carrick used copper oleate, undecylenate-undecylenic acid and propionate-propionic acid as fungicides for 171 cases during the period from October 1944 to March 1946 and reported cured cases in about 41 percent of the total number treated in this manner.

Strickler reports that 64 percent, or 74 cases of *M. audouini* scalp infection out of 115, were cured with 3 percent solution of acetic acid in iodine along with a wetting agent.

Mitchell and Story emphasized the importance of the teacher and school nurse as the first line of defense. They also stressed the need for follow-up of family contacts and for parental education.

Citing as an example an outbreak that was quickly stopped in his community, Gaul reports that the early recognition of the disease and use of the Wood's light will prevent the spread of scalp ringworm in a community.

Criteria for diagnosis should include clinical evidence of the disease, characteristic fluorescence on examination of the scalp with Wood's light, demonstration of the fungi on direct microscopic examination, positive culture in all cases, and identification of the organism.

Criteria for cure should include the absence of clinical evidence of infection, absence of fluorescence when scalp is examined under Wood's light, and negative cultures for ringworm on any scale or any other likely material which can be obtained. Three negative cultures while the patient is under treatment and three negative cultures while without treatment taken at weekly intervals should be sufficient for the cultural requirements. Any equivalent to this requirement would be satisfactory.

DISCUSSION

Tinea capitis infection is most commonly found among the poor, living in crowded and unsanitary housing conditions. In large families all children become affected, and in institutions and crowded schools the disease spreads rapidly. Many cases are treated topically by general practitioners for months before they are referred to qualified dermatologists or clinics. Many dermatologists, health departments, and schools do not have available the Wood's light so necessary for diagnosis and follow-up of the course of treatment. Every large city health department should have available the filtered ultraviolet lamp and should also be able to provide microscopic and cultural diagnostic facilities.

Health officials, nurses, teachers, and others in the field of public health and welfare should become better acquainted with this disease, its course, and its treatment. There is a real lack of knowledge among private physicians and health workers as to the nature of epidemic ringworm infection of the scalp resulting from the *M. audouini*. The long course of the disease and the ease with which it is spread make this infection a serious one. The cost and time required for treatment, the psychic insults the infected child undergoes, and the long restriction necessarily imposed on his activities are conditions which make early and adequate treatment imperative. Cipollaro and other leading dermatologists in the eastern United States have continued to stress in their writings the need for organized public health action in the prevention and control of this epidemic disease.

X-ray epilation followed by local therapy under supervision is the recommended treatment by most authors. Where such facilities and qualified personnel are not available to carry out this method of treatment, the procedure recommended by Schwartz and Peck may be followed. Local treatment with penetrating liquid vehicles or other penetrating bases should be more widely utilized since X-ray epilation is not the ideal method. Immunological and harmonological methods should also be investigated further.

Lynch emphasized several warning points. Before epilation the use of topical applications is not only a waste of time but unless the applications are very mild the irradiation must be delayed until any reaction has subsided. Inadequate or fractional dosage with X-rays is also to be decried because all these exposures have cumulative and permanent effects and an epilation dose cannot be administered after any considerable amount of previous roentgen treatment has been given.

The results of a spot questionnaire to State and city health departments in August 1946 showed that tinea capitis was a reportable disease in the States of Missouri, Pennsylvania, Illinois, and Ohio, and the cities of Cleveland, Chicago, Philadelphia, and St. Louis. Reporting was not required by State health departments of New York, New Jersey, California, Connecticut, Louisiana, Maryland, Massachusetts, and Texas, and the city health departments of Baltimore, Los Angeles, Jersey City, Newark, New Orleans, Boston, and New York. In Newark and Jersey City the health officers state that tinea capitis is a public health problem, but the reporting of the disease was not required by regulations or law. In New York City, where a large number of cases were reported by clinics and physicians, the disease is not reportable. In a public school survey from September 1, 1943, to June 30, 1944, out of 200,000 children examined, 2,208 cases were reported and from September 1, 1944, to June 22, 1945, out of 429,933 children examined, 1,719 cases were found positive.

Philadelphia reported 2,669 cases during the years 1944 and 1945; St. Louis, 1,237 cases in 1945; Jersey City, 600, since 1944; Cleveland, 530 in 1944 and 1945; Chicago, 1,623 in 1946; and Illinois, 1,399 in 1945. In Chicago, the percentage of school children showing evidence of infection with ringworm was 2.5 percent in 1945, and 1.5 percent in 1946.

Strict exclusion of children from school was practiced in Philadelphia, Los Angeles, New Orleans, and New York City, and in the States of Texas, Missouri, and New Jersey. Children with tinea capitis infections who are under medical supervision and treatment are permitted to attend school in Baltimore, Cleveland, Jersey City, Newark, St. Louis, Boston, Chicago, and the States of California, Connecticut, Illinois, Louisiana, Maryland, Massachusetts, New Jersey, New York and Ohio. (Most of the latter named States have no regulations on this subject.)

Although reporting and exclusion from school is recommended by the Subcommittee on Communicable Disease Control of the Committee on Research and Standards of the American Public Health Association and officially approved by the United States Public Health Service, there is little uniformity of compliance with these recommendations by State and city health departments. Criteria for diagnosis and cure and facilities offered by health departments for diagnosis, treatment, and follow-up are variable. In order to obtain adequate control and knowledge of this epidemic disease, it is recommended that State and city health departments follow the standards of the American Public Health Association. Only thus can accurate information on the prevalence of the disease become available. Where there are adequate facilities and qualified personnel to carry on a program of treatment and supervision such as that conducted by Schwartz and his associates in Hagerstown, Maryland, health officials may be justified in allowing infected children to attend school. Otherwise, strict compliance with recommended standards should be followed to obtain maximum control of this epidemic infection of children.

CONCLUSION

The successful control of epidemics of tinea capitis infection resulting from *M. audouini* will take place when health departments become aware of the need for early diagnosis and early and adequate treat-

773057—48——2

ment of every case. The disease should be reportable in every city in the United States having a population of over 100,000 so long as there are epidemic areas existing in neighboring communities. The filtered ultraviolet lamp, microscopic and cultural facilities, personnel to assist in case-finding, diagnostic and follow-up clinics, periodic surveying, and educational dissemination of information about the disease are all necessary services that should be available in every large city. Treatment by qualified dermatologists should also be available, and those individuals who are unable to pay for private care should be treated under Government auspices. Communities free of the disease should take active steps to prevent its introduction and to localize any foci that may take place. In epidemic areas separate isolated classrooms for infected children may be found necessary. Health departments that are permitting infected children to attend regular classes without close supervision by qualified personnel and intensive treatment are assuming a serious risk of endangering other children. Tinea capitis caused by *M. audouini* is an epidemic communicable disease and should be treated as such.

REFERENCES

(*1*) Benedeck, T., and Felscher, I. M.: Epidemiology of tinea capitis. Arch. Dermat. & Syph. **49:** 120 (1944).

(*2*) Carrick, L.: Methods of local therapy for tinea capitis due to *Microsporon audouini*. J. A. M. A. **131:** 1189 (1946).

(*3*) Carrick, L.: The epidemiology of tinea capitis in Detroit school children. J. Michigan Med. Soc. **45:** 347 (1946).

(*4*) Gaul, L. E.: Ringworm of the scalp due to *Microsporon audouini*. J. Iowa Med. Soc. **35:** 255 (1945).

(*5*) Lewis, G. M., Silvers, S. H., Cipollaro, A., Muskatblit, E., and Mitchell, H. H.: Measures to prevent and control an epidemic of ringworm of the scalp. New York State J. Med. **44:** 1327 (1944).

(6) Lewis, G. M., Hopper, M. E., and Reiss, F.: Ringworm of the scalp. J. A. M. A. **132:** 62 (1946).

(*7*) Livingood, C. S., and Pillsbury, D. M.: Ringworm of the scalp–prolonged observation, family investigation, cultural and immunologic studies in 130 cases. J. Invest. Dermat. **4:** 43 (1944).

(*8*) Lynch, F. W.: Ringworm of the scalp. J. Lancet. **65:** 228 (1945).

(*9*) MacKee, G. M., Hermann, F., and Karp, F. L.: A new treatment for anthrophilic tinea tonsurans. J. Invest. Dermat. **43:** 7 (1946).

(*10*) McCarthy, L.: Diagnosis and treatment of diseases of the hair. St. Louis, Mo., The C. V. Mosby Company, 1940.

(*11*) Miller, J. L., Lowenfish, F. P., and Beattie, S. F.: Local treatment of tinea capitis. J. A. M. A. **132:** 67 (1946).

(*12*) Mitchell, H. H., Story, L. S., and MacDonald, J.: An epidemic of ringworm of the scalp. Pub. Health Nursing. **35:** 564 (1943).

(*13*) Schwartz, L., Peck, S. M., Botvinick, I., Leibovitz, A. L., and Frasier, E. S.: Control of ringworm of the scalp among school children. J. A. M. A. **132:** 58 (1946).

(*14*) Spencer, G. A.: Ringworm infection of the scalp in the Harlem area. New York State J. Med. **44:** 13 (1944).

(*15*) Strickler, A. Tinea capitis: Its treatment with special iodine and dilute acetic acid. J. A. M. A. **132:** 65 (1946).

RELATIVE PRODUCTIVITY OF NEWER COLIFORM MEDIA [1]

By ELSIE WATTIE, *Bacteriologist, United States Public Health Service*

In water bacteriology continual search is made for a presumptive medium for the determination of the coliform group which will be as productive as standard lactose broth and, at the same time, will fail to produce a high percentage of false positive presumptive tests. The newer media in this field for the detection of bacteria of the coliform group, which are reported to have given promising results, are lauryl sulphate tryptose broth (L. S. T.) by Mallman (*1*) and *Escherichia coli* broth (E. C.) by Perry (*2*, *3*). In the work reported at this time these two media and standard lactose broth have been used as presumptive media in the examination of water samples. The samples examined were of varying quality ranging from tap water to highly polluted water. The latter types were stored at room temperature under aerobic and anerobic conditions during the period of examination.

In the examinations, at least three concentrations were planted in decimal dilution, with three or five duplicate portions at each dilution of each sample. For waters of good quality, the initial portions were 100 ml. each. The presumptive tubes of all three media were incubated at 37° C. and examined for gas production at the ends fo 24-hour and 48-hour periods. Confirmation was started as soon as gas production was observed.

In the case of the E. C. media, triplicate sets of presumptive tubes were inoculated. As previously stated, one set of these tubes was incubated at 37° C., and the other two sets at 45.5° C., air and water immersion respectively. Early results at 45.5° C. showed that not only those of the coliform group, but also the *Esch. coli*, were quantitatively lower than those obtained from the standard procedure. This temperature was then reduced to 44° C., air and water immersion which English workers recommended as the highest that can be used successfully for the detection of coli.

All tubes showing gas production in any amount were subjected to the confirmed test by transfer to brilliant green lactose bile broth and to eosin methylene blue agar plates in conformance with standard procedures. Confirmed cultures were purified by short time incubation in lactose broth at 37° C. and restreaking on eosin methylene blue agar plates, and then subjected to the standard Completed Test. IMViC (Indol, methyl-red, Voges-Proskauer, citrate) and gelatin liquefaction reactions were determined on all cultures which were completed.

In making these comparisons, at least two methods of presenting the data may be used: (1) The total number of completed positive tubes for each medium may be compared regardless of the dilution in which

[1] From Sanitary Engineering Division, Water and Sanitation Investigations Station, Cincinnati, Ohio.

they occurred (this is the usual procedure), or (2) the most probable numbers of organisms, based on the confirmed or completed test, as determined by the various media, may be compared. In either case, to obtain a true comparison, results for all of the samples included in any grouping must be available for each of the media, and at all temperatures studied. That is, if a sample failed to give a determinate result with one medium, then the results from the same sample with the other media used must be omitted from the average. Thus, in the average data presented at this time, only results of identical samples are included. For this reason, the results of many samples had to be eliminated from the averages. Moreover, in the examination of waters of high quality the results from a considerable number of samples which did not yield a positive result with any of the media under study have necessarily been omitted from consideration.

TABLE 1.—*Comparison of efficiency of presumptive media for coliform determination on basis of total number of gas-forming tubes which gave a positive result from the completed test*

Medium under test	Temperature of incubation (°C.)	Total number tubes showing gas	Tubes positive by completed test		Percent positive coliforms	Percent positive *Esch.* coli	Percent maximum *Esch.* coli
			Number	Percent			
1	2	3	4	5	6	7	8
Standard	37	985	529	53.7	98.5	27.2	98.9
L. S. T.	37	842	537	63.8	100.0	27.5	100.0
E. C.	37	631	471	74.6	87.7	23.9	86.9
E. C.	[1] 44	147	138	93.9	25.7	17.4	63.3
E. C.	[2] 44	90	84	93.3	15.6	14.0	50.9

[1] Air. [2] Water.

In table 1, a comparison is made of the efficiency of the three presumptive media on the basis of the total number of gas-forming tubes which gave a positive result by the Completed Test. The results obtained from E. C. media at 44° C., air and water immersion, are included. The results at 45.5° C. are not included because at this temperature the number of positive tubes was less than one-fourth of those obtained with any of the three media when incubated at 37° C.

It is noted from this table that considering the results in the order given; (1) the number of gas-producing tubes decreased in order; 985 for standard lactose to 90 for E. C. at 44° C. water immersion; (2) the number of tubes completing decreased similarly from 529 to 84, with the exception of the slight variation between standard lactose and L. S. T. of 529 to 537; (3) the percentage of tubes completing increased in order from standard lactose, 53.7 percent; to E. C. at 44° C. air immersion, 93.9 percent; (4) in column 6 of this table the percentages of coliform group containing tubes are given, with a very marked indication for the use of 37° C. incubation and a slight superiority of L. S. T. over standard lactose broth. Based on the evidence presented in the table, L. S. T. was as productive for coliform group determinations as standard lactose and such results were accomplished with the confirmation of fewer tubes (985−842=143). Similarly E. C. at 37° C. produced 87.7 percent of the possible 100 tubes positive for members of the coliform group with the confirmation of 211 tubes less than required for L. S. T. The percentages of positives obtained from E. C. at 44° C., with either air or water immersion, are so few that this procedure is not eligible for consideration in coliform determinations.

However, E. C. medium was designed for the isolation of *Esch. coli*, not for the coliform group. In columns 7 and 8, the relative number of tubes containing *Esch. coli* are given, in column 7 expressed in percent and in column 8 expressed in percent of the maximum, taking the media (L. S. T.) showing the greatest number of tubes positive for *Esch. coli* as the maximum or 100 percent. From these results it is again noted that E. C. at 44° C., air and water immersion, recovered only 63.3 and 50.9 percent, respectively, of the numbers of *Esch. coli* proven to be present with L. S. T.

In table 2, a comparison is made of the productivity of these three media in determining organisms of the coliform group from most probable number estimations based on (1) the Completed Test, groups I, II, III, and IV and (2) brilliant green bile confirmation only, group V and VI. In preparing these average figures, all most probable numbers for a given sample were expressed in percent of the maximum M. P. N. That is, 100 percent was assigned for the medium producing the highest M. P. N. and results obtained with the other media expressed as the percent of the highest M. P. N. This procedure simplifies comparisons and eliminates the difficulties of averaging widely varying numbers.

It will be noted in group I, which includes all types of samples with incubation at 37° C., L. S. T. was slightly superior (2.3 percent) to standard lactose and E. C. was definitely inferior (26.4 percent). In group II, taps, wells and cisterns, Standard lactose was superior to L. S. T. (13.1 percent) and E. C. not as productive as L. S. T. In groups III and IV, including in the comparisons samples whose presumptive tubes were incubated at 44° C. and 45.5° C., L. S. T. was more productive in the former and standard lactose was more productive in the latter. The average productivity of E. C. at 44° C. and 45.5° C. air incubation is shown to be 30.0 and 6.7 percent respectively. In group V, where the results are shown of 52 samples whose presumptive tubes were confirmed in brilliant green lactose bile broth, standard lactose was slightly more productive than L. S. T. (3.3 percent) while E. C. at 37° C. failed by 27.4 percent. In group VI, giving the averages for samples whose presumptive tubes in E. C.

were also incubated at 44° C. and confirmed in brilliant green bile, L. S. T. was slightly more productive than standard lactose (7.6 percent), while E. C. at 44° C. again failed by about the same margin indicated for group III. Although the results obtained at 44° C. and at 45.5° C. incubation temperatures were always far below those obtained at 37° C., the results in air immersion incubators were always higher than those from water immersion incubation. The delay in reaching the high temperature incident to air immersion apparently enabled more of the organisms to survive the less favorable temperature.

TABLE 2.—*Comparison of efficiency of presumptive media for coliform determination on basis of most probable numbers*

Medium under test	Temperature of incubation (°C.)	Number of samples	Percent of maximum M. P. N.
GROUP I [1] ALL TYPES SAMPLES			
Standard	37	83	69.2
L. S. T	37	83	71.5
E. C	37	83	45.1
GROUP II [1] TAPS, WELLS, ETC.			
Standard	37	11	69.4
L. S. T	37	11	56.3
E. C	37	11	52.0
GROUP III [1] WITH 44° C. RESULTS			
Standard	37	8	74.9
L. S. T	37	8	86.6
E. C	37	8	73.7
E. C	[2] 44	8	30.0
E. C	[3] 44	8	19.3
GROUP IV [1] WITH 45.5° C. RESULTS			
Standard	37	4	86.4
L. S. T	37	4	73.8
E. C	37	4	24.8
E. C	[3] 45.5	4	6.7
GROUP V [4] B. G. B. CONF.			
Standard	37	52	75.0
L. S. T	37	52	71.7
E. C	37	52	47.6
GROUP VI [4] B. G. B. CONF. 44° C.			
Standard	37	20	68.7
L. S. T	37	20	76.3
E. C	37	20	55.0
E. C	[2] 44	20	26.6
E. C	[3] 44	20	17.2

[1] Results of completed test, groups I, II, III, and IV. [2] Air. [3] Water.
[4] Brilliant green bile confirmation only in groups V and VI.

Comparison is now made of the relative productivity of these media in terms of *Esch. coli.* In obtaining the average M. P. N. values the results for each sample were expressed in terms of the percent of the maximum. From the results of the differential tests referred to above, obtained from cultures isolated by the Completed Tests, the percent of *Esch. coli, Aerobacter aerogenes* and intermediate strains isolated by each medium and test condition was calculated. By applying these percentages to the average M. P. N. for each medium the M. P. N. for *Esch. coli, A. aerogenes* and intermediate strains were obtained. These data are presented in table 3, comparing in group I, all results obtained with the three media at 37° C.; in group II all results of samples at 44° C., air and water immersion, as well as at 37° C.; and in group III results from samples incubated at 45.5° C., air and water immersion, and at 37° C.

TABLE 3.—*Comparison of most probable numbers of* Esch. coli A. aerogenes *and intermediate strains isolated by the three media under the conditions of tests*

Medium under test	Temperature of incubation (°C.)	Number of samples	Percent of— Esch. coli	Percent of— Aer. aerogenes	Percent of— Intermediate strains	Percent of maximum M. P. N.	M. P. N. of— Esch. coli.	M. P. N. of— Aer. aerogenes	M. P. N. of— Intermediate strains
1	2	3	4	5	6	7	8	9	10
GROUP I WITH 37° C. RESULTS									
Standard	37	84	28.9	13.7	57.4	66.6	19.3	9.1	38.2
L. S. T	37	84	27.6	19.0	53.4	69.6	19.2	13.2	37.2
E. C	37	84	29.7	17.3	53.0	47.6	14.2	8.2	25.2
GROUP II WITH 44° C. RESULTS									
Standard	37	17	53.5	4.6	41.9	63.9	34.2	2.9	26.8
L. S. T	37	17	56.1	12.2	31.7	90.3	50.7	11.0	28.6
E. C	37	17	65.9	6.8	27.3	49.8	32.8	3.4	13.6
E. C	[1] 44	17	80.5	2.4	17.1	28.6	23.0	.7	4.9
E. C	[2] 44	17	90.7	2.3	7.0	21.6	19.6	.5	1.5
GROUP III WITH 45.5° C. RESULTS									
Standard	37	2	55.6	11.1	33.3	100.0	55.6	11.1	33.3
L. S. T	37	2	37.5	25.0	37.5	87.4	32.8	21.8	32.8
E. C	37	2	40.0	0	60.0	29.2	11.7	0	29.2
E. C	[1] 45.5	2	100.0	0	0	11.0	11.0	0	0
E. C	[2] 45.5	2	66.7	0	33.3	14.0	9.3	0	4.7

[1] Air. [2] Water.

In group I all of the results are in close agreement, with standard lactose and L. S. T. slightly higher. The E. C. media failed to produce as many positive tubes for members of the coliform group as standard lactose and L. S. T., but the respective percentages of *Esch. coli, A. aerogenes* and intermediate strains isolated from the three media were very similar.

Of the 67 samples examined at 37° C. and 44° C., air and water immersion, only 17 yielded determinant results. From these results (group II, table 3), it is noted that the percentage of *Esch. coli* recovered at 44° C. air and water immersion, is much greater than at 37° C. incubation with either of the 3 media. This would indicate, if the criterion for polluted water was to be based on *Esch. coli* rather than the coliform group, the use of E. C. medium at 44° C. might prove advantageous. However, it is noted also from table 3 column 7 of group II, that the M. P. N. of the 44° C. samples is much lower than the 37° C. results, and when these percentages are applied to determine the relative M. P. N. of *Esch. coli, A. aerogenes* and intermediate strains (columns 8, 9 and 10) it is apparent that the M. P. N. of *Esch. coli* at 44° C., either air or water immersion, is less than that obtained at 37° C. This is due probably to the failure of many members of the coliform group, aerogenes, intermediates, and coli to survive and grow at the higher temperature.

From the 37 samples incubated at 45.5° C., air and water immersion, as well as at 37° C. (group III, table 3) only 2 samples gave determinant results. Thus, it was quite apparent that 45° C. was too high a temperature for the growth or recovery of members of the coliform group, including *Esch. coli*. It was due to these results that the temperature was reduced to 44° C., air and water immersion, shortly after the study began. In this limited series no *A. aerogenes* were recovered from the E. C. media, either at 37° C. or 45.5° C., air and water immersion. The percentage of *A. aerogenes* recovered throughout the study is greater when standard lactose or L. S. T. was used. This fact again demonstrates the purpose of the E. C. medium, in that it was designed for the isolation of *Esch. coli* and not the coliform group. Unfortunately, it eliminates many *Esch. coli* also.

The results justify the following observations:

(1) Incubation of presumptive tubes of E. C. medium at 45.5° C. or even at 44° C. may not be expected to detect more than about 25 percent of the coliform group, or about 50 percent of the *Esch. coli* present in the samples.

(2) E. C. medium incubated at 37° C. invariably determined fewer coliforms, 12.3 to 61.6 percent (average 25.6 percent) less than either standard lactose broth or L. S. T. broth, although it did produce fewer false positive presumptives.

(3) L. S. T. broth produced about 16 percent fewer false positives than standard lactose broth and was superior to lactose broth in the detection of coliforms in 5 of the 8 comparisons made. This suggests that standard lactose broth might advantageously be replaced with L. S. T. broth, although it is desirable to have more results of similar comparative studies of high quality waters from other areas.

REFERENCES:

(*1*) Mallman, W. L., and Darby, C. W.: Use of a lauryl sulfate tryptose broth for the detection of coliform organisms. Am. J. Pub. Health. **31**:127 (1941).

(*2*) Hajna, A. A., and Perry, C. A.: Comparative study of presumptive and confirmative media for bacteria of the coliform group and for fecal streptococci. Am. J. Pub. Health. **33**:550 (1943).

(*3*) Perry, C. A., and Hajna, A. A.: Further evaluation of "E. C." medium for the isolation of coliform bacteria and Escherichia coli. Am. J. Pub. Health. **34**:735 (1944).

INCIDENCE OF COMMUNICABLE DISEASES IN THE UNITED STATES

January 4–31, 1948 [1]

The accompanying table summarizes the incidence of nine important communicable diseases, based on weekly telegraphic reports from State health departments. The reports from each State for each week are published in PUBLIC HEALTH REPORTS under the section "Incidence of Disease." The table gives the number of cases of these diseases for the 4 weeks ended January 31, 1948, the number reported for the corresponding period in 1947, and the median number for the years 1943–47.

DISEASES ABOVE MEDIAN INCIDENCE

Influenza.—For the 4 weeks ended January 31 there were 46,735 cases of influenza reported. During the corresponding 4 weeks in 1947 there were 16,910 cases reported and the median for the preceding 5 years (1943–47) was 17,421 cases. The incidence has been largely confined to the South Atlantic, South Central, and Far Western sections. Of the total cases, Texas reported 19,336, California 5,220, Arizona 4,828, South Carolina, 4,293, Virginia 3,635, Alabama 2,462, and Arkansas 2,076 cases. Almost 90 percent of the total cases were reported from those 7 States. Minor increases in other States in the South Central sections also contributed to the relatively high incidence in those sections; in the East South Central section the number of cases (3,252) was 2.6 times the median and in the West South Central section the number of cases (22,851) was 2.3 times the seasonal median expectancy. Few cases are being reported from the North Atlantic and North Central sections.

Measles.—There were 33,211 cases of measles reported for the current 4-week period as compared with 15,020 for the corresponding 4 weeks in 1947 and a 1943-47 median of 20,285 cases. Significant increases over the seasonal expectancy were reported from the Middle Atlantic, North Central, South Atlantic, West South Central, and Pacific sections while in the New England, East South Central, and Mountain sections the incidence was considerably below normal. For the country as a whole the current incidence was the highest since 1944 when approximately 50,000 cases were reported for the corresponding weeks.

Poliomyelitis.—While the number of cases (160) of poliomyelitis was only about 50 percent of the number reported for the corresponding period in 1947 it was 8 percent above the median for the preceding 5 years (1943–47). Of the total number of cases, New York reported 18, Washington 16, Idaho 14, California 13, Oregon 12, and North Carolina 11; more than one-half of the cases were reported from those 6 States. The South Atlantic and Mountain sections reported rather significant increases over the 1943–47 medians; in the Middle Atlantic and Pacific sections the increases were very slight, and all other sections reported a decrease from the normal seasonal median.

Whooping cough.—The number of cases of whooping cough (9,440) compared very favorably with the incidence for the corresponding weeks in 1947 and was only 1.1 times the 1943–47 median. The incidence was higher than the median for the preceding 5 years in the East North Central, West North Central, East South Central, and Mountain sections, and lower than the seasonal expectancy in the Atlantic Coast, East South Central, and Pacific sections.

[1] The data contained in these reports are based upon thirteen 4-week periods with the first week in each year ending between the 4th and the 10th of January.. This of necessity makes an extra week in an occasional year over a period of years, as was the case in 1947. The first week of the current 4-week period ended January 10, that being the first 7-day week in 1948.

DISEASES BELOW MEDIAN INCIDENCE

Diphtheria.—For the 4 weeks ended January 31 there were 979 cases of diphtheria reported. The number of cases was slightly less than 80 percent of the incidence for the corresponding period in 1947 and 72 percent of the median for the preceding 5 years (1,355 cases). For the country as a whole the current incidence was the lowest for this period since 1944 when 1,059 cases were reported for the corresponding 4 weeks. In the South Atlantic section the number of cases (267) was about 15 percent above the normal seasonal expectancy and in the Mountain section the number (85) was 35 percent above the preceding 5-year median; in all other sections the incidence was relatively low.

Meningococcus meningitis.—The number of cases (332) of meningococcus meningitis reported for the current 4-week period was only slightly below the number reported for the corresponding period in 1947, but it was less than 35 percent of the 1943–47 median. Each section of the country shared in the more favorable situation of this disease that now exists, the current incidence for the country as a whole being the lowest since 1942 when 230 cases were reported for the corresponding weeks.

Scarlet fever.—For the 4 weeks ended January 31 there were 8,457 cases of scarlet fever reported. There were 9,525 cases reported for the corresponding 4 weeks in 1947, with a 1943–47 median of 14,150 cases. Since 1944 this disease has been on the downward swing of a long-term cycle and for this particular period the incidence was the lowest on record. Decreases from the 5-year median in the various regions ranged from 30 percent in the East South Central section to about 60 percent each in the New England and Mountain sections.

Smallpox.—There were 11 cases of smallpox reported during the current 4-week period, as compared with 17 cases during the corresponding period in 1947 and a 5-year (1943–47) median of 34 cases. The number was the lowest on record for these same weeks. Two cases each were reported from Missouri and Kansas but no other State reported more than one case.

Typhoid and paratyphoid fever.—The incidence of these diseases continued at a relatively low level, the number of cases (153) reported for the 4 weeks ended January 31 being slightly below the record of last year and only about 75 percent of the median for the preceding 5 years. Slight increases over the normal seasonal expectancy were reported from the West South Central and Pacific regions of the country, but in the other 7 sections the numbers of cases were below the seasonal medians.

MORTALITY, ALL CAUSES

For the 4 weeks ended January 31 there were 42,190 deaths from all causes reported to the National Office of Vital Statistics by 93 large cities. The number of deaths was higher than the 1945–47 median for each week of the current 4-week period. The median number of deaths was 40,625 which is 3.7 percent less than the total deaths for the current 4 weeks.

Number of reported cases of 9 communicable diseases in the United States during the 4-week period Jan. 4-31, 1948, the number for the corresponding period in 1947, and the median number of cases reported for the corresponding period, 1943-47

Division	Diphtheria: Current period	Diphtheria: 1947	Diphtheria: 5-year median	Influenza [1]: Current period	Influenza [1]: 1947	Influenza [1]: 5-year median	Measles: Current period	Measles: 1947	Measles: 5-year median
United States	979	1,277	1,355	46,735	16,910	17,421	33,211	15,020	20,285
New England	23	95	44	14	73	147	1,324	3,834	3,336
Middle Atlantic	121	185	152	28	86	187	6,492	4,435	4,731
East North Central	105	168	168	473	223	571	12,848	2,054	3,786
West North Central	64	93	117	363	399	404	3,092	228	1,786
South Atlantic	267	229	229	8,800	5,530	6,163	2,307	2,324	1,498
East South Central	97	149	129	3,252	438	1,244	479	186	1,059
West South Central	146	180	309	22,851	8,804	9,774	3,248	425	788
Mountain	85	57	66	5,427	1,248	1,248	940	1,000	1,265
Pacific	71	121	158	5,527	109	365	2,481	534	1,881

Division	Meningococcus meningitis: Current period	Meningococcus meningitis: 1947	Meningococcus meningitis: 5-year median	Poliomyelitis: Current period	Poliomyelitis: 1947	Poliomyelitis: 5-year median	Scarlet fever: Current period	Scarlet fever: 1947	Scarlet fever: 5-year median
United States	332	344	953	160	315	147	8,457	9,525	14,150
New England	21	22	43	3	13	10	645	1,020	1,666
Middle Atlantic	56	61	205	28	27	27	1,902	2,228	2,732
East North Central	43	50	165	14	68	23	2,682	2,953	4,032
West North Central	22	37	79	8	37	13	788	813	1,445
South Atlantic	43	54	131	21	30	14	662	781	1,198
East South Central	31	43	91	7	18	10	414	365	581
West South Central	48	34	88	17	28	28	309	211	484
Mountain	11	11	25	21	20	13	359	445	929
Pacific	57	32	111	41	74	39	696	709	1,171

Division	Smallpox: Current period	Smallpox: 1947	Smallpox: 5-year median	Typhoid and paratyphoid fever: Current period	Typhoid and paratyphoid fever: 1947	Typhoid and paratyphoid fever: 5-year median	Whooping cough: Current period	Whooping cough: 1947	Whooping cough: 5-year median
United States	11	17	34	153	166	201	9,440	9,500	8,985
New England	0	0	0	9	18	7	1,101	1,127	1,127
Middle Atlantic	0	0	0	24	28	28	1,261	2,328	2,029
East North Central	1	9	7	9	19	21	1,742	2,499	1,529
West North Central	4	2	3	3	10	9	730	272	426
South Atlantic	0	1	1	32	16	38	1,283	1,098	1,302
East South Central	1	2	6	12	20	14	308	369	346
West South Central	2	2	6	40	27	36	1,738	1,136	949
Mountain	3	1	9	5	14	14	713	174	323
Pacific	0	0	2	19	14	14	564	497	743

[1] New York, North Carolina, and Pennsylvania excluded; New York City and Philadelphia included.

DEATHS DURING WEEK ENDED JANUARY 31, 1948

[From the Weekly Mortality Index, issued by the National Office of Vital Statistics]

	Week ended Jan. 31, 1948	Corresponding week, 1947
Data for 93 large cities of the United States:		
Total deaths	10,421	9,602
Median for 3 prior years	10,069	
Total deaths, first 5 weeks of year	52,546	50,367
Deaths under 1 year of age	677	809
Median for 3 prior years	602	
Deaths under 1 year of age, first 5 weeks of year	3,619	4,187
Data from industrial insurance companies:		
Policies in force	66,906,452	67,288,191
Number of death claims	13,787	13,746
Death claims per 1,000 policies in force, annual rate	10.8	10.7
Death claims per 1,000 policies, first 5 weeks of year, annual rate	10.1	9.9

NOTFIABLE DISEASES, FOURTH QUARTER, 1947 [1]

The figures in the following table are the totals of the monthly morbidity reports received from the State health authorities for October, November, and December, 1947. These reports are preliminary and the figures are therefore more or less incomplete and subject to correction by final reports. In most instances they include cases reported in both civilian and military populations. The comparisons made are with similar preliminary reports; but, owing to population shifts in many States since the 1940 census, the figures for some States may not be comparable with those for prior years, especially for certain diseases. Each State health officer has been requested to included in the monthly report for his State all diseases that are required by law or regulation to be reported in the State, although some do not do so. The list of diseases required to be reported are not the same for each State. Only 11 of the common communicable diseases are notifiable in all the States. In some instances cases are reported, in some States, of diseases that are not required by law or regulation to be reported and the figures are included although manifestly incomplete. There are also variations among the States in the degree of, and checks on, the completeness of reporting of cases of the notifiable diseases; therefore, comparisons as between States may not be justified for certain diseases. As compared with the deaths, incomplete case reports are obvious for such diseases as malaria, pellagra, pneumonia, and tuberculosis, while in many States other diseases, such as puerperal septicemia, rheumatic fever, and Vincent's infection, are not reportable.

In spite of these known deficiencies, however, these monthly reports, which are published quarterly and annually in consolidated form, have proved of value in presenting early information regarding the reported incidence of a large group of diseases and in indicating trends by providing a comparison with similar preliminary figures for prior years. The table gives a general picture of the geographic distribution of certain diseases, as the States are arranged by geographic areas.

Leaders are used in the table to indicate that no case of the disease was reported.

Consolidated monthly State morbidity reports for October, November, and December, 1947

Division and State	Anthrax	Chickenpox	Conjunctivitis [2]	Diphtheria*	Dysentery, amebic	Dysentery, bacillary	Dysentery, undefined	Encephalitis, infectious	German measles	Hookworm disease	Influenza	Malaria [3]	Measles*	Meningitis, meningococcus*	Mumps	Ophthalmia [4]	Pellagra	Pneumonia, all forms
NEW ENGLAND																		
Maine	...	696	...	15	...	2	...	...	28	...	4	1	27	1	73	...	...	120
New Hampshire	1	134	...	1	...	...	...	...	7	...	33	...	47	4	17	...	...	33
Vermont	...	616	...	11	...	...	...	...	27	...	...	...	13	1	144	...	...	7
Massachusetts	1	2,742	48	76	...	100	...	...	175	1	...	16	732	12	2,102	116	...	[5] 212
Rhode Island	...	190	...	9	...	1	1	...	2	...	4	[6] 13	7	10	37	...	...	70
Connecticut	...	1,369	1	1	3	...	...	1	46	1	13	5	79	17	221	1	...	580
MIDDLE ATLANTIC																		
New York	8	3,408	3	193	122	41	...	12	[7] 72	[7] 28	[7] 57	55	2,023	53	[7] 1,216	3	...	3,014
New Jersey	4	2,409	...	57	11	...	...	...	147	...	47	14	1,912	20	3,912	2	...	905
Pennsylvania	5	3,401	...	119	3	1	...	7	...	...	26	9	1,051	65	2,288	3	1	1,041
EAST NORTH CENTRAL																		
Ohio	...	2,956	1	208	4	1	10	...	57	...	40	3	1,227	45	435	102	...	609
Indiana	...	870	86	164	2	10	8	6	19	...	132	6	292	6	200	...	...	138
Illinois	...	2,448	132	57	52	20	...	15	107	...	35	14	4,044	34	2,114	...	...	1,036
Michigan	...	2,756	56	40	46	9	...	...	128	7	43	15	6,041	20	1,633	2	...	556
Wisconsin	...	4,859	...	20	1	...	...	10	200	...	114	9	885	11	2,240	1	...	[5] 66

WEST NORTH CENTRAL																		
Minnesota		1,036		80	8	6	1			1	13	60	2,341	13				30
Iowa		633		32	3			10			5	4	481	12	378			11
Missouri		448		98			7	1	3		72	13	56	17	406			204
North Dakota		286		22	26			13			20		796	3				186
South Dakota		105		11								3	135		60			3
Nebraska		354		8	12			8			72	3	153	5	37			20
Kansas		1,072	2	51	1			5	28		111	2	107	6	173		1	176
SOUTH ATLANTIC																		
Delaware		53		1									20	3	24			10
Maryland		405		107	2	2	31	1	15		30	1	30	9	357			388
District of Columbia		91		4	1	9					3		94	6	34			239
Virginia		432		106	4		655	7			4,596	19	478	18	237		4	571
West Virginia		214		86				1	17		584		1,417	13	112			182
North Carolina				392	1	6		3				8	37	24				
South Carolina		193		272	18	57		2	23	334	5,389	970	68	5	280	7	156	930
Georgia		176	33	262	4	36				972	178	24	112	8	52		7	195
Florida		106	23	107	21	2	1		8	1,414	68	16	167	2	100	10	6	166
EAST SOUTH CENTRAL																		
Kentucky		297	1	170	3	1		2	7		19	8	38	16	100			305
Tennessee		252		142	7	10	15	3	16	4	378	33	183	14	43	5	9	498
Alabama		156		170	2			1	1		792	289	78	19	51		11	424
Mississippi		55		134	18	7		1		590	124	85	46	10	28	13	1	142
WEST SOUTH CENTRAL																		
Arkansas	2	303		102	105	34	63	1	5	1	808	[6] 190	123	5	52		2	173
Louisiana		23		67	26	2		5	4	129	510	64	154	7	13		1	405
Oklahoma	1	148		96	22	7	17	1	8	11	959	81	20	21	44	1	2	213
Texas		1,321		363	187	4,226	918				14,104	815	1,509	51	785	22	117	1,714
MOUNTAIN																		
Montana		662		29	1		1		15		95	2	1,126	1	680			45
Idaho		343	8	5					13		149		44		273			46
Wyoming		154	3	1	1			1	18				180	3	44			27
Colorado		1,577		77	3	6		2	14		472	3	211	10	1,117			225
New Mexico		106		27	9	22	21	1	6		11	1	20	2	27		3	164
Arizona		230	10	36	1	2	285	3	18		1,536	6	47	6	136	3	3	372
Utah		1,530		90	2		2	4	55		52	4	81	3	293			34
Nevada		116	15	1		3							14	1	95			13
PACIFIC																		
Washington	1	2,269	83	35	[8] 44	3	106	2	142		45	1	398	10	1,293			197
Oregon		693	29	30	7	3	1	5			253	3	178	14	458			255
California	2	5,436	9	174	48	96		19	586		728	25	2,320	65	3,251			[5] 366
Total	25	50,129	543	4,359	[8] 831	4,725	2,143	153	2,017	3,502	32,724	[6] 2,893	31,642	701	27,665	291	324	17,316
Fourth quarter 1946	12	61,310	224	4,922	945	4,798	1,352	124	1,793	3,681	38,519	6,694	22,639	849	19,665	381	799	21,730
Median 1942–46	12	63,810	190	5,723	867	5,898	1,897	138	2,598	3,863	38,579	10,192	25,449	1,357	25,042	380	815	28,746
Alaska		33		1			1				9		4	1	10			5
Hawaii Territory		86	1	3	7	10			38		5		21		543			[5] 7
Panama Canal Zone[9]		28		66	10	13						40	6	1	6			[10] 57

See footnotes on p. 282.

Consolidated monthly State moribidity reports for October, November, and December 1947—Continued

Division and State	Poliomyelitis*	Rabies in man	Rheumatic fever	Rocky Mountain spotted fever	Scarlet fever*	Septic sore throat	Smallpox*	Tetanus	Trachoma	Trichinosis	Tuberculosis, all forms*	Tuberculosis, respiratory	Tularemia	Typhoid fever*	Paratyphoid fever	Typhus fever endemic	Undulant fever*	Vincent's infection	Whooping cough*
NEW ENGLAND																			
Maine	10				203	6		1			110	105		3	2		7	9	284
New Hampshire	6				[1] 32	29					31				1		2	27	104
Vermont	15				31	1					42			1	1		28		638
Massachusetts	88				1,054	19		1	1	19	741	696	2	13	31		10		1,791
Rhode Island	[6] 13		20		89	4		[6] 2		1	141	135		2	2		9	2	326
Connecticut	27				217	30		4		1	291	274		9	2		28		967
MIDDLE ATLANTIC																			
New York	404			3	[11] 1,689	([12])		9		57	3,374	3,205	1	40	2	7	65		2,377
New Jersey	70	1		1	492	33		2		5	804		3	18	4		10		1,689
Pennsylvania	160		206		1,318			2	1	2	1,189		3	63	[13] 7	1	29		2,030
EAST NORTH CENTRAL																			
Ohio	499		13	2	2,259	16	3	1		2	1,763		4	11	3		14	2	2,170
Indiana	78				588	28	1	3			584	539	15	13	1	1	31	8	648
Illinois	184		32	2	908	23		7	3	1	2,366	2,252	24	23	1		132	41	963
Michigan	182		105		1,024	51		8		1	1,554		1	22	[13] 45	1	96		1,986
Wisconsin	56				492				2		563		2	4			95		1,689
WEST NORTH CENTRAL																			
Minnesota	52		12		598	64		1			633			1	[13] 4		58		932
Iowa	62			1	434	2					178		2	16			183		233
Missouri	41		9	1	232	19	2				720		17	26	3		38	1	253
North Dakota	8		2		94	5	1		2		67	42			7		1	1	203
South Dakota	16				68		2		10		66			4			15	1	60
Nebraska	47		2		210		1			2	95			2			30		136
Kansas	19		1		278	8	6	2	1		235	226	8	3	1	1	27	39	339
SOUTH ATLANTIC																			
Delaware	9				53						55	55		2			1		40
Maryland	30		13	2	221	14					621	601	8	15	2		9		887
District of Columbia	11				114								2	3	2				195
Virginia	59			5	380	524		8			984	977	14	52	11	7	13		760
West Virginia	60		4		383	23	1	2			648	644		14			6		209
North Carolina	160			22	412	13	2				873	846	15	9	2	8	6		698
South Carolina	43		98		66	1,744		2			93		4	5	2	9	12		917
Georgia	23		15	4	253	48		1			605	368	7	17	11	61	21	10	154
Florida	42			1	73	29		4			1,054	1,054	3	23	[13] 20	41	16	45	216

EAST SOUTH CENTRAL																			
Kentucky	50		8	[6] 2	458	16			7		499	485	6	22	4	4	4	5	351
Tennessee	78	2	24		541	69		6	1		1,338		15	23	4	7	29	62	515
Alabama	8	1			178			11			670		8	5		28	18		332
Mississippi	25	1			87						424	412	13	5		17	11		50
WEST SOUTH CENTRAL																			
Arkansas	16			2	64	260		9	49		551	544	27	7	1	5	8		363
Louisiana	13		6		56	77		11			540	523	4	52	3	20	12		111
Oklahoma	17			10	133	56		3	99		526	521	11	12	57	1	28	2	165
Texas	30				445	447			16		1,602		13	63	3	99	86		2,681
MOUNTAIN																			
Montana	4		3		237	28			7		187	33		7					157
Idaho	230		8		96	46					33			4	1		5	7	169
Wyoming	3				46	16					12		4	4				2	76
Colorado	21		29		370	56					292		3	9	2		82	12	801
New Mexico	12		6		77		1		40		[14] 276	[14] 272	1	5			1		151
Arizona	10				85				102		573	564		14	2	1	1		266
Utah	19		15		101	21					13	13	9	2			29		119
Nevada	5				11	17			3		54		2					6	14
PACIFIC																			
Washington	70		80		481	33		1			577			5	3		17	278	370
Oregon	47		16		260	71					189	172		9	6		2		149
California	203		189	2	1,182	108		6	4	19	2,121	1,975	1	55	20	13	71		1,397
Total	[6] 3,335	5	916	[6] 60	19,273	4,054	20	107	348	110	30,957	17,533	252	717	[13] 273	332	1,396	560	32,131
Fourth quarter 1946	6,505	6	1,021	37	22,862	3,634	43	144	443	77	29,976	17,272	483	643	272	693	1,625	708	26,205
Median 1942–46	4,008	7	[15] 1,021	27	32,554	1,843	71	108	490	63	27,208	15,302	246	893	159	1,494	1,191	576	27,460
Alaska					1	13					642	642		2					3
Hawaii Territory			1		4	3		4			266	256		1	3	16	1		185
Panama Canal Zone [9]	2										[10] 21			2	2	2			[10] 1

See footnotes on p. 282.

Footnotes for tables on pp. 278, 279, 280, and 281

*Diseases marked with an asterisk (*) are reportable by law or regulation in all the States, including the District of Columbia. Typhoid fever is reportable in all the States; paratyphoid fever in all except 6 States. Syphilis is reportable in all the States and the District of Columbia but is not included in the table. Some States have increased and some have reduced the list of reportable diseases since the latest published compilation of reportable diseases (PUBLIC HEALTH REPORT 59:317-340) (Mar. 10, 1944. Reprint No. 2544).

[1] For reports for first, second, and third quarters of 1947 see pp. 890, 1372, and 1752 of the PUBLIC HEALTH REPORTS for June 13, Sept. 19, and Dec. 12, 1947, respectively.
[2] Includes cases of kerato- and suppurative conjunctivitis and of pink eye.
[3] In a few States practically all cases contracted outside the United States.
[4] Reported as ophthalmia neonatorum.
[5] Lobar pneumonia only.
[6] Includes delayed reports.
[7] New York City only.
[8] Includes 20 cases delayed reports.
[9] Includes the cities of Colon and Panama.
[10] In the Canal Zone only.
[11] Includes septic sore throat.
[12] Included in scarlet fever.
[13] Includes cases reported as salmonella infection.
[14] Includes nonresident cases.
[15] 3 year (1944-46) median.

The following list includes certain rare conditions, diseases of restricted geographical distribution, and those reportable in or reported by only a few States; last year's figures in parentheses (where no figures are given, no cases were reported last year):

Actinomycosis: Illinois 1, Minnesota 1 (3), Nevada 1.
Botulism: Maine 1, Kentucky 4, Colorado 1, Washington 4, Oregon 2.
Coccidioidomycosis: Arizona 2 (4), California 16 (12).
Dengue: South Carolina 2 (1), Texas 4 (7).
Diarrhea: New York 26 (45), New Jersey 5 (17), Pennsylvania 23 (28), Ohio 130 (120), includes enteritis, Illinois 8 (21), Michigan 5 (4), North Dakota 1 (1), Kansas 40, includes enteritis, Maryland 5 (31), South Carolina 1,831 (1,186), Florida 34 (12), Kentucky 36, Oklahoma 2, Colorado 1 (14), includes enteritis, New Mexico 68 (79), Oregon 3 (27), includes enteritis, California 32 (129).
Dog bite: Illinois (all animal bites) 2,638 (2,343), Michigan 1,624 (1,061), Arkansas (all animal bites) 125 (128).
Filariasis: Minnesota 1 (1).
Food poisoning: New Jersey 2 (2), Ohio 13 (3), Indiana 3 (5), Illinois 8 (23) Minnesota 54, Louisiana 6 (2), Idaho 1 (7), Colorado 2, Washington 55 (19), Oregon 12, California 166 (133).
Granuloma inguinale: Missouri 2 (6), West Virginia 2, Florida 72 (95), Tennessee 7 (20), Mississippi 71 (163), Louisiana 57 (59), California 3.
Impetigo contagiosa: Ohio 23 (6), Indiana 36 (43), Illinois 17 (10), Michigan 668 (697), Missouri 17 (2), North Dakota 2 (8), Nebraska 4, Kansas 14 (7), Kentucky 24 (13), Montana 9 (19), Idaho 19 (22), Wyoming 12 (14), Colorado 25 (2), Nevada 59 (57), Washington 521 (355), Oregon 1, Alaska 1, Hawaii Territory 37.
Jaundice (including hepatitis and Weil's disease): Maine 3 (15), New York 99 (153), Pennsylvania 23 (19), Illinois 9 (15), Michigan 7 (2), Minnesota 15 (6), South Carolina 8 (3), Florida 1 (8), Kentucky 4, Tennessee 8 (3), Idaho 6 (18), Utah 1 (1), Oregon 17 (31), California 39 (37), Hawaii Territory 2 (1).
Lead poisoning: California 1.
Leprosy: New York 4, Minnesota 1, Florida 2 (1), Mississippi 1, Louisiana 1 (1), Texas 2, California 1 (1), Hawaii Territory 6.
Lymphocytic choriomeningitis: Massachusetts 1 (2), Tennessee 4 (6).
Lymphogranuloma venereum: Missouri 2 (7), Florida 31 (45), Tennessee 15 (37), Louisiana 34 (15).
Psittacosis: Ohio 4, California 4 (3).
Puerperal septicemia: Tennessee 1.
Rabies in animals: New York 191 (318), Ohio 152 (161), Indiana 72, Illinois 16 (88), Michigan 55 (5), Minnesota 1, Kansas 13 (8), South Carolina 33 (33), Florida 110 (36), Alabama 88 (115), Arkansas 24 (37), Louisiana 6 (2), Texas 208 (214), Colorado 2 (3), Arizona 50 (delayed reports), Utah 1 (5) California 90 (76).
Rat bite fever: Tennessee 1.
Relapsing fever: Texas 15 (14), Nevada 3, California 5 (9), Panama Canal Zone 1.
Ringworm disease: Pennsylvania 1,149 (1,166), Ohio 29 (130), Illinois 346 (672), Michigan 638 (738), Minnesota 12 (4), Iowa 126, Missouri 12 (3), Kansas 7 (3), Kentucky 26, Montana 2, Idaho 20 (29), Utah 105, Washington 410 (267).
Scabies: Rhode Island 4 (2), Pennsylvania 134 (317), Ohio 53 (13), Indiana 3, Michigan 378 (499), Missouri 20 (23), North Dakota 9 (6), Kansas 39 (67), Kentucky 37 (17), Montana 24 (33), Idaho 59 (103), Wyoming 15 (5), Nevada 11 (5), Alaska 1.
Silicosis: New Mexico 2 (1).
Yaws: Kansas 1.

INCIDENCE 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 FEBRUARY 7, 1948

Summary

The reported incidence of influenza declined from 14,253 to 12,896 cases for the current week, as compared with 3,432 for the corresponding week last year and 4,334 for the 5-year (1943–47) median. The decreases were reported chiefly in Alabama, California, and Arizona. Washington State, with a report of 300 cases (last week 19), was the only State reporting an increase of more than 99 cases. Seven States reporting an aggregate of 10,994 cases, or 85 percent (last week 91 percent) are as follows (last week's figures in parentheses): *Increases*—Virginia 1,016 (969), Arkansas 637 (599), Texas 5,133 (5,088); *decreases*—South Carolina 1,269 (1,279), Alabama 500 (1,576), Arizona 1,372 (1,666), California 1,067 (1,860). The total since the first of the year is 59,531, as compared with 20,342 for the corresponding period last year and a 5-year median of 21,748.

Of 28 cases of poliomyelitis reported (last week 32), 4 each occurred in North Carolina and Idaho, and 3 in California. The current total is lower than for any corresponding week of the past 3 years. For the corresponding week last year 59 cases were reported, and the 5-year median is 38. The total for the year to date is 187, as compared with 358 for the corresponding period last year and a 5-year median of 194.

Five cases of smallpox were reported (2 in Louisiana and 1 each in Indiana, Wisconsin, and Texas), making a total to date of 16 cases as compared with 23 for the same period last year and a 5-year median of 44. Two cases of anthrax were reported during the week—1 each in New York and New Jersey—and 1 case of leprosy, in California.

Deaths recorded during the week in 92 large cities in the United States totaled 10,584, as compared with 10,306 last week, 9,561 and 10,103, respectively, for the corresponding weeks of 1947 and 1946, and a 3-year (1943–47) median of 9,845. The cumulative figure to date is 62,545, as compared with 59,370 for the same period in 1947. Infant deaths for the week totaled 741, as compared with 672 last week and a 3-year median of 633. The total to date is 4,326, as compared with 4,919 for the same weeks last year.

Telegraphic morbidity reports from State health officers for the week ended Feb. 7, 1948, and comparison with corresponding week of 1947 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 1943-47	Week ended—		Median 1943-47	Week ended—		Median 1943-47	Week ended—		Median 1943-47
	Feb. 7, 1948	Feb. 1, 1947		Feb. 7, 1948	Feb. 1, 1947		Feb. 7, 1948	Feb. 1, 1947		Feb. 7, 1948	Feb. 1, 1947	
NEW ENGLAND												
Maine	0	0	0	2	2	------	5	174	29	1	1	1
New Hampshire	0	0	0	1	------	------	------	8	8	0	0	0
Vermont	0	0	0	------	38	32	2	223	97	2	1	0
Massachusetts	2	13	3	------	------	------	421	457	351	1	2	6
Rhode Island	1	0	0	------	------	------	1	125	20	2	0	0
Connecticut	1	0	1	------	1	8	32	226	155	0	0	2
MIDDLE ATLANTIC												
New York	10	30	21	[1] 2	[1] 9	[1] 12	827	151	745	9	10	25
New Jersey	8	2	2	------	6	18	878	120	156	3	7	7
Pennsylvania*	10	13	13	([2])	[2] 2	[2] 2	558	598	1,047	5	8	18
EAST NORTH CENTRAL												
Ohio	9	29	13	4	1	14	712	395	136	1	3	11
Indiana	19	9	12	56	5	21	475	20	140	2	1	4
Illinois	1	5	7	2	2	8	1,900	25	371	4	0	13
Michigan [3]	0	11	8	2	------	11	1,104	68	166	4	0	5
Wisconsin	0	2	2	135	32	84	311	107	107	1	0	3
WEST NORTH CENTRAL												
Minnesota	3	9	6	1	------	2	436	50	21	0	2	4
Iowa	3	3	3	9	------	------	620	9	32	0	1	1
Missouri	5	7	7	9	3	8	83	4	141	1	1	11
North Dakota	0	1	1	------	43	21	57	3	3	0	0	0
South Dakota	0	2	1	------	------	------	52	8	100	0	1	1
Nebraska	0	2	2	5	------	6	20	------	29	0	0	1
Kansas	1	4	6	36	7	11	10	7	258	0	0	1
SOUTH ATLANTIC												
Delaware	0	0	0	------	------	------	55	1	7	0	0	0
Maryland [3]	3	6	6	2	2	17	60	13	41	0	2	6
District of Columbia	0	1	0	------	------	2	86	26	26	2	0	2
Virginia	6	8	12	1,016	430	660	109	164	201	0	4	7
West Virginia	7	2	5	137	39	92	359	125	61	2	1	2
North Carolina	15	5	11	------	------	------	7	236	96	1	2	10
South Carolina	6	5	5	1,269	633	659	21	57	57	1	0	5
Georgia	4	4	2	145	28	98	89	112	40	0	3	3
Florida	5	9	6	7	10	8	86	9	28	0	1	3
EAST SOUTH CENTRAL												
Kentucky	4	13	8	2	12	12	41	3	115	5	2	7
Tennessee	5	11	11	182	23	71	121	13	114	0	0	6
Alabama	5	8	8	500	149	215	19	9	13	1	1	5
Mississippi [3]	2	2	3	48	------	------	13	------	------	1	1	7
WEST SOUTH CENTRAL												
Arkansas	2	10	8	637	53	203	153	81	81	0	0	2
Louisiana	1	9	3	173	9	13	26	38	21	1	4	4
Oklahoma	9	3	6	222	83	117	47	7	20	1	1	1
Texas	24	23	43	5,133	1,519	2,259	1,367	80	199	2	6	13
MOUNTAIN												
Montana	13	0	0	29	21	21	120	230	163	0	1	0
Idaho	1	2	1	93	17	5	15	5	8	0	0	0
Wyoming	0	0	0	------	3	12	75	2	4	0	0	0
Colorado	8	3	6	57	48	93	70	34	100	0	1	1
New Mexico	3	3	2	3	6	2	3	29	7	1	0	0
Arizona	8	6	3	1,372	156	156	4	63	12	2	0	0
Utah [3]	3	0	0	99	12	12	13	8	35	0	0	1
Nevada	0	0	0	2	------	------	------	------	3	0	0	0
PACIFIC												
Washington	0	2	3	300	------	1	177	23	149	1	2	5
Oregon	10	3	5	137	16	32	29	30	58	1	0	3
California	10	22	35	1,067	12	84	538	85	426	7	10	17
Total	227	302	302	12,896	3,432	4,334	12,207	4,261	7,997	65	80	219
5 weeks	1,206	1,579	1,640	59,531	20,342	21,748	45,621	19,056	28,282	398	424	1,172
Seasonal low week [4]	(27th) July 5-11			(30th) July 26-Aug. 1			(35th) Aug. 30-Sept. 5			(37th) Sept. 13-19		
Total since low*	7,564	9,145	10,133	103,089	53,317	53,317	80,567	41,943	54,406	1,180	1,396	2,802

[1] New York City only.
[2] Philadelphia only.
[3] Period ended earlier than Saturday.
[4] Dates between which the approximate low week ends. The specific date will vary from year to year.
*Report for Pennsylvania for week ended Jan. 31, 1948: Meningitis, meningococcus 6; diphtheria 7; dysentery, amebic 1; encephalitis, infectious 2; measles 553; poliomyelitis 2; scarlet fever 208; typhoid fever 6; undulant fever 4; whooping cough 133.

Telegraphic morbidity reports from State health officers for the week ended Feb. 7, 1948, and comparison with corresponding week of 1947 and 5-year median—Con.

Division and State	Poliomyelitis: Week ended— Feb. 7, 1948	Poliomyelitis: Week ended— Feb. 1, 1947	Poliomyelitis: Median 1943-47	Scarlet fever: Week ended— Feb. 7, 1948	Scarlet fever: Week ended— Feb. 1, 1947	Scarlet fever: Median 1943-47	Smallpox: Week ended— Feb. 7, 1948	Smallpox: Week ended— Feb. 1, 1947	Smallpox: Median 1943-47	Typhoid and paratyphoid fever: Week ended— Feb. 7, 1948[5]	Typhoid and paratyphoid fever: Week ended— Feb. 1, 1947	Typhoid and paratyphoid fever: Median 1943-47
NEW ENGLAND												
Maine	0	1	0	21	40	40	0	0	0	0	0	0
New Hampshire	0	0	0	1	1	12	0	0	0	0	0	0
Vermont	0	2	0	9	10	12	0	0	0	0	0	0
Massachusetts	1	1	0	94	122	372	0	0	0	2	5	1
Rhode Island	0	0	0	5	14	16	0	0	0	0	0	0
Connecticut	0	0	0	42	71	85	0	0	0	2	0	0
MIDDLE ATLANTIC												
New York	2	8	3	239	343	439	0	0	0	1	4	3
New Jersey	1	1	0	70	132	132	0	0	0	0	0	1
Pennsylvania	0	1	1	183	187	309	0	0	0	2	2	2
EAST NORTH CENTRAL												
Ohio	0	1	0	273	402	329	0	2	0	6	2	2
Indiana	2	1	0	92	74	158	1	2	2	1	0	0
Illinois	0	3	1	159	158	216	0	0	1	0	1	1
Michigan[3]	0	4	0	112	148	148	0	0	0	3	0	2
Wisconsin	0	2	0	69	87	183	1	0	0	1	1	0
WEST NORTH CENTRAL												
Minnesota	2	0	1	49	42	76	0	0	0	0	0	0
Iowa	0	0	0	49	57	57	0	0	0	0	1	0
Missouri	0	3	1	37	43	109	0	0	0	0	0	1
North Dakota	0	0	0	8	10	11	0	0	0	0	0	0
South Dakota	0	0	0	2	1	20	0	0	0	0	0	0
Nebraska	2	1	0	20	31	45	0	1	1	0	0	0
Kansas	0	0	0	64	63	81	0	0	0	0	0	0
SOUTH ATLANTIC												
Delaware	1	0	0	5	15	8	0	0	0	1	0	0
Maryland[3]	0	3	0	32	23	83	0	0	0	1	0	1
District of Columbia	0	1	0	13	4	21	0	0	0	0	0	0
Virginia	0	1	0	20	27	50	0	0	0	2	1	1
West Virginia	1	1	1	32	38	38	0	0	0	2	0	0
North Carolina	4	1	1	27	26	63	0	0	0	2	1	1
South Carolina	0	0	0	9	14	9	0	0	0	0	1	1
Georgia	0	0	0	17	20	20	0	0	0	1	2	3
Florida	1	4	4	18	5	13	0	0	0	2	3	0
EAST SOUTH CENTRAL												
Kentucky	0	0	0	53	61	61	0	0	0	0	2	0
Tennessee	1	1	1	36	36	36	0	1	0	2	1	1
Alabama	0	1	0	12	13	13	0	0	0	0	0	0
Mississippi[3]	0	1	1	3	7	12	0	0	0	0	0	1
WEST SOUTH CENTRAL												
Arkansas	0	1	0	11	7	6	0	0	0	0	3	1
Louisiana	0	0	0	2	16	16	2	0	0	0	4	3
Oklahoma	0	1	1	14	4	18	0	0	0	0	5	0
Texas	1	2	2	37	39	86	1	0	2	1	2	3
MOUNTAIN												
Montana	2	0	0	6	10	11	0	0	0	0	0	0
Idaho	4	0	0	8	13	18	0	0	0	0	2	0
Wyoming	0	0	0	7	5	12	0	0	0	4	0	0
Colorado	0	1	0	25	40	52	0	0	0	0	0	0
New Mexico	0	0	0	10	9	9	0	0	0	1	0	1
Arizona	0	1	0	4	8	12	0	0	0	0	4	0
Utah[3]	0	0	0	26	21	66	0	0	0	0	0	0
Nevada	0	0	0	0	1	1	0	0	0	0	0	0
PACIFIC												
Washington	0	2	2	49	53	53	0	0	0	0	1	1
Oregon	0	0	0	26	27	27	0	0	0	1	4	1
California	3	8	6	94	127	231	0	0	0	5	1	5
Total	28	59	38	2,194	2,705	4,037	5	6	10	43	53	53
5 weeks	187	358	194	10,727	12,393	18,187	16	23	44	200	219	249
Seasonal low week[4]	(11th) Mar. 15-21			(32nd) Aug. 9-15			(35th) Aug. 30-Sept. 5			(11th) Mar. 15-21		
Total since low	10,398	25,155	13,585	33,266	39,079	56,508	37	77	127	3,609	3,747	4,861

[3] Period ended earlier than Saturday.
[4] Dates between which the approximate low week ends. The specific date will vary from year to year.
[5] Including paratyphoid fever reported separately as follows: Massachusetts 1 (salmonella infection); Michigan 1; North Carolina 1; Georgia 1; California 1.

Telegraphic morbidity reports from State health officers for the week ended Feb. 7, 1948, and comparison with corresponding week of 1947 and 5-year median—Con.

Division and State	Whooping cough: Week ended— Feb. 7, 1948	Whooping cough: Week ended— Feb. 1, 1947	Whooping cough: Median, 1943-47	Week ended February 7, 1947: Dysentery: Amebic	Dysentery: Bacillary	Dysentery: Unspecified	Encephalitis, infectious	Rocky Mt. spotted fever	Tularemia	Typhus fever, endemic	Undulant fever
NEW ENGLAND											
Maine	48	8	18								
New Hampshire	1	2	2								
Vermont	52	15	19		1						
Massachusetts	87	237	150		1						1
Rhode Island	8	11	19								
Connecticut	21	60	53								1
MIDDLE ATLANTIC											
New York	143	178	226	8	10						5
New Jersey	64	186	133				2				
Pennsylvania	101	232	219		1						3
EAST NORTH CENTRAL											
Ohio	84	142	139						2		3
Indiana	37	29	29		5				1		
Illinois	68	111	75	3			1		3		7
Michigan [3]	93	200	102	7					1		2
Wisconsin	125	159	134								
WEST NORTH CENTRAL											
Minnesota	40	21	27								2
Iowa	7	25	25								15
Missouri	24	25	15						2		
North Dakota	22		2	3							
South Dakota	7	1	1								1
Nebraska	7	7	6								2
Kansas	57	14	41						2		11
SOUTH ATLANTIC											
Delaware	3	16	5								
Maryland [3]	26	71	43			4	1				2
District of Columbia	4	3	3								
Virginia	75	79	79			64	1		2		
West Virginia	23	15	25								
North Carolina	50	35	122						1		1
South Carolina	113	45	52		2						2
Georgia	25	19	14						2	1	4
Florida	15	49	15	2						1	11
EAST SOUTH CENTRAL											
Kentucky	16	51	26	3						1	
Tennessee	31	18	22				2		1		2
Alabama	27	100	25								1
Mississippi [3]	1			1	2		1				
WEST SOUTH CENTRAL											
Arkansas	38	21	19	4	1						1
Louisiana	25	8	5							1	1
Oklahoma	20	4	10			2					2
Texas	367	219	188	20	219	87				5	5
MOUNTAIN											
Montana	11	3	9								
Idaho	6	4	4		1						
Wyoming	13	2	2								
Colorado	76	11	24								4
New Mexico	22	14	16								
Arizona	44	31	18			17					
Utah [3]	28	3	23								4
Nevada											
PACIFIC											
Washington	41	21	21								2
Oregon	13	1	12	1	1						2
California	80	117	117	9	7		2				1
Total	2,289	2,623	2,403	61	251	174	10	0	17	9	98
Same week: 1947	2,623			60	345	426	6	0	36	69	77
Median, 1943-47	2,403			23	326	88	10	0	20	51	[6] 77
5 weeks: 1948	11,727			293	1,639	1,428	36	3	118	89	488
1947	12,123			185	2,160	1,253	32	1	258	271	419
Median, 1943-47	11,388			138	1,748	692	42	1	122	271	[6] 354

[3] Period ended earlier than Saturday.
[6] 3-year median, 1945-47.

Anthrax: New York 1; New Jersey 1.
Leprosy: California 1.
Territory of Hawaii: Measles 1; poliomyelitis 1; whooping cough 9.

WEEKLY REPORTS FROM CITIES *

City reports for week ended Jan. 31, 1948

This table lists the reports from 90 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.

Division, State, and City	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								
NEW ENGLAND												
Maine:												
Portland	0	0	------	0	------	0	1	0	0	0	0	10
New Hampshire:												
Concord	0	0	------	0	------	0	1	0	0	0	0	------
Vermont:												
Barre	0	0	------	0	------	0	0	0	0	0	0	------
Massachusetts:												
Boston	2	0	------	1	191	0	15	0	21	0	1	3
Fall River	0	0	------	0	------	0	0	0	1	0	0	------
Springfield	0	0	------	0	------	0	1	0	2	0	0	1
Worcester	0	0	------	0	------	0	6	1	10	0	0	4
Rhode Island:												
Providence	0	0	------	0	------	0	3	0	3	0	0	9
Connecticut:												
Bridgeport	0	0	------	0	------	1	0	0	7	0	0	------
Hartford	0	0	------	0	1	0	0	0	0	0	0	10
New Haven	0	0	------	0	1	1	1	0	2	0	0	8
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	------	0	------	0	7	0	7	0	0	8
New York	16	0	5	0	542	1	73	0	56	0	0	28
Rochester	0	0	------	1	------	1	3	0	18	0	1	4
Syracuse	0	0	------	0	4	0	1	0	2	0	0	7
New Jersey:												
Camden	0	0	------	0	6	0	1	0	0	0	0	2
Newark	1	0	------	0	26	0	4	0	7	0	0	9
Trenton	2	0	1	0	4	0	1	0	4	0	0	------
Pennsylvania:												
Philadelphia	4	2	5	1	41	3	16	0	39	0	2	13
Reading	0	0	------	0	1	0	2	0	4	0	0	5
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	0	0	------	3	10	0	11	0	13	0	0	2
Cleveland	0	0	3	1	2	0	8	0	22	0	0	12
Columbus	2	0	1	1	112	0	2	0	4	0	1	1
Indiana:												
Fort Wayne	0	0	------	0	3	0	2	0	1	0	0	------
Indianapolis	1	0	2	2	80	1	4	0	15	0	0	3
South Bend	0	0	------	0	------	0	0	0	2	0	0	1
Terre Haute	0	0	------	0	77	0	4	0	1	0	0	------
Illinois:												
Chicago	0	0	1	0	47	5	21	0	53	0	0	30
Springfield	0	0	------	0	130	0	1	0	3	0	0	3
Michigan:												
Detroit	1	0	------	0	38	1	23	1	64	0	0	17
Flint	0	0	------	0	------	0	1	0	4	0	0	------
Grand Rapids	0	0	------	0	258	0	0	0	1	0	1	6
Wisconsin:												
Kenosha	0	0	------	0	50	0	0	0	1	0	0	1
Milwaukee	0	0	------	0	16	1	5	0	10	0	0	8
Racine	0	0	------	0	56	0	1	0	2	0	0	2
Superior	0	0	------	0	7	0	0	0	0	0	0	2
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	------	1	3	0	2	0	2	0	0	11
Minneapolis	2	0	------	0	95	0	7	0	14	0	0	8
St. Paul	1	0	------	0	21	0	5	0	3	0	0	14
Missouri:												
Kansas City	0	0	4	0	4	0	5	0	4	0	0	16
St. Joseph	0	0	------	0	------	0	0	0	0	0	0	------
St. Louis	3	0	1	1	29	0	8	0	12	0	0	2
North Dakota:												
Fargo	0	0	------	0	------	0	1	0	1	0	0	------
Nebraska:												
Omaha	0	0	------	0	6	0	3	0	4	0	0	2
Kansas:												
Topeka	0	0	------	0	------	0	0	0	0	0	0	1
Wichita	0	0	------	0	1	0	3	0	0	0	0	4

*In some instances the figures include nonresident cases.

City reports for week ended Jan. 31, 1948—Continued

Division, State, and City	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								
SOUTH ATLANTIC												
Delaware:												
Wilmington	0	0	-----	0	25	0	2	0	2	0	0	-----
Maryland:												
Baltimore	2	0	3	1	5	1	10	0	11	0	0	36
Cumberland	0	0	-----	0	-----	0	0	0	3	0	0	-----
Frederick	0	0	-----	0	-----	0	0	0	0	0	0	-----
District of Columbia:												
Washington	0	0	-----	0	33	0	7	0	14	0	0	6
Virginia:												
Lynchburg	0	0	-----	0	-----	0	2	0	0	0	0	1
Richmond	0	0	-----	0	1	0	4	0	9	0	0	9
Roanoke	0	0	-----	0	-----	0	0	0	0	0	0	-----
West Virginia:												
Charleston	0	0	-----	0	4	0	1	0	0	0	0	-----
Wheeling	0	0	-----	0	-----	0	0	0	2	0	0	-----
North Carolina:												
Raleigh	0	0	-----	0	1	0	4	1	3	0	0	2
Wilmington	0	0	-----	0	-----	0	1	0	1	0	0	1
Winston-Salem	0	0	-----	0	3	0	3	2	1	0	0	-----
South Carolina:												
Charleston	1	0	69	0	-----	0	1	0	0	0	0	2
Georgia:												
Atlanta	0	0	11	0	2	0	4	0	4	0	0	2
Brunswick	0	0	-----	0	-----	0	0	0	0	0	0	-----
Savannah	0	0	6	5	-----	0	1	0	3	0	0	1
Florida:												
Tampa	1	0	3	0	17	1	2	0	4	0	0	4
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0	10	1	34	1	5	0	4	0	0	7
Nashville	1	0	-----	1	-----	0	0	0	3	0	0	1
Alabama:												
Birmingham	0	0	11	1	6	0	8	0	2	0	0	2
Mobile	1	0	14	1	-----	1	2	0	1	0	0	-----
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0	9	0	1	0	1	0	1	0	0	2
Louisiana:												
New Orleans	1	0	3	0	2	0	0	1	4	0	0	1
Shreveport	0	0	-----	0	-----	0	4	0	0	0	0	-----
Oklahoma:												
Oklahoma City	0	0	12	0	2	0	3	0	0	0	0	5
Texas:												
Dallas	2	0	-----	0	1	0	2	0	4	0	0	7
Galveston	0	0	-----	0	-----	0	2	0	0	0	0	-----
Houston	1	0	-----	0	27	0	1	0	1	0	0	5
San Antonio	2	0	3	2	4	1	9	0	1	0	0	-----
MOUNTAIN												
Montana:												
Billings	0	0	-----	0	2	0	0	0	0	0	0	2
Great Falls	0	0	-----	0	-----	0	1	1	0	0	0	-----
Helena	0	0	-----	0	-----	0	0	0	0	0	0	-----
Missoula	0	0	-----	0	-----	0	1	0	1	0	0	-----
Idaho:												
Boise	0	0	-----	0	-----	0	1	0	2	0	0	7
Colorado:												
Denver	1	0	5	0	39	1	3	0	6	0	0	22
Pueblo	1	0	-----	0	-----	0	2	0	1	0	0	9
Utah:												
Salt Lake City	0	0	-----	0	4	0	1	0	6	0	0	6
PACIFIC												
Washington:												
Seattle	1	0	-----	0	1	0	0	0	5	0	0	10
Spokane	0	0	-----	0	0	0	1	0	2	0	0	0
Tacoma	1	0	-----	0	46	0	0	0	4	0	0	3
California:												
Los Angeles	3	0	96	0	19	1	0	0	22	0	0	6
Sacramento	0	0	-----	0	1	0	0	0	3	0	0	2
San Francisco	0	1	69	1	151	2	6	0	6	0	0	4
Total	54	3	347	25	2,293	24	348	7	555	0	6	432
Corresponding week, 1947 [1]	82	-----	58	18	732	-----	379	-----	653	0	12	713
Average, 1943-47 [1]	78	-----	452	[3] 39	[3] 2,801	-----	[3] 464	-----	1,199	1	11	676

[1] Exclusive of Oklahoma City. [2] 3-year average, 1945-47. [3] 5-year median, 1943-47.

Rates (annual basis) per 100,000 population, by geographic groups, for the 90 cities in the preceding table (latest available estimated population, 34,013,300)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza: Case rates	Influenza: Death rates	Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
New England	5.2	0.0	0.0	2.6	504	5.2	73.2	2.6	120	0.0	2.6	118
Middle Atlantic	11.3	1.0	5.4	1.0	306	2.4	52.9	0.0	67	0.0	1.5	37
East North Central	2.4	0.0	4.3	4.3	539	4.9	50.5	0.6	119	0.0	1.2	54
West North Central	11.9	0.0	9.9	4.0	316	0.0	67.6	0.0	80	0.0	0.0	115
South Atlantic	6.5	0.0	150.4	9.8	149	3.3	68.6	4.9	93	0.0	0.0	105
East South Central	11.8	0.0	206.6	23.6	236	11.8	88.5	0.0	59	0.0	0.0	59
West South Central	15.2	0.0	68.6	5.1	94	2.5	55.9	2.5	28	0.0	0.0	51
Mountain	15.9	0.0	39.7	0.0	357	7.9	71.5	7.9	127	0.0	0.0	365
Pacific	7.9	1.6	260.9	1.6	345	4.7	11.1	0.0	66	0.0	0.0	40
Total	8.3	0.5	53.3	3.8	352	3.7	53.5	1.1	85	0.0	0.9	66

Dysentery, amebic.—Cases: New York 3; Flint 1; St. Louis 1; Los Angeles 3.
Dysentery, bacillary.—Cases: Worcester 3; Los Angeles 2.
Dysentery, unspecified.—Cases: Chicago 1.
Leprosy.—Cases: New York 1.

TERRITORIES AND POSSESSIONS

Panama Canal Zone

Notifiable diseases—December 1947.—During the month of December 1947, certain notifiable diseases were reported in the Panama Canal Zone and terminal cities as follows:

Disease	Residence [1]: Panama City: Cases	Panama City: Deaths	Colon: Cases	Colon: Deaths	Canal Zone: Cases	Canal Zone: Deaths	Outside the Zone and terminal cities: Cases	Outside the Zone and terminal cities: Deaths	Total: Cases	Total: Deaths
Chickenpox	10		1				1		12	
Diphtheria	23		2				2		27	
Dysentery:										
Amebic	4	1	1				5	1	10	2
Bacillary			4		1		3	1	8	1
Malaria [2]	1		1		6		261	6	269	6
Measles	2						6		8	
Mumps			1		5		2		8	
Pneumonia		4		4	28			9	[3] 28	17
Poliomyelitis					1				1	
Relapsing fever	1								1	
Tuberculosis		17		9	5	1		2	[3] 5	29
Typhoid fever	1								1	
Typhus fever					1				1	
Whooping cough					1				[3] 1	

[1] If place of infection is known, cases are so listed instead of by residence.
[2] 6 recurrent cases.
[3] Reported in the Canal Zone only.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended January 17, 1948.—During the week ended January 17, 1948, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		29	3	272	423	95	79	66	92	1,059
Diphtheria				18	4	2	2	1	2	29
Dysentery, amebic				2		1				3
Encephalitis, infectious								1		1
German measles				7	22			4	3	36
Influenza		9			1	1				11
Measles				746	626	8	3	35	68	1,486
Meninigitis, meningococcus		1		1	1		1	1		5
Mumps		39	3	279	204	32	102	38	39	736
Poliomyelitis					1	1	1			3
Scarlet fever		1	4	44	57	6	1	9	13	135
Tuberculosis (all forms)		6	11	98	30	11	8	8	122	294
Typhoid and paratyphoid fever		1		3	3					7
Undulant fever				3	1				1	5
Venereal diseases:										
Gonorrhea	1	4	7	116	87	23	30	48	77	393
Syphilis	2	10	2	57	48	13	4	6	18	160
Whooping cough		3		61	39	38	2	77	19	239

CUBA

Habana—Communicable diseases—5 weeks ended January 3, 1948.—During the 5 weeks ended January 3, 1948, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	39	2	Scarlet fever	1	
Malaria	6		Tuberculosis	6	1
Measles	6		Typhoid fever	14	1

Provinces—Notifiable diseases—5 weeks ended January 3, 1948.—During the 5 weeks ended January 3, 1948, cases of certain notifiable diseases were reported in the Provinces of Cuba as follows:

Disease	Pinar del Rio	Habana [1]	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer	2	3	11	15		20	51
Chickenpox		19			1		20
Diphtheria	1	46				5	52
Leprosy		3	1			5	9
Malaria	1	10	2	14	15	41	83
Measles		6		3	5	2	16
Scarlet fever		2					2
Tuberculosis	24	18	17	16	16	67	158
Typhoid fever	1	27	4	8	4	26	70
Whooping cough				19			19

[1] Includes the city of Habana.

NORWAY

Notifiable diseases—October 1947.—During the month of October 1947, cases of certain notifiable diseases were reported in Norway as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	13	Mumps	766
Diphtheria	86	Paratyphoid fever	3
Dysentery, unspecified	7	Pneumonia	1,343
Epidemic encephalitis	4	Poliomyelitis	79
Erysipelas	467	Rheumatic fever	162
Gastroenteritis	3,771	Scabies	4,424
Gonorrhea	666	Scarlet fever	491
Hepatitis, epidemic	242	Syphilis	141
Impetigo contagiosa	4,663	Tuberculosis (all forms)	409
Influenza	2,168	Typhoid fever	3
Laryngitis and bronchitis	10,082	Weil's disease	1
Measles	52	Whooping cough	590

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From consular reports, international health organizations, medical officers of the Public Health Service, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

[C indicates cases]

NOTE.—Since many of the figures in the following tables are from weekly reports, the accumulated totals are for approximate dates.

Place		January-November 1947	December 1947	January 1948—week ended—				
				3	10	17	24	31
AFRICA								
Egypt	C	21,887	33	1				
Alexandria	C	253						
Cairo	C	133		1				
Ismailiya	C	99						
Port Said	C	37						
Suez	C	26						
ASIA								
Arabia: Amirate of Dubay	C	1						
Burma	C	261	2					
Moulmein	C	66						
Rangoon	C	4						
China:								
Anhwei Province	C	6						
Chekiang Province	C	288						
Pingyang	C	150						
Wenchow	C	1						
Formosa (Island of)	C	14						
Fukien Province	C	16						
Foochow	C	2						
Honan Province	C	936						
Hunan Province	C	16						
Kiangsi Province	C	102						
Kiangsu Province	C	738						
Chinkiang	C	8						
Shanghai	C	53						
Tsingkiang	C	9						
Kwangtung Province	C	6						
Hong Kong	C	6						
Suiyuan Province	C	52						
Szechwan Province	C	5						

See footnote at end of table.

CHOLERA—Continued

Place		January-November 1947	December 1947	January 1948—week ended— 3	10	17	24	31
India	C	141,752	9,496					
Ahmadabad	C	27						
Allahabad	C	70						
Bombay	C	114						
Calcutta	C	4,577	139	61	83	86	146	
Cawnpore	C	331	1					
Chittagong (See also Pakistan)	C	32						
Lahore	C	2,152	21					
Lucknow	C	288						
Madras	C	25	2	1		1		
Nagpur	C	38						
New Delhi	C	35						
India (French):								
Chandernagor	C	33						
Karikal	C	15						
Pondicherry	C	37						
India (Portuguese)	C	51						
Indochina (French):								
Annam	C	26	11					
Cambodia	C	1,140	33				[1] 206	
Cochinchina	C	526	15		[2] 8			
Bien Hoa	C	7						
Chaudoc	C	2	3		1			
Cholon	C	33						
Giadinh	C	11						
Longxuyen	C	33	3					
Mytho	C	6						
Rachgia	C	22						
Saigon	C	135	1			1		
Vinh-long	C	8						
Laos	C	55						
Tonkin	C	67						
Pakistan	C			443	348			
Chittagong	C			2		1		
Siam (Thailand)	C	3,445	6					
Bangkok	C	778	3					
Straits Settlements: **Penang**	C	[3] 1						
Syria	C		45	3				

[1] For the period Jan. 11-20, 1948.
[2] For the period Jan. 1-10, 1948.
[3] Imported.

PLAGUE

[C indicates cases; D, deaths]

Place		January-November 1947	December 1947	January 1948—week ended— 3	10	17	24	31
AFRICA								
Belgian Congo	C	[1] 17	4			1	1	
British East Africa:								
Kenya	C	59	1	1				
Uganda	C	1						
Egypt: **Alexandria**	C	24						
Madagascar	C	[2] 223	53					
Mananjary	C	5						
Union of South Africa	C	[3] 34	[3] 8	3	1	[4] 2		
ASIA								
Burma	C	1,261	32	9	27		40	
Bassein	C	[5] 2						
Mandalay	C	17						
Rangoon	C	19			1	1	1	
China:								
Chekiang Province	C	141	9					
Formosa (Island of)	C	1						
Fukien Province	C	751	6					
Amoy	C	13						
Foochow	C	49						
Kiangsi Province	C	289	116					
Nanchang	C	46	P					
Kiangsu Province	C	30						
Shanghai	C	28						
Kwangtung Province	C	77						
Yunnan Province	C	[6] 780						
India	C	73,235	2,412					
Indochina (French):								
Annam	C	86	3					
Cambodia	C		1					
Cochinchina	C	31						
Laos State	C		2					

See footnote at end of table.

PLAGUE—Continued

Place		January-November 1947	December 1947	January 1948—week ended— 3	10	17	24	31
Java	C	39						
Korea	C	22						
Manchuria	D	[7] 100						
Palestine	C	42	1					
Siam (Thailand)	C	50	17	13	5	15		
Syria	C	6						
Turkey: Akcakale	C	19						
EUROPE								
Germany: East Prussia.[8]								
Portugal: Azores	C	4						
Turkey (see Turkey in Asia).								
NORTH AMERICA								
Canada.[9]								
SOUTH AMERICA								
Argentina:								
Cordoba Province	C	1						
Santa Fe Province	C	3						
Brazil: [10]								
Alagoas State	C	1						
Ceara State	C	2						
Minas Geraes State	C	7						
Parahyba State	C	4						
Pernambuco State	C	9						
Ecuador:								
Chimborazo Province	C	4	1					
Loja Province	C	22						
Peru:								
Ancash Department	C	1						
Lambayeque Department	C	10						
Libertad Department	C	20						
Lima Department	C	49					1	
Piura Department	C	[11] 79						
OCEANIA								
Hawaii Territory: Plague infected rats [12]		3						[13] 4

[1] Includes 5 cases of pneumonic plague.
[2] Includes 64 cases of pneumonic plague.
[3] Includes 2 cases of pneumonic plague.
[4] Pneumonic.
[5] Imported.
[6] Includes 12 cases of pneumonic plague.
[7] Period not specified.
[8] During the month of June 1947, an outbreak of plague with high mortality occurred in Königsberg, East Prussia, Germany.
[9] For the period July 5 to Sept. 20, 1947, 6 lots of plague infected fleas from squirrels were reported in Alberta and Saskatchewan Provinces, Canada.
[10] In addition, 7 cases of plague were reported in Brazil for the period Jan. 1 to May 31, 1947, specific localities not being given.
[11] In addition 82 cases with 65 deaths in Ayabaca Province and 58 cases with 48 deaths in Huancabamba Province, all unconfirmed, were reported for the period September 1946 to March 1947.
[12] Plague infection was also reported in Hawaii Territory as follows: On Jan. 9, 1947, in a pool of 31 rats, on Mar. 20, 1947, in a pool of 32 fleas collected from 59 rats.
[13] Includes 1 mouse; date of report, Jan. 29, 1948.

SMALLPOX

[C indicates cases; P, present]

AFRICA								
Algeria	C	164						
Angola	C	265						
Basutoland	C	1						
Bechuanaland	C	38						
Belgian Congo	C	[1] 2,466	[1] 107	[1] 50				
British East Africa:								
Kenya	C	459	10					2
Nyasaland	C	1,847	253					
Tanganyika	C	2,703	103	25				
Uganda	C	566	48	1	8			
Cameroon (French)	C	139						
Dahomey	C	150	11		1		1	
Egypt	C	487	9					
Ethiopia	C	32						
French Equatorial Africa	C	12						
French Guinea	C	427						

See footnote at end of table.

SMALLPOX—Continued

Place		January-November 1947	December 1947	January 1948—week ended— 3	10	17	24	31
Gambia	C	6			4			
Gold Coast	C	886	83	11				
Ivory Coast	C	2,716	197		57		24	
Liberia	C	37						
Libya	C	2,251	46	3	23		6	
Mauritania	C	23						
Morocco (French)	C	57	4		1			
Morocco (Int. Zone)	C	12						
Morocco (Spanish)	C	29	1					
Mozambique	C	3	25	1	5			
Nigeria	C	4,935						
Niger Territory	C	2,576	109					
Portuguese Guinea	C	3						
Rhodesia:								
Northern	C	78	9	17		17	4	
Southern	C	557						
Senegal	C	17						
Sierra Leone	C	387						
Sudan (Anglo-Egyptian)	C	716	224	47	25	50		
Sudan (French)	C	393	2					
Swaziland	C	10						
Togo (French)	C	87	1					
Tunisia	C	1,016	109					
Union of South Africa	C	503	P					
ASIA								
Arabia	C	1						
Burma	C	2,833	47	14	12		81	
Ceylon	C	1						
China	C	3,090	304	62	78	45	67	
India	C	49,255	4,545					
India (French)	C	10						
India (Portuguese)	C	12						
Indochina (French)	C	4,637	268				[2] 403	
Iran	C	246	143	30	19			
Iraq	C	41	26			3	1	
Japan	C	390	1	1				
Korea	C	125						
Lebanon	C	1	21	8	20			
Malay States (Federated)	C	3,947	213	73				
Manchuria	C	8						
Netherland East Indies	C	4						
Pakistan	C			372	464			
Palestine	C					1	2	
Portuguese Timor	C	32						
Siam (Thailand)	C	1,351	18	11				
Straits Settlements	C	99						
Syria	C	5	22	10	1			
Turkey (see Turkey in Europe).								
EUROPE								
Belgium	C	[1] 23						
France	C	48						
Germany	C	12						
Great Britain: England and Wales	C	77						
Greece	C	10						
Irish Free State	C	[3] 1						
Italy	C	68						
Luxemburg	C	[1] 2						
Portugal	C	183	33	8	2	7		
Spain	C	31	1					
Switzerland	C	[3] 1						
Turkey	C	3						
NORTH AMERICA								
Guatemala	C	12						
Mexico	C	1,072						
Panama (Republic)	C	[3] 1						
SOUTH AMERICA								
Argentina	C	38						
Brazil	C	488						
Colombia	C	3,439	230					
Ecuador	C	[1] 2,446	[1] 557					
Paraguay	C	[1] 1,132						
Peru	C	397						
Uruguay	C	[1] 319						
Venezuela	C	[1] 5,266	[1] 99	[1] 30	[1] 9	[1] 148	[1] 208	

[1] Includes alastrim.
[2] For the period Jan. 1-20, 1948.
[3] Imported.

TYPHUS FEVER*

[C indicates cases; P, present]

Place		January-November 1947	December 1947	January 1948—week ended— 3	10	17	24	31
AFRICA								
Algeria	C	197						
Basutoland	C	15						
Bechuanaland	C	1						
Belgian Congo	C	371	11					
British East Africa:								
Kenya [1]	C	29						
Uganda	C	2						
Egypt	C	130	8					
Eritrea	C	693	54					
Ethiopia	C	353						
French West Africa [2]	C	2						
Gold Coast	C	6						
Libya	C	316	13	7	5		8	
Morocco (French)	C	125	3		1			
Morocco (International Zone)	C	27						
Morocco (Spanish)	C	88						
Nigeria [1]	C	18						
Rhodesia:								
Northern	C	1						
Southern	C	1						
Senegal	C	2						
Sierra Leone	C	3						
Sudan (Anglo-Egyptian)	C	1						
Tunisia [1]	C	663	25					
Union of South Africa [1]	C	283	P		P			
ASIA								
Arabia [1]	C	2						
Burma	C	3						
Ceylon	C	3						
China [1 3]	C	94	7			1		
India	C	7						
Indochina (French)	C	76	3		1			
Iran	C	256	7	3	2			
Iraq	C	294	11	2		7	2	
Japan	C	1,035	80	2				
Java	C	1						
Korea	C	1,261						
Malay States (Federated) [1]	C	50						
Manchuria	C	12						
Palestine [1]	C	226	3					
Siam (Thailand)	C	4						
Straits Settlements [1]	C	10	1					
Syria [1]	C	32	1	1				
Trans-Jordan	C	20		3			4	
Turkey (see Turkey in Europe).								
EUROPE								
Austria [1]	C	8						
Bulgaria	C	849	30					
Czechoslovakia	C	41	2					
France	C	4						
Germany	C	25	2		1			
Great Britain: Malta and Gozo [2]	C	24	1					
Greece [1]	C	371	25	3	2	3	5	10
Hungary	C	599	5	1		7	7	
Italy	C	72						
Sicily	C	33						
Luxemburg	C	4	1	2				
Netherlands [1]	C	3						
Norway [2]	C	1						
Poland	C	509	18					
Portugal	C	4						
Rumania [1]	C	24,461						
Spain	C	184	4					
Switzerland [2]	C	6						
Turkey	C	605	53	10	5	17	8	
Yugoslavia	C	203	12	5	9			

See footnote at end of table.

TYPHUS FEVER—Continued

Place		January-November 1947	December 1947	January 1948—week ended—				
				3[3]	10	17	24	31
NORTH AMERICA								
Costa Rica [2]	C	101			1			
Cuba [2]	C	11						
Guatemala	C	316						
Jamaica [2]	C	41	1					
Mexico	C	1,788						
Nicaragua	C	2						
Panama Canal Zone	C	13	1					
Panama (Republic)	C	[4] 22						
Puerto Rico [2]	C	52	5					
Virgin Islands [2]	C	2						
SOUTH AMERICA								
Argentina [1]	C	16						
Brazil	C	48	19					
Chile [1]	C	439						
Colombia	C	2,024	99					
Curacao [2]	C	1						
Ecuador [1]	C	574	32					
Peru	C	1,241						
Venezuela [1]	C	193						
OCEANIA								
Australia [2]	C	163	8					
Hawaii Territory [2]	C	42	4					

*Reports from some areas are probably murine type, while others probably include both murine and louse-borne types.
[1] Includes murine type.
[2] Murine type.
[3] Information dated December 10, 1947, stated that 100 deaths from typhus fever daily had occurred in Sinkian Province, China, and spreading in Tihwa.
[4] Includes imported cases.

YELLOW FEVER

[C indicates cases; D, deaths]

Place		January-November 1947	December 1947	3	10	17	24	31
AFRICA								
Belgian Congo: Orientale Province	C	1				1		
Nigeria: Ossiomo leper settlement	C		[1] 1					
Sudan (French): Bamako	C	3						
SOUTH AMERICA								
Brazil:								
Bahia State	D	1						
Para State	D	1						
Colombia:								
Antioquia Department	C	[2] 8						
Boyaca Department	D	4						
Caldas Department	D	8	1					
Cundinamarca Department	D	2						
Intendencia of Meta	D	9	1					
North Santander Department	D	1						
Santander Department	D	29						
Tolima Department	D	3						
Peru: Huanuco Department	D	2						

[1] Suspected.
[2] Includes deaths used as cases.