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STUDIES OF THE ACUTE DIARRHEAL DISEASES [1]

X D. FURTHER STUDIES ON THE RELATIVE EFFICACY OF SULFONAMIDES IN SHIGELLOSIS

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Previously published sections (*1*) of this paper have discussed the value of sulfonamides in the treatment of *Shigella* infection observed in institutional inmates, together with a preliminary report on clinical observations in a general hospital. Institutional studies provide an accessible and easily controlled source of individuals infected with these organisms. One disadvantage of this type of study is that a large proportion of the discovered infections are asymptomatic; another is that frequently only a single strain of organism may be involved in an outbreak. If a particular strain is resistant to sulfonamides, a large percentage of the cases will not respond to treatment; on the other hand, if a susceptible strain is involved, a very favorable result will be obtained. Therefore, as a complement to the institutional studies, a series of cases was observed and treated in two large general hospitals. These patients were chosen at random in the course of routine hospital admissions.

METHODS

By arrangement with the various services responsible for the care of patients, the following procedures were adopted: A stool culture was obtained on admission from every patient suffering with acute diarrhea. Rectal swab cultures were taken by the intern during his examination, planted immediately on S. S. agar and the plates sent to the laboratory for incubation (*2*). Treatment with the particular sulfonamide then being studied was immediately started. Daily

[1] From the Division of Infectious Diseases, National Institute of Health, and the Charity Hospital of Louisiana at New Orleans and at Shreveport, aided by a grant from the Division of Medical Research of the Office of Scientific Research and Development.

follow-up cultures were obtained by personnel employed for this purpose until the patient was clinically and bacteriologically well. Whenever possible five consecutive negative cultures were obtained before the patient was discharged, and all cases counted as negative in this analysis had at least three consecutive negative cultures.

Three different sulfonamides were used: sulfadiazine, sulfapyrazine and sulfamethazine. A standard dose was employed throughout; that for adults was 1 gm. every 4 hours until two negative cultures were obtained; children were given 0.064 gm. per pound of body weight daily for this same period.

The patients were all admitted through regular hospital channels, and for this reason the cases would be considered severe when compared with those seen in the general population. There were, however, a number which would be considered mild illnesses.

Bacteriological studies were used as the most reliable test of the efficacy of the various sulfonamides. No untreated controls were included in this study, since previous experience has shown the value of sulfonamide therapy in these infections, and a large group has been reported in other papers of this series. A second measure of efficacy used is the observed case-fatality rate compared with that seen in our earlier studies in New Mexico and Georgia (*3*). The two groups are not strictly comparable, since the earlier group was obtained, in part, by case-finding methods designed to detect a relatively large number of mild infections in the general population, thereby lowering the case-fatality rate. Balancing this, at least in part, is the fact that most of the cases in New Mexico and Georgia were treated at home and those reported here, while on the average more severe, were all cared for in modern hospitals where the many nonspecific aids to recovery would presumably be more efficiently applied. If these two factors are kept in mind, it is believed that useful conclusions may be drawn from this comparison.

Stool cultures of 333 cases of acute diarrhea were positive for *Shigella*, 238 being positive for one of the Flexner group, and 95 for *Shigella sonnei*. Sulfadiazine was used in 195 cases, sulfapyrazine in 103 cases, and sulfamethazine in 36 cases. The sulfamethazine series is small because a high proportion of severe complications, including one death, was noted and therefore the use of sulfamethazine was discontinued.

RESULTS

The cases of acute diarrheal disease found positive for *Shigella* are shown in table 1 according to the treatment received, the type of organism isolated, and the duration of positive cultures after treatment was started. (Six fatal cases are excluded from this tabulation.) All three sulfonamides quickly reduced the number of positive cultures, and the observed differences in efficacy were not significant.

TABLE 1.—*Percentage of individuals with persisting positive cultures in cases of shigellosis treated with different sulfonamides* [1]

Drug used	Type of *Shigella*	Total recovered cases	Before treatment	Percentage with persisting positive cultures						
				Day after treatment						
				1	2	3	4	5	7	10
Sulfadiazine	Flexner	130	100	68	31	16	10	6	5	4
	Sonne	61	100	85	54	44	33	23	18	15
Sulfapyrazine	Flexner	79	100	67	27	8	4	1	0	0
	Sonne	22	100	86	68	45	27	23	23	18
Sulfamethazine	Flexner	26	100	65	27	16	4	0	0	0
	Sonne	9	100	78	45	34	23	23	23	12
All drugs	Flexner	235	100	67	29	13	7	4	3	2
	Sonne	92	100	85	53	41	29	22	18	15

[1] 6 fatal cases excluded from this tabulation. These are discussed individually and under case-fatality rates.

An additional index of effectiveness—a count of suspicious colonies—was used. The usual admission cultures showed 500 and more colonies of pathogens per plate. On the other hand, positives recorded after 48 hours of therapy usually had not more than 10 to 15 such colonies. Thus, those positives which remained after 48 hours were less efficient carriers of infection, even though their stool cultures continued positive.

Attention is called to one important difference in response to treatment shown in the table. Infections with the Flexner group of organisms responded much more quickly and completely than did those with *Shigella sonnei*. In the group of Flexner cases only 5 resistant strains were encountered; whereas in the smaller series of Sonne infections there were 14 such cases.

This series was also analyzed according to severity and duration of illness before and after treatment. With all sulfonamides used, cases classed as moderate on clinical grounds alone became negative bacteriologically more quickly on the average than the severe cases. In Flexner infections for example only 7 of the moderate cases (total 99) were positive after 72 hours' treatment, while 28 of the severe ones (total 146) showed positive cultures. In all, 19 resistant cases of Flexner and Sonne infections (positive after 10 or more days' treatment) were seen. Six were classed as moderate (142 total cases) and 13 severe (185 total cases).

The average time required for bacteriological cure did not vary significantly with the duration of illness before treatment began. This is indicative of the value of the sulfonamides since *Shigella* infections are usually self-limited. Presumably, therefore, if the sulfonamide therapy was ineffective, those cases with the longer historical duration would on the average show a shorter period of positive cultures while under observation.

Usually clinical recovery paralleled the bacteriological response and was on the average 1 day later than the latter. Several important exceptions to this rule were seen. All 19 cases classed as having resistant infections were clinically well 10 days or more before any negative cultures were obtained. Conversely, bacteriological cure was observed a number of times as much as a week before clinical recovery was complete. This was usually seen in those patients giving a history of bloody mucoid stools. One child continued to pass grossly bloody stools for 8 days after bacteriological recovery, although the blood progressively decreased in amount. Abnormalities for the most part were confined to the microscopic demonstration of blood and cellular exudate in the stool for several days after cultures were negative. The explanation of this finding is shown in the autopsy record of cases 2 and 3 below. Healing ulcers of the bowel were found 8 and 7 days, respectively, after the last positive culture.

The case-fatality rate observed in this series is shown by age in table 2 and is compared with that seen in New Mexico and Georgia.

TABLE 2.—*Case-fatality rates by age in sulfonamide-treated group and group observed in New Mexico and Georgia without sulfonamide therapy*

Years	Locality	Age	Flexner [1]			Sonne			Total		
			Number cases	Number deaths	Percent deaths	Number cases	Number deaths	Percent deaths	Number cases	Number deaths	Percent deaths
1943–44	New Orleans and Shreveport Charity Hospitals	Under 1	62	1	1.6	30	2	6.8	92	3	3.3
		1–2	60	1	1.7	22	1	4.5	82	2	2.4
		2 and over	116	1	.9	43	0	0	159	1	.6
		All ages	238	3	1.3	95	3	3.1	333	6	1.8
1937–39	New Mexico and Georgia hospitals and general population cases	Under 1	64	21	31.2	24	6	25.0	88	27	30.7
		1–2	77	9	11.7	21	1	4.8	98	10	10.2
		2 and over	183	0	0	55	0	0	238	0	0
		All ages	324	30	9.2	100	7	7.0	424	37	8.7

[1] Includes Newcastle strains since these are antigenically related to the Flexner group and respond in the same way therapeutically.

The rate in the sulfonamide-treated series is definitely lower than that seen previously. At least one of the deaths (case 2) perhaps should not be included in this tabulation, since the child had two diseases and both clinical and autopsy findings were characteristic of a diptheritic myocarditis. All three fatal cases of Flexner infection were culturally negative at the time of death. The reduction in case-fatality rates in Sonne infections was not as large, and each fatal case (cases 4, 5, and 6) showed evidence of failure on the part of the sulfonamide. A brief discussion of these fatalities is given below:

Case 1.—Seven-week-old colored male admitted with severe dehydration and a history of illness lasting 2½ days. *Shigella paradysenteriae* Flexner was isolated from the stool on admission. This child was placed on sulfapyrazine immediately, and cultures obtained 24 and 36 hours later were negative. The patient,

however, died 36 hours after admission, still severely dehydrated and acidotic. In this particular case parenteral fluid administration was not given and the death was apparently due to this omission.

Case 2.—Three-year-old colored female admitted with severe diarrhea and sore throat, 6 days' duration. The patient was found to have Flexner infection and diphtheria. Both sulfadiazine and diphtheria antitoxin were given in adequate amounts. The stool cultures cleared promptly and membrane in the throat also disappeared. However, the patient died on the tenth hospital day with myocardial failure. Further cultures taken at autopsy were negative for *Shigella* and microscopic examination of the bowel revealed healing ulcerations of the mucosa of the large bowel. In this case death was clearly not due to failure of the sulfonamide.

Case 3.—Twenty-month-old colored female admitted with a history of severe diarrhea. The culture was positive on admission for Flexner type. The patient was treated with sulfamethazine and 3 days later the temperature and clinical findings showed definite improvement. However, at the end of this time the temperature began to rise. Sulfonamide was discontinued as urinary findings indicated definite kidney damage. The patient's fever remained at a high level. Progressive toxicity ensued with oliguria. The patient died on the eighth hospital day. Death was due to toxic nephritis presumably resulting from the sulfonamide used. The colon showed healing ulcerations of the mucosa.

Case 4.—Twenty-two-month-old colored male. Sick less than 12 hours before admission, patient was brought to the hospital with a high fever and convulsions. No diarrhea had been noticed at that time but sulfadiazine therapy was begun at once on the possibility of meningitis. Stool culture on admission showed *S. sonnei* present and a few hours later a profuse watery diarrhea developed. This patient was comatose and did not recover consciousness, dying 40 hours after admission. Sulfonamide was administered in large doses by parenteral methods. There was no evidence of response, either clinical or bacteriological, to this therapy. In this particular case, despite adequate dosage of sulfonamide, a failure resulted. The organism isolated was highly resistant to sulfonamides in in vitro tests.

Case 5.—Ten-month-old white male, admitted after an illness of 3 days. The patient was severely dehydrated and acidotic. *S. sonnei* was isolated and sulfadiazine therapy begun at once. Clinical response was prompt but on the third hospital day the patient developed signs and symptoms of pneumonia and expired 36 hours later. Cultures were still positive for *S. sonnei* at the time of death.

Case 6.—Newborn premature infant, with an *S. sonnei* infection acquired at birth from the mother, who was also positive for the same organism. This child was treated with sulfadiazine and there was a reduction in the number of organisms found in the stool. However, the stools did not become negative, a mild diarrhea persisted, and 23 days after birth the patient died. Autopsy was not obtained, but the clinical diagnosis of cause of death was aspiration pneumonia. The patient at no time was very strong and although the enteric symptoms were not marked it is believed that the *Shigella* infection was definitely a contributory factor to this condition.

COMPLICATIONS

Severe complications as a result of sulfonamide administration were rare, the majority being detected only by routine urinalysis, and these did not interfere with the therapy. All observed complications are tabulated in table 3. Only proven cases of shigellosis with at

TABLE 3.—*Observed complications of sulfonamide therapy*

		Drug		
		Sulfadiazine [1]	Sulfapyrazine [1]	Sulfamethazine [2]
Number of cases		117	101	44
Number with complications		10	6	6
Types of complications	Crystalluria	10	6	5
	Hematuria	3	0	3
	Renal colic	1	0	0
	Nausea	0	1	2
	Fever	0	0	3
	Rash	1	0	1
	Death	0	0	[3]1

[1] Cases of shigellosis with at least 1 posttreatment urinalysis.
[2] 31 cases of shigellosis and 13 miscellaneous cases with at least 1 posttreatment urinalysis.
[3] Toxic nephritis (case 3).

least one posttreatment urinalysis are shown in the sulfadiazine and sulfapyrazine groups. Some non-*Shigella* cases are included under sulfamethazine, since this group was also considered when it was decided to discontinue using this drug. It is believed that all severe and constitutional reactions were seen and recorded but the total for all three drugs must be considered as minimal, since failure to detect a mild complication is not necessarily indicative of its absence. A total of 37 complications was observed and 29 of them were renal in nature. With a single exception all of these renal conplications were encountered during a period when the urine was acid. It is probable that most, if not all, of these could have been prevented if larger quantities of alkali had been given on admission and during treatment. It is obvious that the rule-of-thumb dose of sodium bicarbonate (amounts equal to the dose of sulfonamide) was not sufficient in many cases to render the urine alkaline. Particular attention must be paid to this point in the management of children since acidosis is common in the diarrheas of this age group.

SUMMARY

Three sulfonamide preparations, sulfadiazine, sulfapyrazine, and sulfamethazine, were used in the treatment of 333 hospitalized cases of acute shigellosis. All three were therapeutically active in about the same degree in the treatment of these disorders. These findings were similar to those reported for institutional groups in which the majority of the patients were asymptomatic carriers. Infections with *S. paradysenteriae* Flexner as a rule responded promptly and completely, those with *S. sonnei* were more resistant to therapy. This was shown in both the results of stool culture and the case-fatality rates. Sulfadiazine and sulfapyrazine were relatively nontoxic, particularly when

an alkaline urine was obtained promptly. Either of these drugs is recommended for therapy of shigellosis. Sulfamethazine was active against the *Shigellae* but the number of toxic reactions of a systemic nature were sufficiently large to place this drug in the undesirable class.

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PLAGUE INFECTION REPORTED IN THE UNITED STATES DURING 1944 AND SUMMARY OF HUMAN CASES, 1900–44 [1]

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IN HUMAN BEINGS

One case of plague was reported in the United States during the calendar year 1944. This was a case of primary pneumonic plague, in which the infection was acquired in the laboratory. The patient was a medical officer of the Public Health Service who was engaged in research at the Plague Laboratory in San Francisco. He became ill on May 30 and was admitted to the United States Marine Hospital in San Francisco on June 1. He recovered.[2] Although the pneumonic type of the disease is highly contagious in man, the precautionary measures promptly adopted prevented the occurrence of secondary cases.

The accompanying table summarizes the reported cases of plague and deaths from this cause in the United States since 1900, when the disease was first introduced into this country.

[1] From the Division of Public Health Methods. The data for 1944 are a consolidation of reports received from the Plague Laboratory of the U. S. Public Health Service in San Francisco, Calif., and published currently in the Public Health Reports, supplemented by information furnished by the Office of Plague Suppressive Measures in San Francisco. For a similar report for 1943, and references to reports for prior years since 1900, see Pub. Health Rep., 58: 911–915 (July 14, 1944).

[2] For a clinical history of this case, see J. Am. Med. Assoc., 128: 281–283 (May 26, 1945).

TABLE 1.—*Cases of, and deaths from, plague in the United States*

Year	California		Washington		Louisiana		Florida		Texas		Oregon		Utah		Nevada		Idaho		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1900	22	22	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	22	22
1901	30	26	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	30	26
1902	41	41	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	41	41
1903	17	17	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	17	17
1904	10	8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	10	8
1907	178	87	3	3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	181	90
1908	8	5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	8	5
1909	3	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3	1
1910	3	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3	1
1911	4	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	4	1
1913	2	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2	2
1914	1	0	----	----	30	10	----	----	----	----	----	----	----	----	----	----	----	----	31	10
1915	1	1	----	----	1	0	----	----	----	----	----	----	----	----	----	----	----	----	2	1
1919	13	13	----	----	15	5	----	----	----	----	----	----	----	----	----	----	----	----	28	18
1920	1	1	----	----	7	3	10	4	33	19	----	----	----	----	----	----	----	----	51	27
1921	3	1	----	----	3	3	----	----	----	----	----	----	----	----	----	----	----	----	6	4
1922	2	0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2	0
1923	1	0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	0
1924	41	34	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	41	34
1925	1	0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	0
1927	1	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	1
1928	3	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	3	2
1933	1	1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	1
1934	1	0	----	----	----	----	----	----	----	----	1	1	----	----	----	----	----	----	2	1
1936	3	0	----	----	----	----	----	----	----	----	----	----	1	0	----	----	----	----	4	0
1937	1	1	----	----	----	----	----	----	----	----	----	----	----	----	1	0	----	----	2	1
1939	----	----	----	----	----	----	----	----	----	----	----	----	1	0	----	----	----	----	1	0
1940	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	1	1	1
1941	2	2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	2	2
1942	1	0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	0
1943	1	[2]1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	1
1944	[3]1	0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	1	0
Total	397	269	3	3	56	21	10	4	33	19	1	1	2	0	1	0	1	1	504	318

[1] The annual figures for California for the years 1900–08 were secured from various sources, some of which overlapped and required adjustment; therefore they may not agree with previously published figures. It is believed, however, that they are as nearly accurate as possible. Owing to conditions in the Chinese quarter of San Francisco, it is not to be considered that the records of cases or deaths in the first outbreak are complete, and probably some cases, among the Chinese at least, were not recorded in the second epidemic in 1907. Only the years are listed in which cases or deaths were reported.
[2] Death of case which occurred in 1942.
[3] Case acquired in the laboratory.

IN RODENTS AND ECTOPARASITES

During 1944, as in several prior years, field surveys to collect specimens of rodents and their ectoparasites, in order to determine the location and extent of sylvatic plague infection, were conducted by mobile units of the Public Health Service and of the health departments of several western States. The Public Health Service Plague Laboratory in San Francisco continued to examine the specimens collected by these field units (except those of the California State Department of Health) and to aid in identifying the species of animals and infected parasites. The Plague Laboratory also conducts epidemiologic studies of plague and of other diseases transmitted by ectoparasites.

During 1944, plague infection was reported in five counties in California, two counties in Colorado, two counties in New Mexico, one county in Montana, one county in Oklahoma, and on the Tacoma

(Washington) waterfront. Infection was found in various specimens as follows: In fleas from ground squirrels (*Citellus beecheyi*), prairie dogs (*Cynomys* sp.), cotton rats (*Sigmodon hispidus*), wood rats (*Neotoma albigula*), Norway rats (*Rattus norvegicus*), black rats (*R. rattus*), grasshopper mice (*Onychomys leucogaster*), white-footed mice (*Peromyscus* sp.), and meadow mice (*Microtus townsendii*); in tissue from ground squirrels (*C. beecheyi*), rats (*R. norvegicus*), and meadow mice (*M. townsendii*).

The proved area of plague infection in wild rodents in the western States was extended slightly farther east during the year by the finding of infected fleas collected from wood rats (*Neotoma* sp.) and white-footed mice (*Peromyscus* sp.) 20 miles southwest of Boise City, Cimarron County, Okla. Infection was proved on June 29 by cultures and animal inoculation. This was the first report of plague infection in Oklahoma, and the location is apparently the farthest east in which the infection in ectoparasites or wild rodents has been reported in the United States up to the end of 1944. Cimarron County borders on Union County, N. Mex., where infected fleas from grasshopper mice (*Onychomys leucogaster*) were found in two different localities in May 1944 and June 1943. These localities and Divide County, N. Dak. (1941), were the farthest east in which sylvatic plague infection had previously been found.

During the year, plague infection was reported again on the waterfront of Tacoma, Wash. The first instance of such infection discovered in Tacoma was reported in the autumn of 1942, and was proved, bacteriologically and by animal inoculation, in fleas from rats collected on the waterfront between September 22 and October 10. During the fall of 1942 a heavy infection in rats and their fleas was found in populous areas of the waterfront, but a vigorous control campaign was instituted and no human case occurred. The last positive specimen in this occurrence was found on May 4, 1943. However, after nearly a year and a half, during which time no positive specimens were discovered, infection was reported again on October 16, 1944, in fleas taken on the Tacoma waterfront, and was subsequently proved in additional fleas, and in tissues from rats and mice. The last reported positive specimens found during 1944 were collected on December 23.

Although the origin of plague infection in Tacoma has not been determined, it is possible that the 1944 infection came from the same source as the first plague specimens found in 1942. The original specimens were taken from a heavily rat-infested area where railway cars filled with grain were unloaded. Many of these grain shipments originated in localities of eastern Washington which are known to be foci of sylvatic plague. If this should be the source, it emphasizes the

importance of knowledge regarding endemic rural areas. On the other hand, only a few hundred yards from the heavily infected area are piers at which ships from Hawaiian, Russian, and South American ports dock to load flour and other grain products. A considerable percentage of these vessels were reported to be rat-infested, and it is possible that plague could have been introduced into Tacoma in this manner.

The data summarized in the accompanying table for 1944 and prior years should not be interpreted as presenting a complete delineation of areas in which plague infection has been or is present among wild rodents, or as a quantitative measure of infection. The field surveys are limited by the number of personnel, the areas covered, and the seasonal periods favorable for conducting the field operations. Although these surveys are essentially sampling procedures, they demonstrate the continuance of a wide biologic and geographic distribution of plague infection in western United States, and the findings may serve to give warning if the areas of sylvatic infection approach localities in which susceptible rodent species and human populations are present in sufficient densities to constitute a potential danger. These data also point out endemic rural areas from which the infection may reach ports or inland cities through shipments of grain or other food stuffs, carrying either infected rodents or infected parasites.

With respect to the small number of positive specimens found in 1944 as compared with 1943, Dr. N. E. Wayson, medical officer in charge of the Plague Laboratory in San Francisco, comments that several factors contribute to the difference. Probably the principal factors are: Less intensive control activities in some areas; fewer field units in 1944 than in previous years; and, in an attempt to determine the eastern boundary of plague infection, operations throughout the 1944 season were principally in the Plains States east of the Rocky Mountain States. Other factors suggested are: The fluctuation in the incidence of infection among rodents even in areas previously found to be infected; the length of the season during which the field crews can operate to advantage in rural areas; and the effects of spring rainfall and snowfall on both the field operations and the emergence of young animals.

In the reports presented in the following table, plague infection in animal tissues and ectoparasites was demonstrated in each instance bacteriologically or by inoculation of laboratory animals, including mass inoculation with emulsions of parasites.

TABLE 2.—*Plague infection in rats, wild rodents, and their ectoparasites reported to the Public Health Service during 1944*

State and county	Date[1]	Infection found in—
California:		
Kern County	Sept. 9	A pool of 164 fleas from 35 ground squirrels (*Citellus beecheyi*) taken from 2 to 4 miles east of Lebec.
Do	Sept. 22	A pool of 200 fleas from 31 ground squirrels (*C. beecheyi*) taken 7 miles north of California Institution for Women.
Lassen County	Aug. 8	Tissue from 4 ground squirrels (*C. beecheyi*) taken approximately 5 miles northwest of Milford.
Monterey County	Mar. 27	A pool of 284 fleas from 14 ground squirrels (*C. beecheyi*) taken approximately 17 miles southeast of Monterey.
San Bernardino County	Oct. 10	A pool of 67 fleas from 7 ground squirrels (*C. fisheri*) taken 8 miles west of Big Bear Lake.
San Luis Obispo County	June 22	A pool of 615 fleas from 32 ground squirrels (*C. beecheyi*) taken approximately 10 miles northeast of Santa Maria.
Do	Aug. 23	2 pools of 200 fleas each from 40 ground squirrels (*C. beecheyi*), and tissue from 10 ground squirrels, same species, taken 2 miles east of San Luis Obispo.
Do	Aug. 25	A pool of 200 fleas from 24 ground squirrels (*C. beecheyi*) taken 2 miles east of San Luis Obispo.
Do	Aug. 28	A pool of 400 fleas from 25 ground squirrels (*C. beecheyi*)p taken 4 miles north of Alamo Creek bridge and Highway No. 166.
Colorado:		
Baca County	June 27	A pool of 157 fleas from 55 prairie dogs (*Cynomys* sp.) taken approximately 13 miles northwest of Pritchett.
Bent County	June 20	A pool of 642 fleas from 81 prairie dogs (*Cynomys* sp.) taken approximately 3 miles northwest of Deora.
Montana:		
Big Horn County	July 26	A pool of 50 fleas from 20 prairie dogs (*Cynomys ludovicianus*) taken 20 miles northeast of Hardin.
New Mexico:		
Quay County	May 10	A pool of 13 fleas from 2 cotton rats (*Sigmodon hispidus*) taken 20 miles east of Tucumcari on Highway No. 66, and from the same location a pool of 60 fleas from 2 wood rats (*Neotoma albigula*).
Union County	May 11	A pool of 22 fleas from grasshopper mice (*Onychomys leucogaster*) taken 18 to 23 miles south of Clayton on Highway No. 18.
Oklahoma:		
Cimarron County	June 8	A pool of 58 fleas from 7 wood rats (*Neotoma* sp.), and a pool of 4 fleas from 12 white-footed mice, (*Peromyscus* sp.), taken 20 miles southwest of Boise City.
Washington:		
Pierce County, Tacoma waterfront.	Oct. 18	Plague infection, first reported on Oct. 16, confirmed in 2 flea specimens.
Do	Oct. 23	A pool of 50 fleas from 23 rats (*Rattus norvegicus*).
Do	Oct. 23–28	Spleen from 1 rat and pool of spleens from 5 rats; pool of 400 fleas from 22 rats; and pool of 61 fleas from 46 rats (all *R. norvegicus*).
Do	Nov. 1	2 fleas from 2 rats (*R. rattus*).
Do	Nov. 4	A pool of 119 fleas from 65 rats (*R. norvegicus*).
Do	Nov. 15	A pool of 32 fleas from 6 rats (*R. norvegicus*).
Do	Nov. 25	A pool of 53 fleas from 2 rats (*R. norvegicus*).
Do	Dec. 23	Pools of fleas from rats and mice and tissue from mice as follows: 51 fleas from 4 rats, 81 fleas from 12 rats, 18 fleas from 8 rats, 21 fleas from 3 rats, 9 fleas from 9 rats, 26 fleas from 52 rats (all *R. norvegicus*), 4 fleas from 4 mice (*Microtus townsendii*), 12 fleas from 9 mice (*Peromyscus* sp.), and spleens from 2 mice (*M. townsendii*).

[1]Date on which specimens were collected.

PLAGUE INFECTION REPORTED IN THE TERRITORY OF HAWAII DURING 1944 AND SUMMARY OF HUMAN CASES, 1899–1944[1]

By BROCK C. HAMPTON, *United States Public Health Service*

IN HUMAN BEINGS

During the calendar year 1944, five fatal cases of plague were reported in the Territory of Hawaii. All of these cases occurred in the Hamakua District on the Island of Hawaii, which has been the

[1]From the Division of Public Health Methods.

center of infection in the Islands since the disease was first reported in that locality in 1910.

The Hamakua District is an agricultural region, the principal crop of which is sugar cane. There are five large sugar plantations in the District. Most of the population resides in small villages and numerous plantation camps. It is reported that, in recent years, more cases in that District have been contracted in the fields than around the houses.[2]

IN RODENTS AND ECTOPARASITES

The accompanying table shows the reported infection in rodents and their ectoparasites during 1944. The information received did not identify the species of fleas or rodents found infected. However, according to a previous study,[2] the principal species of rat trapped in the Hamakua District, both inside and outside of buildings, was *Rattus rattus alexandrinus* (approximately 50 percent), while the principal rat flea recovered from rodents was *Xenopsylla cheopis* (approximately 70 percent).

TABLE 1.—*Plague infection in rodents and ectoparasites reported in the Hawaiian Islands during 1944* [1]

Island and district	Date [3]	Infection found in—	Island and district	Date [3]	Infection found in—
Island of Hawaii:			Island of Hawaii—Continued.		
Hamakua District	Jan. 6	I mouse.	Hamakua Dist.—Continued	Mar. 28	1 rat.
Do	Jan. 7	Do.	Do	Mar. 29	Do.
Do	Jan. 12	Do.	Do	Mar. 30	3 rats.
Do	Jan. 12	1 rat.	Do	Apr. 3	1 mouse.
Do	Jan. 15	Do.	Do	Apr. 4	1 rat.
Do	Jan. 19	Do.	Do	Apr. 7	Do.
Do	Jan. 24	Do.	Do	May 31	Do.
Do	Jan. 27	Do.	Do	June 28	2 rats.
Do	Feb. 2	2 rats.	Do	July 6	1 rat.
Do	Feb. 4	1 rat.	Do	July 14	1 mouse.
Do	Feb. 9	Do.	Do	July 27	1 rat.
Do	Feb. 14	1 mouse.	Do	Aug. 15	Culture from pool of 8 mice.
Do	Feb. 17	1 rat.	Do	Aug. 19	1 rat.
Do	Feb. 18	4 rats.	Do	Aug. 22	Do.
Do	Feb. 22	2 rats.	Do	Sept. 19	Do.
Do	Feb. 23	1 rat.	Do	Oct. 10	Do.
Do	Feb. 25	Do.	Do	Oct. 25	Do.
Do	Feb. 28	2 mice.	Do	Oct. 31	Do.
Do	Feb. 29	1 rat.	Do	Nov. 1	Do.
Do	Feb. 1-29	Pools of fleas (53) from 176 trapped rodents.	Do	Nov. 2	Do.
Do	Mar. 1	1 mouse and 1 rat.	Do	Nov. 10	Do.
Do	Mar. 6	1 rat.	Do	Nov. 27	Pool of 75 fleas.
Do	Mar. 7	1 mouse.	Do	Nov. 29	1 rat.
Do	Mar. 8	Do.	Do	Dec. 12	Pool of rats.
Do	Mar. 10	Do.	Do	Dec. 28	Pool of 5 mice.
Do	Mar. 17	1 mouse and 1 rat.	Maui Island: District 13A	Dec. 19	1 rat.

[1] Where not otherwise stated, infection was found individually in the number of specimens given.
[3] Date on which specimens were collected.

[2] Eskey, C. R.: Epidemiological study of plague in the Hawaiian Islands. Pub. Health Bull. No. 213 (October 1934).

SUMMARY OF HUMAN CASES, 1899–1944

Two ships from Hong Kong via Japan arrived at Honolulu during the summer of 1899 (June and July) with histories of plague on board en route. A death suspected to be from plague had occurred on one of the vessels 3 days before arrival, and another death regarded as due to plague occurred while the ship was in port. Plague had been present in Hong Kong for several years and was reported epidemic in certain parts of Japan in 1899. The first case in Honolulu was recognized by a Chinese physician, who stated that he first began to see cases with symptoms of plague early in November of 1899. On December 10 a death occurred in which the patient exhibited definite symptoms of plague, and a second fatal case with similar symptoms occurred the following day. The diagnosis was confirmed by postmortem examination, and on December 12 the Territorial Board of Health officially declared the presence of plague in Honolulu.[3]

Ports on the Islands of Hawaii, Maui, and Kauai reported the presence of plague within a short time. The disease was reported in Kahului, Maui, in January 1900; at Hilo, Hawaii, in February 1900; and at the less closely associated port Waimea, Kauai, in May 1901. (See footnote 2.)

During the period 1899–1944, 414 cases of plague were reported in the Islands. On the basis of reported cases, the fatality rate from plague in the Hawaiian Islands has been high. During the period 1899–1933, 397 cases, with 360 deaths, were reported (see footnote 2); while during the years 1934–44 all of the 17 reported cases were fatal.

The accompanying table summarizes the reports of human cases of plague in the Hawaiian Islands from 1899 to 1944.

[3] Reports and papers on bubonic plague, 1898–1901, submitted by the medical officer of the local government board, London, 1902, pp. 384–385.

TABLE 2.—*Reported human cases of plague in the Hawaiian Islands, 1899–1944*

Year	Oahu		Kauai	Maui	Island of Hawaii			Total
	Honolulu	Other			Hilo sector	North Hilo district	Hamakua district	
1899	17							17
1900	54			9	5			68
1901	17		4					21
1902	27	3	9					39
1903	18				5			23
1904	8				5			13
1905	16	3			4			23
1906	18		2		2			22
1907	9	35			3			47
1908	1				2			3
1909					10			10
1910	2				6		3	11
1911							5	5
1912					1		7	8
1913							4	4
1914							4	4
1915							4	4
1916								
1917							5	5
1918						2		2
1919							7	7
1920							4	4
1921							4	4
1922							12	12
1923							1	1
1924							1	1
1925							2	2
1926							7	7
1927							7	7
1928							8	8
1929							5	5
1930				1				1
1931				1				1
1932				4			2	6
1933							2	2
1934							2	2
1935							1	1
1936								
1937								
1938				1				1
1939							1	1
1940								
1941								
1942								
1943							7	7
1944							5	5
Total	187	41	15	16	43	2	110	414

[1] The figures for the years 1899–1933 are taken from Public Health Bulletin 213; those for subsequent years are from reports received by the Public Health Service from the Territorial Board of Health.

LOCAL HEALTH UNITS FOR THE NATION[1]

Reviewed by GEORGE T. PALMER, *Senior Sanitarian (R), United States Public Health Service*

A concrete plan, with details given, to extend public health protection to uncovered areas of the country is the substance of this report of 333 pages from the Subcommittee on Local Health Units, Committee on Administrative Practice of the American Public Health Association. The book is edited by Dr. Haven Emerson, Chairman of the Subcommittee, with the collaboration of Martha Luginbuhl, and is published by the Commonwealth Fund of New York City.

[1] Local Health Units for the Nation, by Emerson, Haven, M. D., and Luginbuhl, Martha. The Commonwealth Fund, 41 East Fifty-seventh St., New York 22, N. Y.

The gist of the report is this: Only two-thirds of our people today are receiving full-time health protection. Forty million people are not. The reason they are not is partly the result of local economic deficiencies and is caused partly by our continued adherence to what Emerson calls our "horse and buggy political boundary lines." That is, health departments are set up to fit within existing boundary lines regardless of size. The health administrative boundary lines ought to be revamped to fit an area large enough to support a full-time health department if we expect to have sound and efficient health protection.

Many areas have no official local health organization and depend on voluntary and State health agencies for such limited services as are provided. Other areas, and there are 18,000 of them—counties, cities, towns, villages, and districts—have some form of official health activity on a full-time or part-time basis. There may be a health department in a city but none in the surrounding suburban area. There may be health departments in two or three small cities in a county and also a county health department exclusive of these cities. One county might have a health department but there will be none in the adjacent county. One town will have a health department of one, two, or three part-time people.

The point made is that the small area of 10,000, 15,000, or 25,000 people cannot reasonably support an effective health department with a trained full-time health officer. Furthermore, it is inefficient to limit a trained man to a small area; his directing capacity ought to be used to better advantage. To keep within its budget the small area tends to economize with half-way measures, with a local physician, who has no public health training and gives only part of his time to health officer duties.

If we expect competent public health service over the country with trained full-time staff, the solution, according to the report, is not more health departments but primarily extension of the boundaries of the local health jursidiction to cover a population of at least 50,000 people.

The goal is complete coverage of the country with at least a basic minimum full-time service; units of public health jurisdiction of populations large enough (50,000 or more) to support and justify staffs of full-time, professionally trained persons; a minimum budget of at least $1 per capita.

This can be done with only about 1,200 units of local health jurisdiction for the entire continental United States, which is just about the number of full-time units which now exist with only part of the country covered. In practice this means consolidation and combination of local areas into the above number of local health jurisdictions.

The uncovered suburban area of a city would join with the city for health administrative purposes; or the smaller cities in a county would join with the rural area into a single county health department; or one small county would join with one or more adjacent counties into a single health jurisdictional unit. The population of each resulting single health unit would in every instance be not less than 50,000.

There is nothing radical in this proposal. Many such consolidations exist today in the field of education, public roads, as well as public health. What is new in the proposal is the call for a concerted public-supported effort to extend the benefits of these administrative principles to the country at large.

The acceptance of this plan of course rests with local communities and the States. Although some States have no laws to permit or encourage such governmental consolidations, Emerson points out that in no instance is it forbidden,.

Those to whom the subcommittee addresses its appeal for support in this movement for wider health protection are the farmer and labor groups, the professional organizations—medical, dental and nursing —the official and voluntary health agencies, and the State universities. It is among these groups, who are most intimately and vitally concerned in a better quality of living both in the small and the large community, that a plan of readjustment to modern realities, common sense, and efficient government for better health protection should find its major supporters.

A prodigious amount of labor has gone into this report, for the committee has implemented its ideas with a method of approach to the practical realization of the plan. This project is the result of several years of inquiry and effort. The report shows how each individual State can bring about this objective. The specific areas to be consolidated are indicated in tables and maps, and this grouping was attained only after prolonged correspondence back and forth with State health officers, who from their more intimate knowledge of the area, suggested practical modifications to avoid mountain and water barriers, and to take advantage of lines of transportation.

But even further, Emerson and Luginbuhl have plotted the existing personnel of health departments in each little area, the expenditures for health, the spendable income of the area, the number of hospital beds, the number of practicing physicians, and then they have shown for each newly revised health jurisdiction what is further needed or is unnecessary in terms of specific personnel and budget. It is a frank appraisal and not wholly a plea for more personnel, as might have been anticipated.

It is stated that the 1,200 full-time health officers and the thousand other full-time medical administrators in special fields, tuberculosis, venereal disease, child hygiene, etc., now provided for a part of the

country, are sufficient to cover the entire country through reorganization of health district boundaries. The 4,300 part-time health officers now existing would not be needed. The 4,900 sanitarians now provided could be reduced to 3,900. In some professional categories, however, many more workers are needed: Twice as many public health nurses, 4 times the present number of public health engineers, 3 times the present number of laboratory workers, 11 times the dental hygienists, nearly 13 times the number of health educators, a few more full-time dentists, 4 times the number of part-time dentists, and a 40-percent increase in part-time medical clinicians.

For two-thirds of the country today we are spending 77 million dollars for local health departments. The committee sees 127 million as the total needed which would supplement what is now missing and extend the work over the now uncovered areas. From 61 cents per capita the collective local health bill would rise to 97 cents per capita.

It is recognized that this is an average figure, that some communities would need to spend more than others, depending on the magnitude of the local problems. It is also made clear that the dollar per capita is a basic minimum, and that some areas which can afford it will quite naturally want to provide more than a basic minimum. But the achievement generally of even the basic minimum of $1 per capita will represent a long step ahead.

In working out the cost figures Emerson developed a reasonable planning formula for the number of different kinds of personnel in a health department. Thus, he specifies for each area of 50,000 population: A full-time health officer, 10 nurses, including 1 supervisor, 2 sanitarians, at least 1 of whom is of professional grade such as a sanitary engineer, and 3 clerks. Additional personnel, including part-time medical and dental clinicians, laboratory people, statistical supervisor, health educator, veterinarian, and dental hygienist, would be added as needed, depending upon the particular problems encountered locally. The size of the community and the amount of service available from the State health department would also be a factor in determining the number and kind of additional personnel. But the basic pattern as to nurses, sanitarians, and clerks would still hold in general.

It would be like selecting a new suit of clothes; a garment is chosen from stock and then some alterations usually are made to fit the particular customer and to meet the personal wishes of the individual.

Everyone who has a professional or a civic interest in public health should read the first 24 pages of this report. The remaining 300 pages are devoted mainly to the special problems of the individual States and reader interest in these latter pages will be focused on the home State.

In these State descriptions is to be found a gold mine of pertinent and detailed information—a picture in terms of full-time and part-

time personnel and the cost, and a veritable blueprint of a plan designed to increase efficiency and to extend the benefits of public health protection more widely.

Whether or not one agrees, in its local application, with what Emerson and his committee have here set forth, this is a challenging document that deserves serious consideration. It is a topic that should claim the attention of study groups in all civic organizations.

Has America reached the stage in its development where for the good of the greater number it can subordinate its individualism insofar as each small area running its own special health service is concerned?

The question to be frankly faced by John and Mary Citizen throughout the length and breadth of the land is one of relative values. Local self-government is precious. Sound and efficient health protection is even more precious as a national asset. For the greater good are we willing to sacrifice a little of our extreme local autonomy and join with our neighbors across the boundary line to do a better job of disease prevention and health protection?

INCIDENCE OF HOSPITALIZATION, SEPTEMBER 1945

Through the cooperation of the Hospital Service Plan Commission of the American Hospital Association, data on hospital admissions among about 10,000,000 members of Blue Cross Hospital Service Plans are presented monthly. These plans provide prepaid hospital service. The data cover about 60 hospital service plans scattered throughout the country mostly in large cities.

Item	September	
	1944	1945
1. Number of plans supplying data	75	79
2. Number of persons eligible for hospital care	14,876,616	18,580,840
3. Number of persons admitted for hospital care	124,720	157,675
4. Incidence per 1,000 persons, annual rate, during current month (daily rate × 365)	102.2	103.3
5. Incidence per 1,000 persons, annual rate for the 12 months ended Sept. 30, 1945	104.2	105.5
6. Number of plans reporting on hospital days	19	29
7. Days of hospital care per case discharged during month [1]	6.80	7.86

[1] Days include entire stay of patient in hospital whether at full pay or at a discount.

DEATHS DURING WEEK ENDED OCTOBER 20, 1945

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

	Week ended Oct. 20, 1945	Corresponding week, 1944
Data for 93 large cities of the United States:		
Total deaths	9,426	9,021
Average for 3 prior years	8,754	
Total deaths, first 42 weeks of year	376,048	377,220
Deaths under 1 year of age	621	652
Average for 3 prior years	621	
Deaths under 1 year of age, first 42 weeks of year	25,512	26,040
Data from industrial insurance companies:		
Policies in force	67,293,239	66,811,073
Number of death claims	12,611	12,709
Death claims per 1,000 policies in force, annual rate	9.8	9.9
Death claims per 1,000 policies, first 42 weeks of year, annual rate	10.1	10.0

PREVALENCE OF DISEASE

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

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED OCTOBER 27, 1945

Summary

Following an interruption last week in the downward trend, the incidence of poliomyelitis again declined. A total of 489 cases was reported, as compared with 617 last week, 549 for the next earlier week, 581 for the corresponding week last year, and a 5-year (1940–44) median of 363. Decreases were reported in all sections of the country except the East South Central and Mountain areas, but increases of from 6 to 9 cases occurred in 4 States—Ohio (23 to 29), Illinois (42 to 51), Iowa (18 to 25), and Tennessee (17 to 25). A total of 11,554 cases has been reported in the 32-week period since March 17, the week of lowest incidence this year, as compared with 17,174 and 10,818, respectively, for the corresponding periods of 1944 and 1943, and a 5-year median of 8,076. The total for the year to date is 11,952, as compared with 17,437 and 11,120 for the same periods of 1944 and 1943, and a 5-year median of 8,383.

A total of 97 cases of meningococcus meningitis was reported, as compared with 73 last week, 152 and 198 for the corresponding weeks of 1944 and 1943, respectively, and a 5-year median of 68. States reporting the largest numbers are New York (11), Ohio (10), Illinois and California (8 each), Missouri (7), Texas (6), and Massachusetts (5). Since the week ended September 1, the week of lowest incidence this year (61 cases), a total of 686 cases has been reported, as compared with 1,110 and 1,531, respectively, for the same periods of the epidemic years of 1944 and 1943.

The total of 832 cases of diphtheria reported for the week, as compared with a 5-year median of 537 cases, is more than reported for a corresponding week since 1939. Nearly all of the excess incidence for the current week as compared with the corresponding week last year is in the East Central and South Atlantic areas.

Of the total of 2,371 cases of influenza reported, as compared with 1,549 for the corresponding week last year and 1,339 for the 5-year median, 1,926 were reported in Virginia, South Carolina, and Texas. The same States reported 1,290 of the 1,549 cases reported for the corresponding week last year.

A total of 8,814 deaths was recorded in 93 large cities of the United States, as compared with 9,431 last week, 9,004 for the corresponding week last year, and a 3-year (1942–44) average of 8,878. The total to date is 384,867, as compared with 386,224 for the corresponding period last year.

Telegraphic morbidity reports from State health officers for the week ended October 27, 1945, and comparison with corresponding week of 1944 and 5-year median

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

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44
	Oct. 27, 1945	Oct. 28, 1944		Oct. 27, 1945	Oct. 28, 1944		Oct. 27, 1945	Oct. 28, 1944		Oct. 27, 1945	Oct. 28, 1944	
NEW ENGLAND												
Maine	0	0	0	------	1	------	2	1	46	1	1	2
New Hampshire	0	0	0	------	------	------	0	11	1	0	0	0
Vermont	0	0	0	------	------	------	0	0	6	0	0	0
Massachusetts	3	3	3	------	------	------	210	94	159	5	5	4
Rhode Island	0	0	0	9	12	------	0	2	9	0	1	1
Connecticut	1	0	0	------	------	------	9	1	6	2	4	1
MIDDLE ATLANTIC												
New York	21	11	16	[1] 4	[1] 4	[1] 4	37	31	83	11	25	17
New Jersey	6	10	8	7	2	3	17	12	40	3	4	4
Pennsylvania	8	14	13	2	2	1	198	36	112	3	9	7
EAST NORTH CENTRAL												
Ohio	58	4	15	4	5	6	8	6	23	10	10	2
Indiana	25	18	12	18	8	12	5	4	16	1	4	2
Illinois	10	2	12	2	7	7	120	13	23	8	15	2
Michigan [2]	13	21	9	1	1	------	107	8	39	3	8	2
Wisconsin	4	1	1	16	9	18	21	15	53	2	3	1
WEST NORTH CENTRAL												
Minnesota	9	13	3	------	1	1	2	1	4	4	1	1
Iowa	3	2	2	------	------	------	3	3	14	0	0	0
Missouri	5	4	6	------	5	5	3	1	5	7	5	0
North Dakota	4	1	1	------	------	------	2	2	2	0	0	0
South Dakota	0	0	1	------	------	------	0	4	2	1	2	0
Nebraska	3	3	3	------	1	1	3	6	6	0	1	0
Kansas	4	4	4	2	------	------	15	10	10	2	0	0
SOUTH ATLANTIC												
Delaware	1	1	0	------	------	------	0	0	1	0	0	0
Maryland [2]	20	6	5	2	2	2	3	3	5	0	3	3
District of Columbia	0	0	0	1	2	1	3	2	2	1	2	1
Virginia	39	9	27	192	154	154	19	3	29	0	8	4
West Virginia	17	0	4	------	8	7	0	3	3	0	1	0
North Carolina	108	27	59	------	6	3	3	10	10	1	4	2
South Carolina	36	11	27	558	211	201	28	6	6	0	2	1
Georgia	51	30	30	29	19	19	4	3	3	2	2	1
Florida	9	13	13	1	2	2	5	1	2	0	1	1
EAST SOUTH CENTRAL												
Kentucky	24	6	11	9	------	------	41	4	6	1	1	2
Tennessee	53	14	15	22	15	15	2	5	13	1	1	
Alabama	39	54	41	79	27	27	2	3	3	5	5	2
Mississippi [2]	42	29	14	------	------	------	------	------	------	0	2	1
WEST SOUTH CENTRAL												
Arkansas	26	21	14	57	19	23	4	0	2	3	0	0
Louisiana	32	41	5	10	------	2	3	4	1	2	1	0
Oklahoma	9	6	11	40	15	20	4	9	6	0	2	0
Texas	78	86	54	1,176	925	543	34	34	17	6	4	0
MOUNTAIN												
Montana	4	0	2	1	4	------	17	2	7	0	0	0
Idaho	1	0	0	5	2	2	60	5	5	0	1	0
Wyoming	0	4	1	------	------	2	1	0	3	0	0	0
Colorado	8	4	9	38	8	15	66	5	11	1	0	0
New Mexico	1	2	1	3	------	------	2	1	6	1	2	0
Arizona	1	1	3	57	44	65	0	2	14	0	0	0
Utah [2]	2	0	0	------	2	1	9	4	4	0	0	0
Nevada	0	0	0	------	------	------	0	0	0	0	0	0
PACIFIC												
Washington	6	19	7	------	------	------	128	28	25	2	2	1
Oregon	6	7	6	3	8	9	15	35	23	0	1	1
California	42	35	30	23	18	28	191	152	73	8	9	5
Total	882	587	587	2,371	1,549	1,339	1,406	585	1,435	97	152	68
43 weeks	13,383	10,257	11,789	82,972	347,567	174,921	108,793	595,969	551026	7,015	14,481	2,911

[1] New York City only.

[2] Period ended earlier than Saturday.

Telegraphic morbidity reports from State health officers for the week ended October 27, 1945, and comparison with corresponding week of 1944 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever [2]		
	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44
	Oct. 27, 1945	Oct. 28, 1944		Oct. 27, 1945	Oct. 28, 1944		Oct. 27, 1945	Oct. 28, 1944		Oct. 27, 1945	Oct. 28, 1944	
NEW ENGLAND												
Maine	2	0	0	30	34	14	0	0	0	4	1	1
New Hampshire	1	0	0	0	3	8	0	0	0	0	0	0
Vermont	2	0	1	7	9	9	0	0	0	0	0	0
Massachusetts	21	21	7	102	131	121	0	0	0	0	5	4
Rhode Island	0	0	0	3	8	4	0	0	0	0	0	0
Connecticut	8	8	6	20	26	21	0	0	0	2	0	1
MIDDLE ATLANTIC												
New York	48	182	26	164	173	168	0	0	0	10	3	7
New Jersey	26	30	11	41	38	51	0	0	0	4	5	1
Pennsylvania	22	36	6	144	140	115	0	0	0	6	11	7
EAST NORTH CENTRAL												
Ohio	29	25	17	217	204	184	0	0	0	9	0	4
Indiana	5	8	5	52	41	51	0	0	0	2	0	0
Illinois	51	27	27	138	153	153	0	1	1	3	3	7
Michigan [2]	5	19	17	112	97	117	0	0	0	0	1	2
Wisconsin	45	5	5	60	60	104	0	0	0	0	1	1
WEST NORTH CENTRAL												
Minnesota	13	24	13	19	46	53	0	0	0	1	0	0
Iowa	25	18	4	41	38	54	0	0	0	0	0	0
Missouri	14	12	2	51	30	34	2	0	0	3	1	2
North Dakota	0	0	1	17	5	6	1	0	0	2	0	0
South Dakota	0	0	1	4	17	20	0	0	0	0	1	1
Nebraska	2	4	4	13	24	22	0	0	0	0	0	0
Kansas	7	4	11	66	74	59	0	0	0	0	2	1
SOUTH ATLANTIC												
Delaware	3	8	0	4	0	3	0	0	0	0	1	1
Maryland [2]	0	17	1	40	58	32	0	0	0	2	1	3
District of Columbia	3	6	2	13	14	14	0	0	0	3	0	0
Virginia	9	25	6	137	80	52	0	0	0	8	3	9
West Virginia	1	8	3	102	78	51	0	0	0	2	1	1
North Carolina	4	21	2	114	52	113	0	0	0	1	2	2
South Carolina	2	4	2	10	13	13	0	0	0	1	0	4
Georgia	2	1	1	36	30	38	0	0	0	4	7	7
Florida	6	4	2	5	13	8	0	0	0	0	4	3
EAST SOUTH CENTRAL												
Kentucky	4	14	6	49	26	56	0	0	0	5	5	5
Tennessee	25	4	4	41	94	81	0	0	0	2	2	6
Alabama	3	4	4	22	36	36	0	0	0	4	2	5
Mississippi [2]	4	2	2	34	23	14	1	0	0	5	0	3
WEST SOUTH CENTRAL												
Arkansas	0	0	2	13	20	7	1	0	0	2	3	5
Louisiana	9	4	1	33	15	8	0	0	0	1	9	6
Oklahoma	0	1	1	25	20	20	0	0	0	0	0	1
Texas	17	7	7	94	75	41	0	0	0	8	10	12
MOUNTAIN												
Montana	5	0	0	12	20	18	0	1	0	4	1	0
Idaho	2	0	0	6	82	13	0	3	0	0	2	0
Wyoming	1	0	0	1	3	3	0	0	0	0	0	0
Colorado	7	1	2	19	46	21	0	2	0	2	2	2
New Mexico	3	0	0	14	7	6	0	0	0	1	2	2
Arizona	0	0	0	11	10	3	0	0	0	0	3	1
Utah [2]	6	0	3	5	3	8	0	0	0	2	0	0
Nevada	0	0	0	0	3	1	0	0	0	0	0	0
PACIFIC												
Washington	6	9	9	39	38	28	0	0	0	0	5	2
Oregon	5	3	3	0	36	13	1	0	0	0	2	2
California	36	15	15	214	166	103	0	0	0	2	2	4
Total	489	581	363	2,394	2,412	2,284	6	7	9	105	103	135
43 weeks	11,952	17,437	8,383	148,645	160,516	113,474	301	336	683	4,271	4,786	6,001

[2] Period ended earlier than Saturday.

[3] Including paratyphoid fever reported separately, as follows: New York 1; New Jersey 1; Illinois 1; North Dakota 1; Virginia 1; South Carolina 1; Georgia 1; Tennessee 1.

Telegraphic morbidity reports from State health officers for the week ended October 27, 1945, and comparison with corresponding week of 1944 and 5-year median

Division and State	Whooping cough			Week ended October 27, 1945							
	Week ended—		Median 1940–44	Dysentery			Encephalitis, infectious	Rocky Mt. spotted fever	Tularemia	Typhus fever, endemic	Undulant fever
	Oct. 27, 1945	Oct. 28, 1944		Amebic	Bacillary	Unspecified					
NEW ENGLAND											
Maine	28	7	9	0	0	0	0	0	0	0	1
New Hampshire	2	3	3	0	0	0	0	0	0	0	0
Vermont	7	16	17	0	0	0	0	0	0	0	0
Massachusetts	128	43	134	0	5	0	0	0	0	0	2
Rhode Island	6	2	4	1	3	0	0	0	0	0	0
Connecticut	27	52	52	0	5	0	0	0	0	0	1
MIDDLE ATLANTIC											
New York	243	199	387	4	23	0	0	0	0	0	6
New Jersey	164	79	131	0	0	0	0	0	0	0	2
Pennsylvania	209	123	219	1	1	0	1	0	0	0	2
EAST NORTH CENTRAL											
Ohio	164	77	152	1	1	1	0	0	0	0	1
Indiana	43	11	16	1	0	1	0	0	0	0	0
Illinois	96	91	171	6	0	0	1	0	1	0	14
Michigan [2]	104	50	154	5	1	1	0	0	0	0	9
Wisconsin	50	77	168	0	0	0	0	0	0	0	5
WEST NORTH CENTRAL											
Minnesota	20	53	53	2	0	0	0	0	0	0	1
Iowa	3	2	16	0	0	0	0	0	0	0	14
Missouri	5	25	22	0	0	1	1	0	0	0	2
North Dakota	1	6	8	0	0	0	0	0	0	0	0
South Dakota	1	20	2	0	0	0	0	1	0	0	3
Nebraska	0	9	9	0	0	0	0	0	0	0	0
Kansas	17	18	35	0	0	0	0	0	0	0	5
SOUTH ATLANTIC											
Delaware	1	5	4	0	0	0	0	0	0	0	0
Maryland [2]	50	81	81	0	0	2	0	0	0	0	0
District of Columbia	11	6	10	1	0	0	0	0	0	0	0
Virginia	25	24	35	0	0	66	0	0	0	0	0
West Virginia	7	13	22	0	0	0	0	0	0	0	0
North Carolina	64	50	61	1	0	0	0	0	0	3	1
South Carolina	79	27	27	3	26	0	0	0	0	4	0
Georgia	27	6	9	0	4	0	0	0	0	22	2
Florida	6	3	6	1	0	0	0	0	0	7	0
EAST SOUTH CENTRAL											
Kentucky	45	12	64	0	0	2	0	0	1	0	0
Tennessee	15	17	27	0	0	1	0	0	0	4	0
Alabama	21	20	26	5	0	0	0	0	0	14	2
Mississippi [2]	----	----	----	0	0	0	0	0	0	5	0
WEST SOUTH CENTRAL											
Arkansas	3	16	16	0	16	0	0	0	0	0	0
Louisiana	2	0	4	2	0	0	0	0	0	12	1
Oklahoma	8	2	5	0	0	0	0	0	0	0	2
Texas	99	127	72	8	261	11	0	0	2	18	11
MOUNTAIN											
Montana	7	25	23	0	0	0	0	0	1	0	2
Idaho	6	15	3	0	0	0	0	0	0	0	1
Wyoming	2	5	5	0	0	0	0	0	0	0	0
Colorado	15	2	27	1	1	0	2	0	0	0	1
New Mexico	27	5	6	1	5	2	1	0	0	0	0
Arizona	11	7	7	0	1	6	0	0	0	0	0
Utah [2]	12	15	15	0	0	0	0	0	0	0	2
Nevada	0	0	0	0	0	0	0	0	0	0	0
PACIFIC											
Washington	38	6	56	0	0	0	0	0	0	0	2
Oregon	8	6	10	0	0	0	0	0	0	0	1
California	116	87	155	4	7	0	4	0	0	1	5
Total	2,023	1,545	2,597	48	360	94	10	1	5	90	101
Same week, 1944	1,545	----	----	40	624	138	12	4	7	161	47
Average, 1942–44	2,106	----	----	36	357	119	11	[4] 4	6	[4] 109	----
43 weeks: 1945	104,672	----	----	1,618	21,645	9,547	552	451	626	4,155	3,970
1944	79,434	----	----	1,524	19,750	7,637	564	444	471	4,292	3,333
Average, 1942–44	128,663	----	[4] 149,727	1,445	14,845	6,759	546	[4] 444	635	[4] 3,014	----

[2] Period ended earlier than Saturday.
[4] 5-year median, 1940–44.

Leprosy: Texas, 1 case.

WEEKLY REPORTS FROM CITIES

City reports for week ended October 20, 1945

This table lists the reports from 88 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	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	1	0	0	0	1	0	4	0	0	7
New Hampshire:												
Concord	0	0	------	0	0	0	0	0	1	0	0	0
Vermont:												
Barre	0	0	------	0	0	0	0	0	0	0	0	0
Massachusetts:												
Boston	1	0	------	0	1	4	10	24	17	0	1	31
Fall River	0	0	------	0	1	0	0	0	10	0	0	1
Springfield	0	0	------	0	0	1	1	0	1	0	0	1
Worcester	0	0	------	0	12	0	8	0	6	0	0	10
Rhode Island:												
Providence	1	0	------	0	0	0	5	0	4	0	0	14
Connecticut:												
Bridgeport	0	0	------	0	1	0	2	0	0	0	0	0
Hartford	0	0	------	0	0	0	2	1	3	0	0	12
New Haven	0	0	------	0	0	0	1	0	1	0	0	5
MIDDLE ATLANTIC												
New York:												
Buffalo	2	0	------	0	1	0	5	4	9	0	0	18
New York	9	2	2	0	16	6	46	27	54	0	4	96
Rochester	0	0	------	1	0	1	3	4	4	0	1	7
Syracuse	0	0	------	1	2	0	2	0	10	0	0	18
New Jersey:												
Camden	4	0	------	0	0	0	2	0	0	0	0	7
Newark	0	0	2	0	1	1	3	5	2	0	0	30
Trenton	0	0	1	0	0	0	1	1	0	0	0	2
Pennsylvania:												
Philadelphia	3	0	------	0	9	1	16	9	37	0	1	89
Pittsburgh	2	0	------	0	0	1	2	14	17	0	1	14
Reading	0	0	------	0	2	0	0	0	2	0	0	3
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	2	0	------	0	1	1	5	3	14	0	0	9
Cleveland	0	0	4	0	0	2	4	6	20	0	0	43
Columbus	3	0	1	1	1	0	0	0	13	0	0	3
Indiana:												
Fort Wayne	0	0	------	0	0	0	3	0	0	0	0	0
Indianapolis	0	0	------	0	2	0	10	1	10	0	0	14
South Bend	0	0	------	0	0	0	0	0	0	0	0	0
Terre Haute	0	0	------	0	0	0	1	0	0	0	0	0
Illinois:												
Chicago	0	0	4	2	66	3	14	8	42	0	1	56
Springfield	0	0	------	0	0	0	1	0	0	0	0	5
Michigan:												
Detroit	5	1	------	0	15	2	7	1	36	0	0	44
Flint	0	0	------	0	16	0	1	0	8	0	0	0
Grand Rapids	0	0	------	0	5	1	1	1	3	0	0	0
Wisconsin:												
Kenosha	0	0	------	0	0	0	0	1	4	0	0	0
Milwaukee	0	0	1	1	2	0	4	9	11	0	0	9
Racine	0	0	------	0	0	0	1	0	2	0	0	0
Superior	0	0	------	0	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	------	0	0	0	1	0	5	0	0	0
Minneapolis	1	0	------	0	5	0	5	2	7	0	1	3
Missouri:												
Kansas City	1	0	------	0	3	0	6	0	9	0	0	1
St. Joseph	0	0	------	0	0	0	0	0	0	0	0	0
St. Louis	0	2	------	0	0	2	8	15	15	0	0	1

See footnotes at end of table.

City reports for week ended October 20, 1945—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
North Dakota:												
Fargo	0	0	------	0	0	0	1	0	2	0	0	0
Nebraska:												
Omaha	2	0	------	0	0	0	6	6	8	0	0	3
Kansas:												
Topeka	0	0	------	0	0	0	0	0	1	0	0	0
Wichita	1	0	------	0	0	0	0	1	2	0	0	1
SOUTH ATLANTIC												
Delaware:												
Wilmington	2	0	------	0	0	0	1	0	0	0	0	3
Maryland:												
Baltimore	9	0	2	1	0	0	8	3	19	0	0	36
Cumberland	0	0	------	0	0	0	0	0	0	0	0	0
Frederick	0	0	------	0	0	0	0	0	0	0	0	0
District of Columbia:												
Washington	1	0	1	0	2	1	6	4	8	0	1	3
Virginia:												
Lynchburg	0	0	------	0	0	0	0	0	5	0	0	8
Richmond	1	0	------	0	0	0	4	5	8	0	1	0
Roanoke	1	0	------	0	0	0	0	0	0	0	0	0
West Virginia:												
Wheeling	0	0	------	0	0	0	0	0	0	0	0	0
North Carolina:												
Raleigh	0	0	------	0	0	0	0	1	0	0	0	3
Wilmington	1	0	------	0	0	0	1	0	3	0	0	1
Winston-Salem	0	0	------	0	0	0	1	0	4	0	0	6
South Carolina:												
Charleston	1	0	11	0	0	0	0	0	0	0	0	0
Georgia:												
Atlanta	0	0	------	0	0	0	1	0	5	0	0	0
Brunswick	0	0	------	0	0	0	0	0	2	0	0	0
Savannah	0	0	------	0	0	0	2	0	3	0	0	0
Florida:												
Tampa	0	0	------	0	0	0	1	0	0	0	0	0
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0	1	0	1	1	11	4	7	0	0	8
Nashville	0	0	------	1	0	1	3	1	1	0	0	0
Alabama:												
Birmingham	2	0	1	0	0	0	3	2	2	0	1	0
Mobile	1	0	------	0	0	0	1	0	0	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	1	0	------	0	0	0	0	0	3	0	0	0
Louisiana:												
New Orleans	4	0	1	1	1	1	6	7	7	0	0	0
Shreveport	2	0	------	0	0	0	2	4	3	0	0	0
Texas:												
Dallas	5	0	------	0	0	0	3	0	13	0	0	0
Galveston	0	0	------	0	0	0	0	0	0	0	0	0
Houston	2	0	------	0	0	2	5	2	3	0	0	0
San Antonio	1	0	------	1	0	0	2	0	3	0	0	1
MOUNTAIN												
Montana:												
Billings	0	0	------	0	0	0	1	0	0	0	0	0
Great Falls	0	0	------	0	0	0	1	0	1	0	0	0
Helena	0	0	------	0	0	0	0	0	0	0	0	0
Missoula	0	0	------	0	3	0	1	0	0	0	0	0
Idaho:												
Boise	0	0	------	0	0	0	0	0	0	0	0	0
Colorado:												
Denver	2	0	3	0	3	0	7	0	4	0	0	7
Pueblo	1	0	------	0	0	0	0	0	1	0	0	2
Utah:												
Salt Lake City	0	0	------	0	0	0	1	0	3	0	0	1

City reports for week ending October 20, 1945—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle	0	0	------	0	0	0	4	0	0	0	0	0
Spokane	2	0	------	0	1	2	2	1	0	0	0	3
Tacoma	1	0	------	0	23	0	0	2	1	0	0	0
California:												
Los Angeles	13	0	6	0	9	0	3	9	27	0	1	14
Sacramento	0	1	------	0	4	0	1	2	0	0	0	5
San Francisco	2	0	------	0	58	0	5	3	11	0	0	5
Total	92	6	42	10	267	34	276	193	541	0	14	663
Corresponding week, 1944	98	------	65	16	148	------	341	------	524	0	25	382
Average, 1940–44	81	------	59	[1] 19	[2] 310	------	[1] 314	------	512	0	25	859

[1] 3-year average, 1942–44.
[2] 5-year median, 1940–44.

Dysentery, amebic.—Cases: New York, 2; Chicago, 1; Baltimore, 1; Los Angeles, 1.
Dysentery, bacillary.—Cases: Providence, 1; New Haven, 1; New York, 11; Columbus, 1; Chicago, 1; Detroit 4; Charleston, S. C., 2; Atlanta, 1; Nashville, 1; Los Angeles, 1.
Dysentery, unspecified.—Cases: Cincinnati, 13; Richmond, 1; San Antonio, 4.
Typhus fever, endemic.—Cases: Kansas City, 1; Charleston, S. C., 1, Atlanta, 6; Savannah, 2; Tampa, 2: Nashville, 2; Birmingham, 4; New Orleans, 2; Shreveport, 3; Dallas, 1; Houston, 2; San Antonio, 2; Los Angeles, 1.

Rates (annual basis) per 100,000 population, by geographic groups, for the 88 cities in the preceding table (estimated population, 1943, 34,038,500)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		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
			Case rates	Death rates								
New England	5.2	0.0	2.6	0.0	39	13.1	78.4	65.3	123	0.0	2.6	212
Middle Atlantic	9.3	0.9	2.3	0.9	14	4.6	37.0	29.6	62	0.0	3.2	131
East North Central	6.1	0.6	6.1	2.4	66	5.5	31.6	18.2	99	0.0	0.6	111
West North Central	11.1	4.5	0.0	0.0	18	4.5	60.1	53.4	109	0.0	2.2	20
South Atlantic	26.8	0.0	23.4	1.7	3	1.7	41.9	21.8	95	0.0	3.3	100
East South Central	17.7	0.0	11.8	5.9	6	11.8	106.2	41.3	59	0.0	5.9	47
West South Central	43.0	0.0	2.9	5.7	3	8.6	51.7	37.3	92	0.0	0.0	3
Mountain	23.8	0.0	23.8	0.0	48	0.0	87.4	0.0	71	0.0	0.0	79
Pacific	28.5	1.6	9.5	0.0	150	3.2	23.7	26.9	62	0.0	1.6	43
Total	14.1	0.9	6.5	1.5	41	5.2	42.4	29.6	83	0.0	2.2	102

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended October 6, 1945.—During the week ended October 6, 1945, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		1		30	61	21	20	37	24	194
Diphtheria		1	5	30	6	6	1	1		50
Dysentery:										
Amebic					1					1
Bacillary				19		2				21
German measles				22	7			6	2	37
Influenza		2			13	1				16
Measles		2	1	47	90		3	3	131	277
Meningitis, meningococcus				2	3					5
Mumps				44	22	9	10	19	19	123
Poliomyelitis		4		2	[1]11			1	2	[1]20
Scarlet fever		3	40	92	34	11	5	13	16	214
Tuberculosis (all forms)			6	149	43	25	13	28	23	287
Typhoid and paratyphoid fever		1		24	5	1	1			32
Venereal diseases:										
Gonorrhea	2	13	19	132	210	51	31	37	93	588
Syphilis		6	1	133	86	11	3	17	38	295
Whooping cough		3		110	19	3		3		138

[1]Includes 5 cases, delayed reports.

FINLAND

Notifiable diseases—August 1945.—During the month of August 1945, cases of certain notifiable diseases were reported in Finland as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	21	Ophthalmia neonatorum	1
Chickenpox	158	Paratyphoid fever	2,622
Conjunctivitis	13	Pneumonia (all forms)	611
Diphtheria	1,175	Poliomyelitis	193
Dysentery, unspecified	206	Puerperal fever	38
Gastroenteritis	13,569	Rheumatic fever	348
Gonorrhea	2,509	Scabies	3,058
Hepatitis, epidemic	711	Scarlet fever	155
Influenza	397	Syphilis	383
Laryngitis	7	Typhoid fever	47
Malaria	116	Vincent's angina	63
Measles	32	Whooping cough	1,826
Mumps	130		

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

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

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

Plague

Belgian Congo—Kateri.—For the week ended October 27, 1945, 7 fatal cases of suspected plague were reported in Kateri, Belgian Congo.

Great Britain—Malta.—For the week ended October 27, 1945, 6 confirmed cases of plague with 1 death were reported in Malta, Great Britain.

Morocco (French).—For the period October 1–10, 1945, 24 cases of plague were reported in the region of Casablanca, French Morocco.

Palestine—Haifa.—For the week ended October 20, 1945, 2 cases of plague were reported in Haifa, Palestine. For the month of September 1945, 1 plague-infected rat was also reported in Haifa.

Smallpox

British East Africa—Tanganyika.—For the week ended September 22, 1945, 292 cases of smallpox with 40 deaths were reported in Tanganyika, British East Africa.

Rhodesia, Northern.—For the week ended September 22, 1945, 308 cases of smallpox with 2 deaths were reported in Northern Rhodesia.

Typhus Fever

Egypt.—For the week ended September 29, 1945, 18 cases of typhus fever including 1 case in Damietta, were reported in all of Egypt. For the week ended October 20, 1945, 1 case of typhus fever was reported in Ismailiya and 2 cases were reported in Port Said.

Morocco (French).—For the period October 1–10, 1945, 113 cases of typhus fever were reported in French Morocco, including 71 cases in the region of Casablanca, 26 cases in the region of Meknes, and 11 cases in the region of Rabat.

The Netherlands—Correction.—The report of 158 cases of typhus fever in the Netherlands during the period January–June 1945 (PUBLIC HEALTH REPORTS, September 28, 1945, p. 1161, and October 26, 1945, p. 1292) was erroneous. Senior Surgeon H. R. Sandstead, formerly Chief of the Public Health Branch, British and USFET Mission to the Netherlands, reports cases in that country as follows: 1943—4 cases; 1944—6 cases; January–June, 1945—51 cases. All of the cases reported for 1945 occurred in displaced persons repatriated from Germany, and 37 of them occurred in June.

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