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PREVALENCE OF COMMUNICABLE DISEASES IN THE UNITED STATES

November 3-30, 1940

The accompanying table summarizes the prevalence of eight important communicable diseases, based on weekly telegraphic reports from State health departments. The reports from each State are published in the PUBLIC HEALTH REPORTS under the section "Prevalence of disease." The table gives the number of cases of these diseases for the 4-week period ended November 30, 1940, the number reported for the corresponding period in 1939, and the median number for the years 1935–39.

DISEASES ABOVE MEDIAN PREVALENCE

Influenza.—For the 4 weeks ended November 30 there were 6,313 cases of influenza reported, as compared with 3,286 cases for the preceding 4-week period. The cases for the corresponding period in 1939, 1938, and 1937 totaled 7,581, 4,905, and 4,495, respectively. Only the expected seasonal rise of the disease appeared to have occurred in practically all regions except the Mountain and Pacific regions. Arizona, with 607 cases for the 4 weeks, seemed to be mostly responsible for the excess in the Mountain region and California reported 2,121 of the 2,239 cases occurring in the Pacific region.

Reports for the week ended December 7 [1] give a total of 9,663 cases for the week, of which California reported 6,772, Arizona 471, Oregon 368, and Utah 243 cases; more than 80 percent of the cases were reported from those 4 States. While it is likely that the outbreak will spread into other regions, reports for the week ended December 7 do not indicate that it has yet reached any of the other States.

Mortality records indicate that the cases thus far have been of a mild type, as the death rate in large cities for the current period was about the same as in nonepidemic years.

Measles.—The incidence of measles, as compared with the corresponding period in 1939 and also with the 1935–39 median incidence, was considerably higher in the Middle Atlantic, East North Central, and South Central regions, but all other regions reported a relatively

[1] See pp. 2359 and 2361 for later reports.

low incidence. For the country as a whole the number of cases reported (13,381) was about 80 percent in excess of last year's figure for this period, and also of the 1935–39 median incidence which is represented by the 1939 figure (7,479 cases).

Poliomyelitis.—A further decline of poliomyelitis continued through the month of November, the number of cases dropping from 1,781 for the preceding 4-week period to 796 for the 4 weeks ended November 30. The incidence was, however, approximately 40 percent in excess of that reported for the corresponding period in 1939 and more than 55 percent in excess of the 1935–39 median figure for the period. In the North Central regions the number of cases for the current period was still more than four times the average seasonal incidence and in the South Atlantic region the number of cases was almost 3 times the 1935–39 median incidence for the period. Other sections of the country, not affected by the recent rise, reported about the normal incidence for this season of the year.

Number of reported cases of 8 communicable diseases in the United States during the 4-week period Nov. 3–30, 1940, the number for the corresponding period in 1939, and the median number of cases reported for the corresponding period 1935–39 [1]

Division	Current period	1939	5-year median	Current period	1939	5-year median	Current period	1939	5-year median	Current period	1939	5-year median
	Diphtheria			Influenza [2]			Measles [3]			Meningococcus meningitis		
United States [1]	1,714	3,074	3,676	6,313	7,581	4,495	13,381	7,479	7,479	88	132	279
New England	17	48	53	16	11	24	1,494	1,481	1,016	11	3	9
Middle Atlantic	153	333	333	27	74	79	5,543	1,024	1,710	17	29	39
East North Central	277	450	631	247	285	285	4,227	972	835	15	11	35
West North Central	95	152	313	53	71	168	447	648	648	7	8	21
South Atlantic	492	1,036	1,036	1,537	3,838	1,233	367	641	641	14	26	49
East South Central	222	398	435	296	857	468	571	96	124	16	19	31
West South Central	293	447	514	1,183	1,535	1,400	131	173	173	4	17	17
Mountain	60	67	98	715	766	278	341	552	552	1	9	9
Pacific	105	143	214	2,239	144	199	260	1,892	1,722	3	10	20
	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
United States [1]	796	576	509	10,005	13,626	14,695	128	198	494	578	735	947
New England	5	10	10	654	475	830	0	0	0	14	14	24
Middle Atlantic	48	132	46	1,744	2,644	2,677	0	0	0	104	103	119
East North Central	356	72	60	3,002	4,428	4,919	45	59	65	55	77	96
West North Central	142	98	49	1,223	1,746	2,246	26	95	176	32	48	78
South Atlantic	114	43	43	1,233	1,593	1,413	1	3	3	108	151	151
East South Central	35	42	36	828	902	758	11	1	9	80	50	77
West South Central	33	27	27	348	458	476	19	23	22	105	159	181
Mountain	27	55	15	405	485	799	4	9	84	44	32	70
Pacific	36	97	63	568	895	1,174	22	8	64	36	101	50

[1] 48 States and the District of Columbia.
[2] Mississippi, New York, and Pennsylvania excluded; New York City included.
[3] Mississippi excluded.

DISEASES BELOW MEDIAN PREVALENCE

Diphtheria.—For the 4 weeks ended November 30 there were 1,714 cases of diphtheria reported, as compared with 3,074, 3,570, and 3,676 cases for the corresponding period in 1939, 1938, and 1937, respectively. All sections of the country reported a very significant decline from the 1935–39 average incidence for this period.

Meningococcus meningitis.—The number of cases (88) of meningococcus meningitis reported was the lowest recorded for this period in the 12 years for which these data are available. The incidence was relatively low in all sections of the country except the New England, where the number of cases (11) was almost four times the number reported last year and was also slightly above the seasonal expectancy.

Scarlet fever.—Although the usual seasonal increase in scarlet fever was apparent in most sections of the country, the number of cases (10,005) reported for the current period was only about 73 percent of the number reported for the corresponding period in 1939 and less than 70 percent of the 1935–39 median figure for the period. The situation was favorable in all sections of the country. In the New England region the number of cases was slightly higher than the incidence in 1939, but was well below the preceding 5-year average incidence.

Smallpox.—The incidence of smallpox was the lowest on record for this period. The reported cases totaled 128, as compared with 198, 494, and 910 cases for the corresponding period in 1939, 1938, and 1937, respectively. In the East South Central region the number of cases stood at about the normal seasonal level, but in all other regions the incidence was relatively low.

Typhoid fever.—In relation to preceding years the incidence of typhoid fever remained low, the current incidence (578 cases) being less than 80 percent of the number of cases reported in 1939 and about 60 percent of the 1935–39 median figure for the corresponding period. In the East South Central region the number of cases stood at about the average seasonal level, but in all other regions the incidence was below the seasonal expectancy.

MORTALITY, ALL CAUSES

The average mortality rate from all causes in large cities for the 4 weeks ended November 30, based on data received from the Bureau of the Census, was about normal for this season of the year. The current rate was 11.4, as compared with 11.3 in 1939 and also an average of 11.3 in the years 1935–39.

A RECOMMENDED PROCEDURE FOR THE MOUSE PROTECTION TEST IN EVALUATION OF ANTIMENINGOCOCCUS SERUM [1]

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It is agreed generally that the present standard method of evaluation of antimeningococcus serum is unsatisfactory. Although the complete correlation of clinical results with any method of standardization must await the test of time, indications are that the mouse protection test gives a better criterion of the value of a serum than the *in vitro* methods usually employed. Those who have worked with the mouse protection test agree that a uniform technique is desirable if results are to be compared.

The many variable factors in the mouse protection test have been made the subject of detailed study by Pittman (*1*). The procedures recommended in the present paper are based on experiments done by the authors as well as by others during the past few years.

Our recommendation of this technique does not constitute official adoption at this time. It is being given now for trial with the hope that, if it proves satisfactory, another year may see its adoption.

DESCRIPTION OF TECHNIQUE

Since most polyvalent antimeningococcus sera contain mouse protective antibodies for Group I meningococci almost exclusively, the following method for the evaluation of protective antibodies for this immunological group is described. Application of this technique to the study of Group II mouse protective antibodies will be discussed later.

Culture.—It is essential to employ cultures that are of maximum virulence for mice. "Maximum virulence" means that 2 to 10 microorganisms can kill a mouse. The protective action of Group I antibodies is qualitatively the same upon all strains of this group. Nevertheless individual strains vary quantitatively in their response to the serum. For this reason one strain of proved suitability has been used for routine purposes. This strain, 1027 (I), isolated from a fatal case of meningitis, was received from Dr. C. P. Miller in 1937.

The culture is maintained by transfer every 24 or 48 hours on 5 percent rabbit blood agar. Apparently serum glucose agar can be used instead of the blood agar. To insure maximum virulence the culture is passed through a mouse every week or every other week. It is recovered from the peritoneal fluid of the mouse. The culture is also kept in a lyophile state. Before the latter can be used in pro-

[1] From the Division of Biologics Control, National Institute of Health.

tection tests it must have several rapid transfers (i. e., twice daily) on blood agar.

For the protection test a 5-hour blood agar culture, made from one which is itself not more than 24 hours old, is used. The culture is suspended in neopeptone solution (1 percent neopeptone and 0.5 percent NaCl) and adjusted to a density corresponding to 500 parts per million of silica (*2*). This suspension contains approximately 1,000,000,000 meningococci per cc. and is designated as 5×10^{-1}. Serial dilutions with an increment of 10 are prepared in the peptone solution. The suspensions that are to be given to the mice, i. e., the test dilution and those used for virulence titration, are prepared in mucin. In order to prevent diluting the mucin, the dilutions preceding those to be given to mice should also be made in mucin. The procedure is illustrated in the following example:

Neopeptone solution	*Mucin*	*Mucin suspension for mice*
5×10^{-1}		
5×10^{-2}	$\rightarrow 5\times10^{-3}\rightarrow$	5×10^{-4}
5×10^{-3}		
5×10^{-4}		
5×10^{-5}	$\rightarrow 5\times10^{-6}\rightarrow$	5×10^{-7}, 5×10^{-8}, 5×10^{-9}

The actual dilution used for the test dose depends on certain factors which will be discussed later.

Mucin.—Granular mucin[2] is selected on the basis of minimum toxicity for meningococci and for mice (*1*). Various lot numbers of mucin vary greatly in suitability for the test.

The actual concentration of mucin will vary under certain conditions which will be discussed below. Assuming that a 4-percent suspension is desired, the preparation is: Forty grams of mucin and 5 grams of NaCl are placed in a 2-liter flask. Nine hundred and ninety cc. of distilled water are added in small amounts with vigorous shaking between additions. This process requires about 30 minutes. The flask is placed in an ice box overnight to insure thorough dispersion of the particles of mucin. Next morning, after preliminary warming in a water bath, the suspension of mucin is autoclaved for 30 minutes at 15 pounds pressure (121° C.). It is then stored in an ice box for 2 weeks. During this time toxicity which may follow sterilization usually disappears. After this time 10 cc. of a sterile 50-percent glucose solution are added to give a 0.5-percent concentration, and the pH is adjusted to 7.3 to 7.4 with sodium hydroxide. The mucin is now ready for use.

Serum.—The most convenient number of serums to include in one test is four—three of unknown value and the control serum. This number can be handled easily within the time intervals that have been adopted and too long a period of standing for the culture suspension is avoided. The serum dilutions are made with an increment of 2

[2] Wilson Laboratories, Chicago, Ill.

using 0.85 percent NaCl as a diluent. For the present control serum the dilutions used are 1:50, 1:100, 1:200, and 1:400. For the unknown sera the dilutions to be used are determined by preliminary plate precipitation tests in which the amount of precipitate produced with these is compared with the amount produced with the control serum. Details of this technique are described below.

Mice.—The most important factor in selecting mice is the choice of a pure line strain which is kept closely inbred. The sex distribution and weight of the mice are also important factors and have been discussed in detail by Pittman (*1*). In any given test it is desirable to use either one sex only, or else an equal number of each sex uniformly distributed. A range in weight not greater than 4 grams, and preferably not greater than 2 grams, is used. In our tests mice between 16 and 18 grams are usually employed.

With the pure line inbred mice, carefully selected according to sex and weight, it has been possible to use as few as 24 mice for each serum in a single test. This gives 6 mice for each of the 4 dilutions. Three additional mice are used for each of the 3 highest dilutions of culture in mucin which are used to determine the virulence of the strain.

Procedure.—The serum dilutions, prepared as described above, are inoculated intraperitoneally into the mice, using a 26-gauge needle. The amount given is 0.5 cc. It is our custom to administer the serum in order of highest to lowest dilution, thus making it possible to use one syringe for a single serum.

One hour after the beginning of the serum injection, the inoculation of the mucin suspension of culture (i. e., 5×10^{-4}) is begun. The inoculum of 1 cc. is given through a 23-gauge needle.

As a precaution against contamination the culture suspension, prepared in one flask, is distributed into four small containers (1 for each serum). A fresh sterile syringe is taken for each.

Following the inoculation of the test dose of culture (i. e., 5×10^{-4}) the control mice are given the dilutions prepared for virulence titration, i. e., 5×10^{-7}, 5×10^{-8}, and 5×10^{-9}.

The mice are all kept under observation for 96 hours. All mice that die during this time are autopsied and a smear stained by Gram's method made from the peritoneal exudate in order to ascertain whether the mice actually died from meningococcus infection or whether they succumbed to a secondary invader or to some other cause. Only those fatalities definitely attributable to meningococci are included in our calculations. A test is considered unsatisfactory if less than 50 percent of the mice receiving the lowest dilution survive or if more than 50 percent of those receiving the highest dilution survive. Two satisfactory tests are made with each serum on different days.

Evaluation of results.—Evaluation of results is made on the basis of the Reed-Muench method (*3*) in which the protective value is

determined from the dilution of serum which protects 50 percent of all mice used. This method of calculation is illustrated in the protocol given in table 1. The experiment included unknown sera A, B, and C, together with control serum M19. The 4 dilutions were selected on the basis of their plate precipitation reactions which are shown in table 2. The numbers of mice which died or survived on each dilution are given in columns 3 and 4. As was pointed out by Reed and Muench, those mice which survived when given a certain serum dilution would probably have survived also with lower dilutions. Therefore, in column 5 the survivals are accumulated beginning with the highest dilution. Conversely, the deaths are accumulated in column 6, beginning with the lowest dilution. The percentage of survivals for each dilution is recorded in column 7. In column 8 are recorded the dilutions of the sera which theoretically would have allowed 50 percent of the mice to survive. To explain how this endpoint is determined serum A may be taken as an example. In this case the endpoint lies between dilutions 1:50 and 1:100. We see that 75 percent of the mice survived at dilution 1:50 and 25 percent at dilution 1:100. The desired 50-percent endpoint would then be 25/50 or 0.5 of the distance between 1:50 and 1:100. Since the serum dilutions are in geometrical progression this point may be obtained by use of the formula given in a previous paper, or, more simply, by the graphic method described by Reed and Muench (*3*) and illustrated in figure 1.

TABLE 1.—*Determination of the mouse protective value (Group I) of 3 antimeningococcus sera*

Serum	Dilution	Survived	Died	Accumulation of			Calculated 50 percent endpoint	Relation to control			Units
				Survivals	Deaths	Percent survived		No. 1	No. 2	Mean	
								Percent	*Percent*	*Percent*	
A	1:25	5	0	11	0	100	1:71	50	52	51	330
	1:50	4	2	6	2	75					
	1:100	2	4	2	6	25					
	1:200	0	6	0	12	0					
M19	1:50	5	1	12	1	92	1:145	100	100	100	650
	1:100	6	0	7	1	88					
	1:200	1	5	1	6	14					
	1:400	0	6	0	12	0					
B	1:50	5	1	12	1	92	1:147	101	99	100	650
	1:100	4	2	7	3	70					
	1:200	3	3	3	6	33					
	1:400	0	6	0	12	0					
C	1:100	5	0	13	0	100	1:360	248	234	241	1,560
	1:200	5	1	8	1	89					
	1:400	3	3	3	4	43					
	1:800	0	6	0	10	0					

Male mice and 3.5 percent mucin were used.

Semilogarithmic paper is used. The lower margin is scaled from 0 to 1.0. A line is drawn from the lower left-hand corner to a point on the right representing the dilution increment of 2. The point to be used in determining the 50-percent endpoint (in this case 0.5) is found on the base line. The distance between this point and the diagonal line above is measured with a pair of dividers. The dividers are then moved to the vertical line that is scaled logarithmically and the lower point is placed at the lower dilution (in this case 50); the upper point will fall at the desired endpoint dilution, in this case

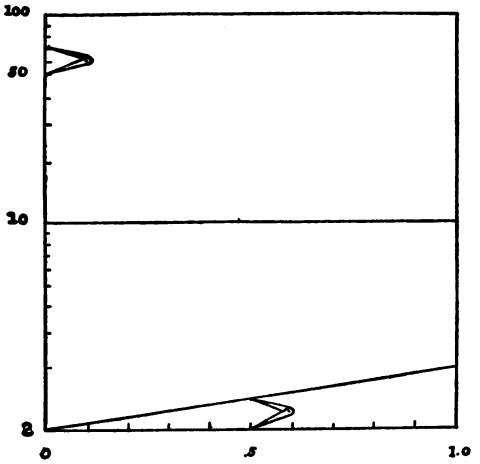

FIGURE 1.

71. Hence 1:71 is the dilution of serum A that would, theoretically, allow the survival of 50 percent of the mice.

The 50-percent endpoint dilutions are calculated similarly for the other serums.

In column 9 are shown the values of the 3 unknown sera in relation to the control serum M19 expressed in percentage. In column 10 the values obtained in a second test are given. Column 11 gives the average of the two tests. Thus, in relation to M19, serum A has a protective value of one-half, serum B the same as M19, and serum C about 2½ times as great.

The value of M19 has been previously described as 650 units per cc. for Group I meningococci (*5*). In the last column of table 1 the unit values of sera A, B, and C are given.

Plate precipitation test.—The application of plate precipitation to serum testing was described and illustrated by the authors in a previous paper (*4*). This technique, slightly modified, is as follows:

To three tubes, each containing 16 cc. of melted "hormone" agar, are added, respectively, 0.8, 0.4, and 0.2 cc. of a serum. If the serum is concentrated an additional tube with 0.1 cc. is prepared. The

mixtures are poured into Petri dishes. Similar plates are prepared with each serum under study and with the control serum. Each plate is inoculated with cultures of 4 strains, 2 of Group I and 2 of Group II. The strains used for protection tests are included among these. The inoculum consists of a mass of microorganisms about 2 mm. in diameter, taken from an 18-hour serum glucose agar culture, or from a 5-hour blood agar culture. Readings of the intensity of the reaction are made after 48 hours and again after 72 hours incubation. The examinations are made in a strong light against a dark background. The intensity of the ring of precipitate is expressed as 1+ to 4+. Sometimes the greatest intensity is found at the 48-hour reading and at other times at 72 hours. The maximum intensity is used for the final recording. The results obtained with the sera used as illustrations in this paper are given in table 2.

TABLE 2.—*Plate precipitation reactions with a Group I meningococcus and 4 antimeningococcus sera*

Serum number	Intensity of halo			
	Amount of serum in plate (cc.)			
	0.8	0.4	0.2	0.1
A	++	+	−	------
B	+++	++	+	------
C	++++	+++	++	+
M19	++++	++	+	------

Application of protection test to Group II antibodies.—Strains which have been classified as Group II by the agglutination test have been found to differ immunologically, especially in regard to cross protection. Branham (*6*) has recently drawn attention to the fact that a number of years ago these differences were recognized. But not until the development of the mouse protection technique was this heterogeneity made clear. Hence the choice of a strain, or strains, for testing is more complicated than for Group I. At present the indications are that at least two strains are necessary.

These strains now classified as Group II are less invasive, as a rule, than those of Group I. Consequently, it is usually necessary to use a greater concentration of mucin. For example, under conditions in which 3.5 percent mucin is used for Group I, 4 percent will probably be indicated for Group II. In addition, it is sometimes necessary to use a somewhat larger number of organisms in the test dose.

Reference has already been made to the low mouse protective antibody content for Group II meningococci in the majority of polyvalent antimeningococcus sera. In some sera such antibodies are not demonstrable. In order to detect the presence of Group II anti-

bodies, very low dilutions of sera must be employed. Aside from the factors just mentioned, the mouse protection test for the determination of Group II antibodies is carried out as for those of Group I.

Because of the low content of protective antibody for Group II in antimeningococcus serum it has not been possible to establish a standard for that group. For experimental purposes a value of 25 units per cc. for one particular Group II strain has been assigned to control serum M19 (*5*).

DISCUSSION

There are several factors in this technique which must necessarily be varied from time to time. The susceptibility of the mice is influenced by breed, sex, weight, and season (*1*). On account of this variation it has not been possible to adopt a fixed concentration of mucin for use in all tests. The variability in manufacturers' lots of mucin must also be considered. Under the conditions of experiment at the National Institute of Health in the cooler part of the year 4 percent mucin is usually indicated for our Group I test strain. During hot weather, however, it has been necessary to reduce the concentration to 3.5 percent.

Similarly, the culture dose must be varied. For Group I antibody determinations the test doses employed have varied from 1×10^{-4} to 5×10^{-4}.

SUMMARY

A procedure is described which is recommended for the performance of the mouse protection test for the evaluation of antimeningococcus serum.

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TICKS AND RELAPSING FEVER IN THE UNITED STATES [1]

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The history of tick-borne relapsing fever in the United States has been short but rapidly progressive. A report is hardly completed before new records are available. A number of writers have speculated as to the origin of reputed cases reported during the last century, but recent studies indicate that the first ones of proved endemic origin were reported from Bear Creek Canyon, Jefferson County, Colo., by Meader and by Warring in 1915 and 1918, respectively. In 1922, Briggs reported two cases from Polaris, Placer County, Calif., and in 1927 Cornick reported the presence of relapsing fever in west Texas. This latter report was further substantiated when eight cases were reported by Oschman's Laboratory of San Angelo (Bohls and Schuhardt), the cases having occured in 1922, 1924, 1926, and 1927. Warring called attention to the endemicity of the disease but a tick vector was not recognized until the observation of Weller and Graham in central Texas in 1930. This marks the beginning of a real interest in the disease.

Since that year case reports indicative of new endemic areas have been published from Arizona (Bannister 1930), Kansas (Closson 1934), Washington, and possibly Montana (Tollefsen 1935), and Nevada (Reynolds 1937). Additional reports, representing areas in which cases are now known to have occurred (only part have been published), have been made from Colorado (1918, 1923, 1930, 1937, 1938, and 1939), Utah (1928, 1930), Nevada (1930, 1932, 1933, 1934, 1935, 1936), Arizona (1930, 1934, 1938, 1939), Idaho (1931, 1938), New Mexico (1934), and Oklahoma (1934), and particularly from some of the more extensive infected areas in Texas and California.

TICK VECTORS

Six species of *Ornithodoros* have been reported from the United States, viz, *O. turicata, hermsi, parkeri, talaje, coriaceus,* and *coprophilus.* One or more of these have been reported from 17 States as follows: California, 5 species; Arizona, 3; Colorado, Texas, Florida, and New Mexico, 2 each; and Idaho, Kansas, Minnesota, Montana, Nevada, New York, Oklahoma, Utah, Washington, Wisconsin, and Wyoming, 1 each. The presence of *talaje* in northern States is without doubt due to importation in shipments of materials. However, the three reports by Matheson (1931), Herrick (1935), and Riley (1935) are not without interest. Matheson reported the infestation of a single house, Herrick of 7 houses, and Riley of 2. Riley reported

[1] From the Rocky Mountain Laboratory (Hamilton, Mont.), Division of Infectious Diseases, National Institute of Health. Read, in part, before sec. VII of the Sixth Pacific Science Congress, Berkeley, Calif., July 1939.

that the infestation had persisted in a rat- and bat-infested house for 6 years, and Matheson's report indicated that the infestation had persisted for at least 3 years and possibly as long as 16. A letter dated June 23, 1939, from the owner of this house, stated that ticks were still present. A female *talaje* was submitted in confirmation of this report. This definitely established the existence of the infestation for at least 11 years.

Table 1 lists the States from which *Ornithodoros* ticks have been reported and shows for each present knowledge regarding the occurrence of relapsing fever, the species of tick vector, if known, and other species of *Ornithodoros* reported.

TABLE 1.—*Relapsing fever in the United States. Endemicity, known vectors, and reported species of Ornithodoros by States*

State	Relapsing fever	Tick vector	*Ornithodoros* sp. reported	Remarks
Arizona	Present	Unknown	*turicata, talaje, coprophilus.*	Spirochetes recovered from *talaje* not collected from known foci.
California	do	*hermsi*	*hermsi, turicata, talaje, coriaceus, parkeri.*	
Colorado	do	do	*hermsi, parkeri*	
Florida	None		*turicata, talaje*	
Idaho	Present	*hermsi*	*hermsi*	*hermsi* collected in cabin where cases originated.
Kansas	do	*turicata*	*turicata*	
Minnesota	None		*talaje*	
Montana	?	Unknown	*parkeri*	Spirochetes recovered from *parkeri* from southwestern Montana.
Nevada	Present	Probably *hermsi* near Lake Tahoe, also *parkeri*	do	*parkeri* collected in an endemic area.
New Mexico	do	Unknown	*turicata, talaje*	
New York	None		*talaje*	
Oklahoma	Present	*turicata*	*turicata*	
Texas	do	do	*talaje, turicata*	
Utah	do	Unknown	*parkeri*	
Washington	do	do	do	
Wisconsin	None		*talaje*	
Wyoming	do		*parkeri*	Spirochetes recovered from *parkeri* from southwestern Wyoming.

In table 2 records of early data are taken from recognized source material while more recent records are attributed to the individual collectors.

O. turicata.—A known vector in Texas and Kansas. Also reported from Arizona, California, Oklahoma, New Mexico, and Florida. This species was first recognized as a vector in Texas by Weller and Graham in 1930 and in Kansas by Davis in 1936. In Texas it has been found mainly in caves, while in Kansas it was recovered from rodent burrows, ground squirrels (*Citellus* sp.), prairie dogs (*Cynomys* sp.), cottontail rabbits (*Sylvilagus* sp.), jack rabbits (*lepus* sp.), burrowing owls (*Speotyto cunicularia hypogaea*), and terrapin (*Terrapene ornata*). Bohls and Schuhardt have demonstrated spirochetes in naturally infected armadillos (*Dasypus* sp.) and opossum (*Didelphis* sp.).

TABLE 2.—*Distribution of species of Ornithodoros in the United States* [1]

O. turicata (Duges): Florida (Hubbard 1894, Banks 1908), Texas (Banks 1908), Arizona (Banks 1908), California (Banks 1908), New Mexico (Banks 1908), Kansas (Davis 1936), Oklahoma (Davis 1936).

O. hermsi Wheeler: California (Herms and Wheeler 1931), Idaho (von Ende 1931), Colorado (Davis 1938).

O. parkeri Cooley: Wyoming (Davis 1934), Washington (Philip 1934, Jellison 1938), Montana (Jellison 1936), Utah (members of the Public Health Service Plague Laboratory, San Francisco, 1936), Colorado (same as for Utah, 1938), Nevada (Davis 1939), California (Davis, 1939).[2]

O. talaje (Guerin Menneville): Florida (Banks 1908), Texas (Banks 1908, Kohls 1938), California, San Clemente Island (Banks 1908), California, Mainland (Aitken 1938, Howell 1938), Minnesota (Howard 1915, Riley 1935), New York (Matheson 1931), Wisconsin (Herrick 1935).

O. coprophilus McIntosh: Arizona (Wehrle 1931, Philip 1939).

O. coriaceus Koch: California (Nuttall 1904).

[1] A tentative list subject to correction. Records of *talaje* in Nevada and in Colorado have been omitted until more definite information can be obtained.

[2] In 1935 Dr. Barbara C. McIvor, of the University of California at Berkeley, received a female tick taken from a man at Los Banos, Merced County, Calif., and after studying the specimen and its progeny, described the species as *Ornithodoros wheeleri* n. sp. Following the present writer's collection of approximately 125 specimens in 1939 from Fresno and Kern Counties, Dr. R. A. Cooley, of the Rocky Mountain Laboratory, studied specimens of *O. wheeleri* and the specimens mentioned above, in connection with an extended review of numerous lots of *Ornithodoros*, and concluded, in view of the present better understanding of this genus, that it was necessary to make *wheeleri* a synonym of *parkeri*.

O. hermsi.—A known vector in California, Colorado, northern Idaho, and probably a vector in west central Nevada. This species was collected in California by Herms and Wheeler in 1931, in northern Idaho by C. L. von Ende, of the University of Idaho, that same year, and in Colorado by Davis in 1938. In a publication on relapsing fever in 1935 Briggs reported that Dr. Mark Boyd, now of the Rockefeller Foundation, had pointed out that *talaje* had been identified "as far back as 1914 within a few miles of Polaris," Calif. The one remaining specimen which had been received by Dr. Boyd when he was at the University of Nevada has been kindly submitted for reexamination. This specimen has been identified by Dr. R. A. Cooley as *hermsi*, thus establishing the presence of this tick in the vicinity of Lake Tahoe approximately 20 years prior to its recognition as a new species. Spirochetes have been recovered from naturally infected ticks in both California and Colorado. In California these ticks have been found mainly in chipmunks' (*Eutamias* sp.) nests in mountain cabins while in Colorado they were recovered from crevices in decaying stumps containing chipmunk nesting material. Porter, Beck, and Stevens have demonstrated spirochetes in the blood of naturally infected chipmunks and chickaree squirrels (*Sciurus* sp.), and report a human case contracted by handling the latter.

O. parkeri.—Collected in Wyoming, Washington, Montana, Utah, Colorado, Nevada, and California. It has been taken from ground squirrels (*Citellus* spp.), jack rabbits, cottontail rabbits, prairie dogs, a weasel (*Mustela* sp.), a whitefooted mouse (*Peromyscus* sp.), and from nests of the burrowing owl. In central Washington this tick was recently consistently found by Assistant Parasitologist W. L. Jellison, sometimes in large numbers, in burrows occupied by

burrowing owls. This species has not been positively connected with human cases. However, it feeds readily on man and is the only known species in areas from which at least 17[2] cases have originated. In western Nevada it was collected (Davis 1939) from a ground squirrel burrow located near a cabin where a case of relapsing fever had occurred. Spirochetes have been recovered from ticks collected in Wyoming, Montana, and Utah.

O. talaje.—Reported from Arizona, California, New Mexico, Texas, Florida, New York, Minnesota, and Wisconsin. It has the most extensive geographic distribution known for any of our species. Although it is a recognized vector in Panama, it has not been reported as such in the United States. In Arizona, Kohls and Cooley found it infesting kangaroo rats (*Dipodomys* sp.) and their burrows. This is believed to be the first native host record in the United States. Spirochetes were recovered by the writer from this material.

O. coriaceus (*only from California*) and *O. coprophilus* (*only from Arizona*).—No cases have been attributed to the bite of these ticks and naturally infected ticks have not been definitely demonstrated. However, based on world-wide records, any species of *Ornithodoros* may be considered a potential vector.

SUMMARY

Six species of *Ornithodoros* have been recognized in the United States. One or more species have been reported from each of 17 States. Tick-borne relapsing fever is present in 11 States. The known vectors are *turicata* in Texas and Kansas, and *hermsi* in California, Colorado, and northern Idaho. *O. parkeri* is the only known species in a large area from which 17 cases have been reported. Spirochetes have been recovered from *talaje* collected in Arizona and from *parkeri* collected in Wyoming, Montana, and Utah.

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NURSING VISIT TRANSCRIPTS AS TRAINING MATERIAL

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In all professional training, modern educational institutions bring theory and practice together whenever possible. If the student is training for any profession that involves human relationships, his knowledge of actual situations, their complexity and emotional content, is of utmost importance. Thus, schools of social work use case studies and verbatim interview reports; medical schools bring patients to the classroom and clinic; teachers colleges employ lesson plans and stenographic reports of classroom work as teaching devices. All these methods have as one of their primary purposes the imparting to the student of a knowledge of the intricate human relationships with which he will have to deal in his professional career. In each instance such illustrative material supplements the practice work in social agency, hospital, or model school classroom, as the case may be.

In the professional training of public health nurses, similar procedures are followed. Case studies, field record forms, and sometimes copies of actual field records of cases are made available to the student. But up to the present, no verbatim reports of actual home visits have been available for instructors of public health nursing to use with their students. The teaching value of such material has been felt so strongly that many instructors have written imaginary visits based upon their past experience. Although such fabricated visits have been used with considerable success, they often sound artificial and students are likely to question whether the situations described

[1] From the Division of Public Health Methods, National Institute of Health.

actually arise. Naturally, such resistance interferes with the learning process.

It is with a distinct sense of satisfaction therefore that the Division of Public Health Methods, National Institute of Health, is able to announce that transcripts of 23 public health nursing visits are now available to nursing instructors upon request.[2] The transcripts reproduced were selected from reports of 1,200 visits collected during a study of educational activities of public health nurses.[3]

The presentation of complete conversations, of both the nurse and the family, clearly demonstrates not only the nurse's teaching technique in a specific situation but also the response of the family to this teaching. Each visit is placed in its proper setting by supplementing the transcript with a copy of the record of all nursing and clinic visits prior to the time of the transcribed visit, and of the services for a 2-month period after the visit.

USES OF TRANSCRIPTS IN PUBLIC HEALTH NURSING COURSES OF STUDY

Perhaps the most important use of transcripts in teaching public health nursing lies in the fact that in this way a whole class may, so to speak, witness a given home visit and discuss it as it proceeds—a procedure obviously impossible in the actual home situation. Not only detailed analysis but also general discussion, if desired, is thus possible, with the added distinct advantage that no one need rely on memory alone to keep in mind precise points of procedure to be evaluated or commented on. In other words, the content may be kept before a group indefinitely; or, conversely, routine material may be quickly passed over without waste of time. Since neither simultaneous discussion nor the "slow-motion" effect is practical with a real home visit, these possibilities give the transcript a unique value as a method for introducing nurses to the theory and practice of home visiting.[4]

With no attempt to list all possible ways in which these materials may be used, it may be well to examine a few teaching situations in which the transcripts have been found effective. The list of such situations and methods of use could, no doubt, be amplified indefinitely.

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[2] The supply of copies is limited; distribution is therefore restricted to instructors in public health nursing schools, and to educational directors of health departments and other health organizations.

[3] Papers describing the study and presenting some of its findings are:

The Nurse as a Family Teacher. Public Health Nursing, **30**: 357–365 (June 1938).

How May the Nurse Become a Better Teacher. Health Officer, **3**: 253–268 (January 1939).

Administrative Procedures that Interfere with Effective Public Health Nursing. Health Officer, **4**: 18–23 (May 1939).

The Nurse as a Teacher of Tuberculosis to the Family. Transactions of the 35th Annual Meeting of the National Tuberculosis Association, 1939.

Evaluation of Health Education Content and Materials, read at the Health Education Institute, Pittsburgh, Pa., October 16, 1939; mimeographed and available from American Public Health Association.

[4] Transcripts are not to be considered as a substitute for the observation of actual home visits, but the latter are likely to be much more meaningful if the student has analyzed transcripts previously.

It is hoped that, through the ingenuity of other instructors in the field, many other methods may be developed.

With beginning students who are not sufficiently familiar with public health nursing procedures to be able to analyze a visit as a whole, it has proved most useful to choose excerpts illustrating points under discussion. For example, in discussing the desirability of appealing to the family's interest in the welfare of its members, such excerpts as the following might be used to contrast teaching techniques.

Patient's interest in her own welfare considered

NURSE. The baby has to have calcium to make bones, and if you don't give it in the form of milk, he'll take it from your teeth.
Mrs. C. Oh, I don't want to lose any of my teeth.
NURSE. Well, that's why you should drink milk.

Patient's interest ignored

NURSE. How about those calcium tablets?
Mrs. B. No ma'am, I haven't got them yet.
NURSE. But now is the time to take them. The *doctor* will be provoked that you haven't.

Or, as an illustration of the fact that a statement or direction may be substantially correct but, because it is not sufficiently explicit, a lay person may not know exactly what to do, the following contrasts might serve:

Insufficient advice

NURSE. Don't nurse the baby every time she cries. She isn't always hungry.

Specific instruction

NURSE. You should nurse her every 4 hours by the clock. You have a clock here so you can see it, and you should wake her up when it's time to nurse. What time did you nurse the baby this morning? The last time?
MRS. Ten o'clock.
NURSE. At 10. Then nurse her again at 2, then at 6 and 10 at night, and once in the middle of the night, and start at 6 in the morning.

Aside from such elementary techniques as those illustrated here, the transcripts contain examples of almost all the common teaching and psychological principles. Comparison and contrast help to give concrete meaning to a principle and facilitate understanding of its application.

Students with public health nursing experience may profitably study entire visits. Such students are first asked to note the purpose of the visit and observe the extent to which it was achieved. They then analyze both good and bad points in the visit according to the principles of family health teaching. This exercise may be made

especially constructive if students will indicate how the family's questions, comments, and responses might have been handled in each situation in which the nurse's teaching is adversely criticized. Positive emphasis is given to the good teaching or mental hygiene techniques illustrated in the visit.

When any such assignment is made, it is highly important to make certain that students understand fully the limitations of verbatim records which can present only the bare words of a call but little or no evidence as to attitudes—the nods, smiles, frowns, and gestures that are as expressive as words and sometimes take the place of them. Furthermore, a transcript cannot record the pace of the visit. What may appear as a long uninterrupted series of instructions may, in the actual visit, have been broken by the nurse's moving about the room giving care or pausing for the patient's nod or other gesture. Students may need to be cautioned against an overcritical attitude toward colloquial speech, grammatical errors, or poor sentence structure in transcripts. The transcripts are not edited or polished to appear as written documents; they are conversational and therefore informal.

Transcripts are valuable in teaching students how to keep records. After reading a transcript students make narrative notes of the visit and plans for the next visit. This procedure is particularly advantageous for beginners, inasmuch as they can give full attention to selecting facts that are important to record without being confused by the field situation in which they must but remember and hurriedly record the content amidst the confusion that is so often found in a home. After the students have completed their records, plans for the next visit are discussed in relation to the records they have made and also in relation to the transcript. Thus, when the student goes to a field agency, she is better prepared by having had some practice in recording.

For advanced students, transcripts and records provide material for special studies. For example, one may study the adequacy and completeness with which field nurses record their visits by comparing the content of the transcript with the nurse's notations.

Through study of the transcripts, students in supervision may escape the common educational pitfall of learning abstract theory and principles but not their application to practical situations. Such a student should read each transcript and indicate what steps she would take to supervise the nurse who made the visit. This may involve simply outlining the supervisory conference with the nurse, or it may go so far as to include plans for the nurse's further education if the student feels that the nurse needs more complete and accurate knowledge. A whole class can discuss the supervisory techniques which would be called into use in supervising a nurse who made such a visit; group discussion often throws much light on the student supervisor's

problems. The relationship between supervisor and staff nurse is the key to all the supervisor's functions; transcripts afford excellent additional opportunities to discuss all phases of this key relationship, starting with the characteristics of the nurse as shown in the visit. Since the transcribed visits were made by a variety of staff nurses, many different personal assets and liabilities may be studied in the light of supervisory procedures that might be used in dealing with them.

Transcripts of actual visits have already proved an invaluable aid in teaching public health nursing to students, not only because they closely approach actual observation of field visits but also because, as is not possible in real visits, a whole class may discuss identical situations with the instructor. It is felt that this advantage of transcripts should open a wide field for further experimentation in their use.

WHAT YOU SHOULD KNOW ABOUT INFLUENZA *

Influenza, one of the most widespread and destructive diseases of man, still remains unconquered, although a number of the great epidemic diseases have fallen before the determined technicians of medical science. Numerous factors are responsible for this lack of progress in the prevention and control of influenza. For example, the exact cause has not been determined for all types of influenza. The short period of development without recognizable symptoms permits the affected individual to continue his normal routine, thereby spreading the disease to many others before he is sick enough to go to bed. Isolation of such large groups is not practical. Finally, since immunity following infection is of short duration, one year or less, a significant proportion of the population is continuously susceptible to the disease.

What Causes Influenza?

The cause of influenza is at present believed to be filterable viruses of different strains, one of which has been isolated. Viruses are active agents too small to be seen with any microscope. Various other types of bacteria may cause complications in the disease.

How Is the Disease Spread?

The virus is present in the discharges from the mouth and nose. Coughing and sneezing spray the infecting agent into the air. These small droplets of moisture may be inhaled by persons nearby. Articles freshly soiled with discharges from the nose and throat of sick persons may transfer the virus. There is no evidence that the virus

* This material is available in leaflet form, and a limited number of copies may be obtained by addressing the Surgeon General, U. S. Public Health Service, Washington, D. C.

is ever carried in drinking water or milk. MAN is the carrier of influenza.

Symptoms of Influenza.

Symptoms of influenza are observed within 24 to 72 hours following invasion of the body with the virus. Typically, it is a more severe infection than the common cold. Fever and general muscular pains in the back, head, and limbs develop and usually last about a week. "Flu" leaves the patient exhausted out of all proportion to the length of time he is ill.

The most serious and important complication following influenza is pneumonia, which may be severe and sometimes fatal. Other serious complications are infections of the ear, or sinuses, and bronchitis.

Laboratory procedures have no practical value in determining the diagnosis of influenza with certainty. In its initial stages, influenza is frequently indistinguishable from the common cold.

Precautions to Observe.

It is believed that there is more danger of spreading the disease from persons in the early stages of "flu" than from those ill enough to be in bed or those who are recovering. In any case, unnecessary contacts should be avoided. Since few, if any, can hope to escape contact, it is not rational to become panicky or to attempt to avoid infection in too elaborate ways. Experience in previous epidemics has taught some valuable lessons. The closing of public, parochial, and private schools has not been effective in checking the spread of influenza. Relatively simple hygienic practices and rules of life are the most helpful. The persons who try to keep on their feet and "stick it out" are those who contribute the greatest numbers to the death rolls. In their weakened condition, secondary invading germs gain a foothold and permit the development of serious complications.

In protecting himself from influenza, an individual can generally do as much as anyone else can do for him, if not more.

What You Should Do Before Infection.

1. During an epidemic, avoid needless contact with others, especially people who are coughing, sneezing, or sniffling.
2. Avoid exposure to inclement weather, but take advantage of as much open air and sunshine as you can.
3. Be sure that your home is well ventilated at all times, but avoid drafts.
4. Eat a well-balanced diet; drink plenty of water.
5. Guard against fatigue; get plenty of rest and sleep.
6. Wear clothing suitable to the weather.

What To Do After Exposure.

1. At the first sign of a cold and especially if you have fever *go to bed and stay there until your doctor says it is safe to get up.* By so doing, you may prevent serious complications and check the spread of the disease to others.

2. Cover all coughs or sneezes with a handkerchief, preferably paper tissues which should be promptly burned.

3. Do not encourage visitors.

The New Flu Vaccine.

A vaccine has been developed from one of the strains of influenza virus. However, the use of this vaccine is still in the experimental stage. It is too soon to make any statements concerning the efficacy of this discovery.

DO NOT INDULGE IN SELF-DIAGNOSIS OR SELF-TREATMENT. CONSULT YOUR DOCTOR

COURT DECISION ON PUBLIC HEALTH

Annulment of marriage because of concealment of syphilis.—(St. Louis, Mo., Court of Appeals; *Watson* v. *Watson,* 143 S.W.2d 349; decided October 8, 1940.) A husband brought an action for the annulment of his marriage on the ground that the wife had fraudulently misrepresented and concealed from him the fact that she was afflicted with syphilis prior to the marriage. It appeared that the plaintiff, upon proposing marriage to the defendant, had inquired of her as to the condition of her health and as to whether or not she had any venereal disease, and that she had assured him that she had nothing the matter with her. About a year after the marriage a test showed that the defendant was suffering from syphilis, and the records of the hospital to which the defendant was admitted some 9 months later showed that, when admitted, she was suffering from the disease in the last stage. Immediately upon discovering that the defendant was infected, the plaintiff ceased cohabitation. He testified positively that he had no knowledge of the defendant's condition prior to the marriage.

The appellate court reversed the judgment of the lower court for the defendant and remanded the cause with directions to enter judgment annulling the marriage. "The evidence," said the court, "of fraudulent misrepresentation or concealment by defendant of the fact that she was suffering from syphilis is shown by clear, satisfactory, and convincing evidence. Such a fraud pertains to an essential of the marriage relation and obviously entitles plaintiff to an annulment of the marriage."

DEATHS DURING WEEK ENDED DECEMBER 7, 1940

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

	Week ended Dec. 7, 1940	Corresponding week, 1939
Data from 88 large cities of the United States:		
Total deaths	8,565	8,554
Average for 3 prior years	8,654	
Total deaths, first 49 weeks of year	409,968	403,581
Deaths under 1 year of age	514	488
Average for 3 prior years	519	
Deaths under 1 year of age, first 49 weeks of year	24,661	24,324
Data from industrial insurance companies:		
Policies in force	64,817,132	66,500,419
Number of death claims	12,569	12,202
Death claims per 1,000 policies in force, annual rate	10.1	9.6
Death claims per 1,000 policies, first 49 weeks of year, annual rate	9.6	9.9

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 DECEMBER 14, 1940

Summary

A total of 29,864 cases of influenza was reported for the current week as compared with 9,663 for the preceding week, an increase of more than 20,000 cases, accounted for principally by the increase in California (from 6,772 to 13,133), Utah (from 243 to 8,288), Arizona (from 471 to 1,662), Idaho (from 17 to 1,113) Washington (from 95 to 914), and Oregon (from 368 to 978). Of the total number of cases reported during the current week, approximately 90 percent occurred in the Mountain and Pacific States while the four eastern and north central groups (New England, Middle Atlantic, East North Central, and West North Central) reported less than 2½ percent. The current figures bring the cumulative total for the first 50 weeks of the current year to 221,737, higher than the figure for the corresponding period of any of the 5 preceding years with the exception of 1937, when 288,665 cases were reported.

Telegraphic information from State health officers, dated December 17, stated that the disease was spreading in Utah, with an estimated 40 percent of school enrollment affected, and a slight increase in pneumonia incidence; that 500 new cases had been reported in Nevada; that there was State-wide prevalence of a mild infection in Oklahoma, with 25 to 50 percent of persons affected in State schools and institutions and some schools closed; and that about 600 mild cases a week were occurring in Texas. A moderately intense outbreak of upper respiratory infection was reported in southwest Louisiana, with an estimated 5,000 cases in Alexandria and 1,000 cases in Lafayette, with no deaths. Information so far available indicates that the infection is mild, although explosive in character, with few deaths reported.

For the current week, the incidence of the other 8 communicable diseases included in the following table remained close to the 5-year (1935–39) median expectancy, measles, poliomyelitis and whooping cough being slightly above the median. Of the 9 diseases, the cumulative totals of only influenza and poliomyelitis are above last year's figures and the 5-year medians.

Three cases of tularemia were reported in Maryland, 2 in the District of Columbia, and 1 fatal case was reported in Connecticut. Of 41 cases of endemic typhus fever, 13 cases were reported in Georiga, 8 in Texas, and 7 in Alabama.

For the current week the Bureau of the Census reports 8,648 deaths in 88 major cities of the United States, as compared with 8,565 for the preceding week and with a 3-year (1937–39) average of 8,641 for the corresponding week.

Telegraphic morbidity reports from State health officers for the week ended December 14, 1940, and comparison with corresponding week of 1939 and 5-year median

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

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended		Median, 1935–39	Week ended		Median, 1935–39	Week ended		Median, 1935–39	Week ended		Median, 1935–39
	Dec. 14, 1940	Dec. 16, 1939		Dec. 14, 1940	Dec. 16, 1939		Dec. 14, 1940	Dec. 16, 1939		Dec. 14, 1940	Dec. 16, 1939	
NEW ENG.												
Maine	0	2	2	7	----	----	93	52	42	0	1	1
New Hampshire	1	0	0	----	----	----	0	1	1	0	0	0
Vermont	0	0	0	----	----	----	21	21	21	0	0	0
Massachusetts	3	5	5	----	----	----	302	329	212	2	1	1
Rhode Island	0	1	1	----	----	----	2	87	12	0	0	0
Connecticut	1	1	5	6	1	2	9	60	68	0	0	0
MID. ATL.												
New York	15	22	37	20	29	14	985	425	425	3	2	5
New Jersey	11	9	19	3	15	13	301	21	30	0	1	1
Pennsylvania	14	27	35	----	----	----	1,170	51	67	1	12	5
E. NO. CEN.												
Ohio	8	13	24	23	54	25	139	27	27	3	2	4
Indiana	14	18	27	213	26	34	14	9	11	1	0	2
Illinois	16	44	44	18	14	17	737	18	29	1	0	2
Michigan [2]	15	10	16	9	6	3	807	391	155	3	0	1
Wisconsin	1	0	1	42	44	44	417	68	68	0	0	0
W. NO. CEN.												
Minnesota	0	1	1	1	1	1	11	130	47	0	0	0
Iowa	3	4	12	1	7	4	59	43	12	0	0	0
Missouri	13	13	15	27	2	55	23	7	5	1	0	2
North Dakota	5	0	2	28	85	12	2	1	2	0	0	1
South Dakota	0	5	3	----	----	----	5	7	5	0	0	0
Nebraska	0	2	3	3	----	----	6	8	8	0	0	0
Kansas	4	6	8	16	27	4	59	73	6	0	1	1
SO. ATL.												
Delaware	0	2	0	----	----	----	14	0	4	0	1	0
Maryland [2]	4	12	15	10	14	10	4	5	43	0	0	0
Dist. of Col.	0	1	10	2	----	----	0	5	3	0	0	0
Virginia [3]	23	46	44	228	148	----	126	30	30	2	1	2
West Virginia [3]	2	18	18	27	2	49	3	9	16	1	2	3
North Carolina [3]	35	69	63	11	50	9	19	325	270	1	0	0
South Carolina [3]	11	22	9	359	2,353	410	10	7	11	0	5	2
Georgia [3]	7	14	20	214	327	77	1	22	----	0	0	0
Florida [3]	12	7	7	13	11	5	1	2	6	0	0	0
E. SO. CEN.												
Kentucky	10	17	18	31	6	24	147	7	10	3	2	3
Tennessee [3]	8	12	23	52	46	72	22	56	36	2	0	3
Alabama [3]	22	27	26	112	568	189	35	8	10	1	1	1
Mississippi [2 3]	13	15	15	----	----	----	----	----	----	0	1	1
W. SO. CEN.												
Arkansas	7	16	15	234	93	93	23	1	3	1	9	1
Louisiana [3]	11	14	19	321	9	10	0	1	3	1	0	1
Oklahoma	27	9	16	537	91	91	0	10	5	3	1	2
Texas [3]	46	50	59	671	341	385	20	47	36	1	1	1
MOUNTAIN												
Montana	3	1	1	60	548	17	4	8	8	0	0	0
Idaho	0	0	0	1,113	22	3	3	59	59	0	0	0
Wyoming	0	0	0	4	514	----	2	8	4	0	0	0
Colorado	5	7	8	42	103	----	154	6	7	0	2	1
New Mexico	0	5	6	1	----	----	51	1	21	0	0	0
Arizona	0	11	7	1,662	88	73	47	4	4	0	0	0
Utah [2]	3	2	0	8,288	610	----	2	106	18	0	0	0
Nevada	0	----	----	430	----	----	0	----	----	0	----	----
PACIFIC												
Washington	7	0	1	914	----	1	15	893	160	2	0	1
Oregon	1	0	1	978	176	31	26	53	17	1	1	1
California	12	33	43	13,133	34	34	44	120	120	0	3	3
Total	393	593	735	29,864	6,465	1,971	5,935	3,622	3,622	34	50	80
50 weeks	15,132	23,064	27,490	221,737	176,258	153,510	263,575	370,015	370,015	1,549	1,901	5,226

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended December 14, 1940, and comparison with corresponding week of 1939 and 5-year median—Continued

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended		Median, 1935–39	Week ended		Median, 1935–39	Week ended		Median, 1935–39	Week ended		Median, 1935–39
	Dec. 14, 1940	Dec. 16, 1939		Dec. 14, 1940	Dec. 16, 1939		Dec. 14, 1940	Dec. 16, 1939		Dec. 14, 1940	Dec. 16, 1939	
NEW ENG.												
Maine	0	0	1	12	24	29	0	0	0	0	4	1
New Hampshire	0	0	0	2	3	7	0	0	0	0	0	1
Vermont	0	0	0	18	0	4	0	0	0	1	1	1
Massachusetts	0	1	0	169	88	158	0	0	0	5	1	2
Rhode Island	0	0	0	6	11	11	0	0	0	0	0	0
Connecticut	0	0	0	45	63	63	0	0	0	0	1	1
MID. ATL.												
New York	1	9	0	300	379	410	0	0	0	5	6	9
New Jersey	0	1	1	122	177	94	0	0	0	3	4	2
Pennsylvania	1	2	2	247	346	364	0	0	0	6	6	12
E. NO. CEN.												
Ohio	12	1	1	152	228	320	1	1	1	0	3	3
Indiana	1	0	0	108	138	163	1	4	4	3	2	3
Illinois	8	1	1	355	346	381	1	2	6	1	4	4
Michigan [2]	2	2	2	185	296	363	6	1	1	4	0	7
Wisconsin	13	1	0	149	160	174	6	3	5	1	0	0
W. NO. CEN.												
Minnesota	2	8	1	76	129	140	29	6	8	1	0	0
Iowa	3	12	1	75	92	104	1	6	11	1	0	1
Missouri	3	1	1	94	48	140	1	1	1	6	8	3
North Dakota	0	1	0	25	46	46	2	1	5	0	0	0
South Dakota	0	1	0	14	37	37	0	13	13	0	0	0
Nebraska	1	0	0	36	30	31	0	1	1	1	1	0
Kansas	2	0	0	65	103	160	1	0	2	1	0	0
SO. ATL.												
Delaware	0	1	0	11	16	12	0	0	0	0	0	0
Maryland [2]	0	0	0	57	54	62	0	0	0	3	2	5
Dist. of Col	0	0	0	9	12	12	0	0	0	0	1	1
Virginia [2]	3	0	0	67	45	55	0	0	0	5	5	5
West Virginia [2]	3	1	0	52	71	71	0	0	0	5	2	2
North Carolina [2]	3	0	0	78	90	65	0	1	0	9	2	4
South Carolina [2]	2	0	0	13	34	12	0	0	0	1	1	1
Georgia [2]	1	0	1	42	35	35	0	0	0	4	6	6
Florida [2]	3	0	0	4	6	6	1	0	0	6	2	3
E. SO. CEN.												
Kentucky	2	1	1	84	76	72	0	0	0	6	0	3
Tennessee [2]	0	0	0	100	87	60	0	0	1	4	0	1
Alabama [2]	0	1	1	21	60	20	0	0	0	1	2	2
Mississippi [2 3]	2	0	1	11	23	17	0	0	0	0	3	3
W. SO. CEN.												
Arkansas	0	0	1	16	20	20	2	1	1	1	6	5
Louisiana [2]	[4] 1	0	0	5	25	23	0	0	0	7	7	12
Oklahoma	1	1	1	27	17	25	4	5	1	8	7	7
Texas [2]	1	1	1	63	32	114	2	1	1	6	13	14
MOUNTAIN												
Montana	0	0	0	16	39	39	1	2	15	1	1	1
Idaho	0	6	0	15	13	13	1	0	2	1	1	0
Wyoming	1	0	0	8	9	9	0	0	2	1	0	0
Colorado	1	4	1	31	28	43	0	15	5	3	0	1
New Mexico	1	1	1	10	31	28	0	0	0	2	6	5
Arizona	0	3	1	5	5	9	0	0	0	2	0	0
Utah [2]	1	9	0	7	26	35	0	0	0	1	2	0
Nevada	0	------	------	1	------	------	0	------	------	0	------	------
PACIFIC												
Washington	6	0	0	28	41	57	0	0	9	0	1	1
Oregon	1	1	1	19	22	47	0	0	7	0	1	2
California	3	7	7	75	168	223	2	2	3	3	13	13
Total	85	78	66	3,130	3,829	4,658	62	66	174	119	125	163
50 weeks	9,685	7,203	7,203	149,649	155,043	214,311	2,354	9,346	9,346	9,405	12,541	14,351

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended December 14, 1940, and comparison with corresponding week of 1939 and 5-year median—Continued.

Division and State	Whooping cough	
	Week ended	
	Dec. 14, 1940	Dec. 16, 1939
NEW ENG.		
Maine	27	86
New Hampshire	12	4
Vermont	7	41
Massachusetts	287	175
Rhode Island	2	34
Connecticut	127	90
MID. ATL.		
New York	403	430
New Jersey	174	137
Pennsylvania	597	295
E. NO. CEN.		
Ohio	305	132
Indiana	13	25
Illinois	176	91
Michigan [2]	353	161
Wisconsin	118	186
W. NO. CEN.		
Minnesota	110	67
Iowa	10	17
Missouri	146	26
North Dakota	11	9
South Dakota	6	0
Nebraska	28	3
Kansas	124	11
SO. ATL.		
Delaware	17	6
Maryland [2]	80	71
Dist. of Col	10	19
Virginia [3]	82	15
West Virginia [2]	45	12
North Carolina [3]	268	61
South Carolina [3]	38	16
SO. ATL.—continued		
Georgia [3]	9	9
Florida [3]	12	4
E. SO. CEN.		
Kentucky	104	70
Tennessee [3]	79	19
Alabama [3]	50	21
Mississippi [2 3]	----	----
W. SO. CEN.		
Arkansas	21	11
Louisiana [3]	4	0
Oklahoma	61	0
Texas [3]	202	54
MOUNTAIN		
Montana	14	6
Idaho	4	0
Wyoming	0	8
Colorado	40	12
New Mexico	23	28
Arizona	11	1
Utah [2]	19	65
Nevada	1	----
PACIFIC		
Washington	78	21
Oregon	16	33
California	268	137
Total	4,612	2,719
50 weeks	164,231	168,386

[1] New York City only.
[2] Period ended earlier than Saturday.
[3] Typhus fever, week ended December 14, 1940, 41 cases, as follows: Virginia, 1; North Carolina, 2; South Carolina, 3; Georgia, 13; Florida, 2; Tennessee, 1; Alabama, 7; Mississippi, 2; Louisiana, 2; Texas, 8.
[4] Delayed report.

PSITTACOSIS IN CONNECTICUT

Under date of December 9, 1940, Dr. Stanley H. Osborn, Commissioner of Health of Connecticut, reported one case of psittacosis in a patient who became ill November 2. Her physician suspected psittacosis because a recently purchased parakeet, received in Springfield, Mass., from a pet shop in California in October of this year, had been ill a few days prior to the onset of illness of the patient.

WEEKLY REPORTS FROM CITIES

City reports for week ended November 30, 1940

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table.

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Data for 90 cities:											
5-year average	196	152	43	763	560	1,116	11	335	30	1,078	----
Current week [1]	75	530	26	1,742	377	787	5	287	21	1,569	----
Maine:											
Portland	0	----	0	0	2	0	0	0	0	21	17
New Hampshire:											
Concord	0	----	0	0	0	1	0	0	0	0	14
Manchester	0	----	0	0	4	5	0	0	0	0	24
Nashua	0	----	0	0	0	0	0	0	0	0	4
Vermont:											
Barre	0	----	0	0	0	0	0	0	0	0	5
Burlington	0	----	0	0	0	0	0	0	0	0	10
Rutland	0	----	0	0	0	0	0	0	0	0	10
Massachusetts:											
Boston	1	----	1	63	14	42	0	8	0	97	208
Fall River	1	----	1	0	0	2	0	0	1	12	31
Springfield	0	----	0	0	2	6	0	1	0	1	41
Worcester	0	----	0	72	4	9	0	2	0	0	49
Rhode Island:											
Pawtucket	0	----	0	0	1	1	0	0	0	0	17
Providence	1	----	0	0	2	1	0	0	0	8	70
Connecticut:											
Bridgeport	0	----	0	0	1	4	0	4	0	9	25
Hartford	0	----	0	0	2	2	0	0	0	2	28
New Haven	0	----	0	0	1	12	0	0	0	16	30
New York:											
Buffalo	0	----	0	9	7	5	0	3	0	23	124
New York	11	2	1	386	64	98	0	56	4	189	1,470
Rochester	0	----	0	5	3	1	0	0	1	19	57
Syracuse	0	----	0	0	1	0	0	1	0	14	52
New Jersey:											
Camden	0	----	0	30	1	12	0	0	0	0	33
Newark	0	3	1	9	1	26	0	5	0	26	93
Trenton	0	----	1	1	2	4	0	3	1	6	45
Pennsylvania:											
Philadelphia	0	2	1	317	16	54	0	16	1	102	392
Pittsburgh	3	2	1	4	10	9	0	10	3	37	160
Reading	0	----	0	8	0	0	0	3	0	28	35
Scranton	0	----	----	1	----	2	0	----	0	0	----
Ohio:											
Cincinnati	1	----	1	2	0	13	0	3	0	10	109
Cleveland	1	19	0	13	7	26	0	6	0	61	185
Columbus	0	----	0	1	4	6	0	2	0	31	89
Toledo	0	1	1	1	3	9	0	6	0	6	95
Indiana:											
Anderson	0	----	0	0	0	0	0	0	0	0	6
Fort Wayne	0	----	0	0	4	0	0	1	0	0	33
Indianapolis	0	----	0	0	6	24	0	7	1	5	100
Muncie	0	----	0	0	1	3	0	0	0	5	6
South Bend	0	----	0	0	1	0	0	0	0	0	16
Terre Haute	1	----	0	0	1	1	0	0	0	0	18
Illinois:											
Alton	0	----	0	0	2	1	0	0	0	0	12
Chicago	12	2	0	319	28	109	0	34	1	99	648
Elgin	1	----	0	0	1	0	0	0	0	0	9
Moline	0	----	0	0	0	0	0	0	0	0	6
Springfield	0	1	0	0	2	5	0	0	0	5	15
Michigan:											
Detroit	2	2	0	374	17	52	0	12	0	180	269
Flint	1	----	0	3	4	3	0	0	0	5	28
Grand Rapids	0	----	0	4	2	4	0	0	0	32	29
Wisconsin:											
Kenosha	0	----	0	0	1	1	0	0	0	1	6
Madison	0	----	0	1	0	5	0	0	0	0	3
Milwaukee	0	----	0	17	20	26	0	1	0	24	96
Racine	0	----	0	0	0	2	0	0	0	0	11
Superior	0	----	0	1	0	6	0	0	0	1	10
Minnesota:											
Duluth	0	----	0	1	0	1	4	0	0	10	20
Minneapolis	0	----	0	3	2	22	1	0	0	23	105
St. Paul	0	----	0	3	4	7	0	1	0	35	58

[1] Figures for Brunswick, Tampa, and Boise estimated; reports not received.

City reports for week ended November 30, 1940—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Iowa:											
Cedar Rapids	0	------	------	0	------	5	0	------	0	0	------
Davenport	0	------	------	0	------	2	0	------	0	0	------
Des Moines	2	------	0	0	0	13	0	0	0	0	43
Sioux City	0	------	------	0	------	5	0	------	0	4	------
Waterloo	0	------	------	2	------	4	0	------	0	0	------
Missouri:											
Kansas City	0	------	0	6	8	7	0	3	0	33	102
St. Joseph	0	------	0	0	2	2	0	0	0	0	24
St. Louis	3	------	0	1	5	23	0	5	1	27	210
North Dakota:											
Fargo	0	------	0	0	1	2	0	0	0	9	7
Grand Forks	0	------	------	0	------	0	0	------	0	0	------
Minot	1	------	0	0	0	0	0	0	0	0	4
South Dakota:											
Aberdeen	0	------	------	0	------	2	0	------	0	0	------
Sioux Falls	0	------	0	0	0	5	0	0	0	0	8
Nebraska:											
Lincoln	1	------	------	0	------	13	0	------	0	1	------
Omaha	0	------	0	0	5	2	0	2	0	0	183
Kansas:											
Lawrence	0	1	------	0	------	0	0	------	0	0	------
Topeka	0	------	0	0	1	7	0	1	0	6	13
Wichita	0	------	0	0	3	0	0	0	0	20	39
Delaware:											
Wilmington	0	------	0	1	2	7	0	1	0	8	26
Maryland:											
Baltimore	2	2	0	1	12	25	0	11	0	93	212
Cumberland	0	1	0	0	1	0	0	0	0	0	13
Frederick	0	------	0	0	0	0	0	0	0	0	4
Dist. of Col.:											
Washington	0	1	1	1	10	19	0	7	0	10	164
Virginia:											
Lynchburg	4	------	1	1	1	3	0	0	0	0	16
Norfolk	0	------	0	1	3	2	0	1	0	1	23
Richmond	2	------	0	4	1	8	0	2	0	0	44
Roanoke	0	------	0	5	0	2	0	0	0	10	11
West Virginia:											
Charleston	0	------	0	0	3	2	0	1	0	0	26
Huntington	0	------	------	0	------	1	0	------	0	0	------
Wheeling	0	------	0	0	5	2	0	0	0	2	24
North Carolina:											
Gastonia	0	------	------	0	------	1	0	------	0	0	------
Raleigh	0	------	0	0	1	1	0	0	0	1	9
Wilmington	0	------	0	0	0	2	0	0	0	0	13
Winston-Salem	0	------	0	1	0	4	0	0	0	20	14
South Carolina:											
Charleston	0	8	0	6	1	0	0	0	0	0	16
Florence	0	6	0	0	1	0	0	0	0	0	12
Greenville	1	------	0	0	0	3	0	1	0	1	12
Georgia:											
Atlanta	2	5	1	0	4	3	0	4	1	1	82
Brunswick	------	------	------	------	------	------	------	------	------	------	------
Savannah	0	6	1	2	1	1	0	2	1	0	27
Florida:											
Miami	1	10	0	0	2	3	0	0	0	1	36
Tampa	------	------	------	------	------	------	------	------	------	------	------
Kentucky:											
Ashland	0	2	0	0	0	0	0	0	0	0	5
Covington	0	------	0	5	0	2	0	2	0	1	20
Lexington	0	------	0	44	1	0	0	1	0	5	15
Louisville	0	5	1	0	3	12	0	0	0	8	71
Tennessee:											
Knoxville	0	------	0	1	3	0	0	2	1	1	35
Memphis	1	4	3	3	2	3	0	3	0	1	89
Nashville	3	------	0	0	1	3	0	1	0	14	41
Alabama:											
Birmingham	2	4	0	8	3	1	0	7	0	5	71
Mobile	0	------	2	0	2	0	0	1	0	0	28
Montgomery	0	------	------	0	------	3	0	0	------	1	------
Arkansas:											
Fort Smith	0	------	------	0	------	2	0	------	0	0	------
Little Rock	0	1	0	0	2	0	0	3	0	0	13
Louisiana:											
Lake Charles	1	------	0	0	1	0	0	0	0	3	6
New Orleans	4	------	0	0	8	4	0	7	0	3	134
Shreveport	1	------	0	0	2	3	0	0	0	1	52

City reports for week ended November 30, 1940—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Oklahoma:											
Oklahoma City	1	------	0	0	3	3	0	1	0	0	39
Tulsa	0	------	0	0	3	3	0	0	0	15	19
Texas:											
Dallas	2	1	1	0	5	3	0	3	2	0	75
Fort Worth	1	------	1	10	3	2	0	1	0	0	51
Galveston	0	------	0	0	0	0	0	0	0	0	15
Houston	4	------	0	0	9	2	0	2	1	0	85
San Antonio	0	9	1	0	4	2	0	5	0	0	54
Montana:											
Billings	0	------	0	0	2	0	0	0	0	0	12
Great Falls	0	------	0	0	1	1	0	0	0	0	9
Helena	0	------	0	0	0	1	0	0	0	0	7
Missoula	0	1	0	0	1	0	0	0	0	0	4
Idaho:											
Boise	------	------	------	------	------	------	------	------	------	------	------
Colorado:											
Colorado Springs	0	------	0	0	0	1	0	1	0	0	14
Denver	2	------	2	47	6	4	0	4	2	13	97
Pueblo	0	------	1	0	2	4	0	1	0	2	10
New Mexico:											
Albuquerque	0	------	0	0	0	0	0	1	0	0	11
Utah:											
Salt Lake City	0	------	1	1	3	2	0	0	0	11	52
Washington:											
Seattle	1	------	0	1	5	3	0	7	0	8	111
Spokane	0	1	0	0	2	1	0	0	0	1	31
Tacoma	0	------	0	3	1	3	0	0	0	10	36
Oregon:											
Portland	2	------	0	0	6	5	0	1	0	0	89
Salem	0	3	------	0	------	0	0	------	0	4	------
California:											
Los Angeles	2	91	3	4	6	18	0	16	0	55	369
Sacramento	4	3	0	0	1	6	0	2	0	7	38
San Francisco	0	358	0	1	5	4	0	6	0	65	179

State and city	Meningitis, meningococcus		Poliomyelitis cases	State and city	Meningitis, meningococcus		Poliomyelitis cases
	Cases	Deaths			Cases	Deaths	
New York:				**Iowa:**			
Buffalo	1	1	0	Waterloo	1	0	0
New York	2	0	0	**Missouri:**			
New Jersey:				St. Joseph	0	0	1
Trenton	0	0	1	St. Louis	0	0	2
Pennsylvania:				**Kansas:**			
Philadelphia	1	0	1	Topeka	0	0	4
Pittsburgh	0	0	2	**District of Columbia:**			
Ohio:				Washington	0	0	1
Cleveland	0	0	4	**Virginia:**			
Indiana:				Lynchburg	0	0	1
Anderson	0	0	2	**Louisiana:**			
Indianapolis	1	0	1	New Orleans	0	0	1
Illinois:				Shreveport	0	1	0
Chicago	2	0	7	**Texas:**			
Wisconsin:				Dallas	0	0	1
Milwaukee	0	0	2	Houston	1	0	0
Minnesota:							
Minneapolis	0	0	1				

Encephalitis, epidemic or lethargic.—Cases: New York, 2.
Pellagra.—Cases: Atlanta, 1; Birmingham, 1.
Rabies in man.—Deaths: Greenville, S. C., 1.
Typhus fever.—Cases: Richmond, 2; Charleston, S. C., 2; Atlanta, 2; Savannah, 5; Mobile, 1; New Orleans, 3; Fort Worth, 2; Houston, 1; Los Angeles, 2. Deaths: Atlanta, 1.

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended November 16, 1940.—During the week ended November 16, 1940, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis		2		2	4			1		9
Chickenpox		18	23	241	248	62	61	101	106	860
Diphtheria		33	4	38	2	5	9	2	1	94
Dysentery				1						1
Influenza		18			16				34	68
Lethargic encephalitis					1	1		1		3
Measles		71	7	59	336	117	50	51	77	768
Mumps				31	48	42	1	4	10	136
Pneumonia		15			26	1			9	51
Poliomyelitis									1	1
Scarlet fever		27	5	143	86	8	9	11	33	322
Smallpox							1			1
Trachoma									7	7
Tuberculosis	2	8	11	94	29	3	2			149
Typhoid and paratyphoid fever		1	1	38	7		2		3	52
Whooping cough		21	19	198	135	16	52	11	27	479

SWEDEN

Notifiable diseases—September 1940.—During the month of September 1940, cases of certain notifiable diseases were reported in Sweden as follows:

Disease	Cases	Disease	Cases
Diphtheria	23	Scarlet fever	1,229
Dysentery	14	Syphilis	34
Epidemic encephalitis	1	Typhoid fever	9
Gonorrhea	991	Undulant fever	2
Paratyphoid fever	50	Weil's disease	5
Poliomyelitis	82		

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

NOTE.—A cumulative table giving current information regarding the world prevalence of quarantinable diseases appeared in the PUBLIC HEALTH REPORTS of November 29, 1940, pages 2246-2249. A similar table will appear in future issues of the PUBLIC HEALTH REPORTS for the last Friday of each month.

Smallpox

French Guinea.—During the week ended November 30, 1940, 3 cases of smallpox were reported in French Guinea.

Typhus Fever

Tunisia.—During the week ended November 23, 1940, 8 cases of typhus fever were reported in Tunisia.

Yellow Fever

Ivory Coast—Seguela.—On December 3, 1940, 1 suspected case of yellow fever was reported in Seguela, Ivory Coast.

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