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THE STANDARDIZATION OF GAS GANGRENE (PERFRINGENS) ANTITOXIN

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The use of gas gangrene (*perfringens* or *welchii*) antitoxin during the World War gave rise to the occasion for standardization of the product, and a standard was promulgated in 1920 (1). As in the case of diphtheria and tetanus antitoxins, it is desirable that the product be of uniform and high potency. Following the war, interest in this antitoxin diminished, owing to the comparatively small number of cases of gas gangrene occurring in civil practice. Recently, however, interest in the subject has been revived. The use of the antitoxin has been advocated in the treatment of cases of toxemia related to intestinal obstruction, peritonitis, and other abdominal conditions. Also increase in the number of automobile injuries has probably influenced the incidence of traumatic gas gangrene. The use of the antitoxin for the treatment of compound fractures appears to be indicated in certain cases as an adjuvant to surgical measures.

In December 1930 the official unit for measuring the potency of *perfringens* antitoxin was changed to one one-hundredth the former amount. The change was made in the interest of greater practical convenience of expressing the unitage of a given antitoxin in terms of whole numbers. The unitage of serums measured by the former standard usually fell below 5. With the new standard the figure is multiplied by 100. It is not to be inferred that the value of the antitoxin is thereby increased, or that its value is necessarily commensurate with that of tetanus antitoxin with which it is often combined in the product known as tetanus-*perfringens* or tetanus gas gangrene antitoxin.

Definition of the American unit.—The definition of the unit and the method for determining the potency of a given serum may be stated as follows:

The standard *perfringens* antitoxin is diluted so that 1 cc contains 50 units. To estimate the potency of a commercial antitoxin, the test toxin shall first be standardized by inoculating pigeons intramuscularly with 1 unit of standard serum mixed with varying amounts of toxin to determine the smallest dose of toxin which will overcome this amount of serum and cause the death of the pigeon in 24 hours. This dose of toxin, called the "test dose", is usually somewhat greater than 10 minimal lethal doses. The test dose of toxin is then mixed with varying amounts of the serum to be tested and injected into a second series of pigeons, and that amount of serum which gives protection for 24 hours against the test dose of toxin shall be considered to contain 1 unit. The serum-toxin mixtures are left 1 hour at room temperature before injection. Pigeons should weigh preferably between 325 and 375 grams; but the doses of toxin and antitoxin shall be proportional to the weight, 350 grams being considered the standard weight.

Both the standard antitoxin and a standard dried toxin are maintained at the National Institute of Health under conditions suitable to prevent deterioration.

The international standard.—In 1931 this laboratory cooperated with the laboratories of other countries in carrying out tests with a view to establishing an international standard. At the request of the Permanent Standards Commission of the Health Organization of the League of Nations, the National Institute for Medical Research, London, furnished samples of gas-gangrene antitoxin (*perfringens*), and of *perfringens* toxin to various laboratories in order to "explore the possibility of obtaining international agreement regarding the adoption of a standard for this antitoxin, the definition of a unit of activity in terms of such standard, and the biological assay of gas-gangrene antitoxin (*perfringens*)."

It was recommended by the group of experts on the standardization of gas gangrene antitoxin to the Permanent Standards Commission that the standard preparation and unit adopted in the United States be considered suitable for international use.

Comparative tests of the British and the American units had previously been made in the laboratory of the National Institute for Medical Research, London. A sample of the dried British antitoxin labeled to contain 18 U.S.A. units (i.e., 1,800 new units) as established by the intravenous injection of mice was submitted to the National Institute of Health, Washington, for confirmatory tests on pigeons.

The results of the test on pigeons are shown in the protocol in table 1 (the serums being diluted so that 1 unit of each serum was contained in 1 cc).

TABLE 1.—Protocol of test in pigeons to determine comparative value of British and American standard antitoxins

[Toxin, HL24; dose per 350 grams, 0.075 gram]

Pigeon-no.	Weight	Actual dose of toxin	Amount of 1/50th dilution	Antitoxin				Result after 24 hours	
				Source	Units per 350 grams	Actual units	Dilution		Amount of dilution
	<i>Grams</i>	<i>Gram</i>	<i>Cc</i>						
90	295	0.063	3.15	} Medical Research Council H2771 (British)-----	1.25	1.05	1/1800	1.05	Survived.
91	345	.074	3.70		1.25	1.23	1/1800	1.23	Do.
92	385	.063	4.13		1.25	1.38	1/1800	1.38	Do.
93	295	.063	3.15	} -----do-----	1.0	.84	1/1800	.84	Died.
94	355	.076	3.80		1.0	1.01	1/1800	1.01	Survived.
95	405	.067	4.34		1.0	1.16	1/1800	1.16	Do.
96	300	.064	3.20	} -----do-----	0.75	.64	1/1800	.64	Died.
97	370	.079	3.95		.75	.79	1/1800	.79	Do.
98	435	.093	4.65		.75	.93	1/1800	.93	Do.
99	305	.065	3.25	} National Institute of Health (United States)---	1.0	.87	1/50	.87	Do.
100	380	.062	4.10		1.0	1.08	1/50	1.08	Do.
101	435	.093	4.65		1.0	1.24	1/50	1.24	Survived.

The results show close agreement. Of the three pigeons inoculated with the mixture of toxin and the amount of British antitoxin purported to correspond to 1 unit of U.S.A. antitoxin, 2 survived and 1 died, while of the pigeons inoculated with mixture of toxin and 1 unit of U.S.A. antitoxin 1 survived and the other 2 died. All of the pigeons inoculated with 1.25 units of the British antitoxin survived, and all of those inoculated with 0.75 units died.

For carrying out the international tests, the reagents listed in the following, with descriptions, were received from the National Institute for Medical Research, London:

1. A solution of antitoxin (*perfringens*) prepared from the dried standard antitoxin maintained in the National Institute of Health, Washington. The solution was made in the manner prescribed by the National Institute of Health, and 1 cc of the standard solution is equivalent to 50 U.S.A. units.

2. A solution of antitoxin (*perfringens*) prepared from a dried standard antitoxin maintained in the National Institute for Medical Research, London; 1 cc of this standard is equivalent to 20 U.S.A. units. The results of tests made at the National Institute of Medical Research indicated that 1 cc of a one fiftieth dilution of the American standard solution and 1 cc of a one twentieth dilution of the British standard solution were identical in potency, i.e., equivalent to 1 unit (U.S.A. official standard).

3. A dried preparation of *perfringens* toxin. This was prepared by precipitating a bacteria-free filtrate from a 16-hour growth of *Cl. perfringens* with ammonium sulphate, removing the resulting precipitate and drying over phosphorus pentoxide.

4. A sample of gas gangrene (*perfringens*) (natural serum) for purposes of trial assay.

The test was to be carried out by injecting mixtures of the toxin and antitoxin into the tail veins of mice weighing between 17 and 20 g. The American standard solution was to be diluted 1:50 and the British

1:20. The toxin was to be diluted so that 10 mg of the toxin were contained in 1 cc; mixture of each of the standard antitoxin dilutions with the toxin solution was to be made so that 0.5 cc of each mixture (the volume injected into a mouse) contained 0.2 cc of the diluted antitoxin (equivalent to one fifth the American unit) plus a varying quantity of the toxin solution. The mixtures were to be allowed to stand 45 to 60 minutes at room temperature. An observation period of 48 hours was recommended.

The protocol of one of the tests made at the National Institute for Medical Research as shown in table 2 was included.

TABLE 2.—Results of comparative tests in mice with the American and British standard solutions by the National Institute for Medical Research, London

ONE FIFTH AMERICAN UNIT, WASHINGTON STANDARD SOLUTION

Toxin dose (Mg)	Number of mice used	Number dying	Number surviving	Proportion surviving
2.9-----	6	6	0	0/6
2.8-----	6	6	0	0/6
2.7-----	6	6	0	0/6
2.6-----	6	2	4	4/6
2.5-----	6	0	6	6/6
2.4-----	6	0	6	6/6

ONE FIFTH AMERICAN UNIT, BRITISH STANDARD SOLUTION

2.9-----	6	6	0	0/6
2.8-----	6	6	0	0/6
2.7-----	6	6	0	0/6
2.6-----	6	2	4	4/6
2.5-----	6	0	6	6/6
2.4-----	6	-1	5	5/6

On receipt of the reagents, tests were made in accordance with the methods suggested. The results obtained in the test designated to show the comparative values of the British and American standard solutions are shown in the protocol in table 3.

TABLE 3.—Results of comparative tests in mice with the American and British standard solutions by the National Institute of Health, Washington

ONE FIFTH AMERICAN UNIT, WASHINGTON STANDARD SOLUTION

Toxin dose (Mg)	Number of mice used	Number dying	Number surviving	Proportion surviving
2.9-----	6	6	0	0/6
2.8-----	6	6	0	0/6
2.7-----	6	4	2	2/6
2.6-----	6	2	4	4/6
2.5-----	6	2	4	4/6
2.4-----	6	0	6	6/6

ONE FIFTH AMERICAN UNIT, BRITISH STANDARD SOLUTION

2.9-----	6	6	0	0/6
2.8-----	6	6	0	0/6
2.7-----	6	6	0	0/6
2.6-----	6	1	5	1/6
2.5-----	6	0	6	6/6
2.4-----	6	0	6	6/6

The values are in close agreement with those shown in the test of the National Institute for Medical Research, London.

The results of the test to determine the potency of unknown serums are shown in the protocol presented in table 4.

TABLE 4.—*Tests on the antitoxin of unknown potency*

[Dose of toxin, 0.26 mg]

Dilution of antitoxin	Number of mice used	Number dying	Number surviving	Proportion surviving
1/150	6	0	6	6/6
1/175	6	0	6	6/6
1/200	6	0	6	6/6
1/225	6	4	2	2/6
1/250	6	6	0	0/6

The potency of the antitoxin may be considered to be between 200 and 225 units per cc. The results obtained by other laboratories (2) participating in the test are shown in table 5.

TABLE 5.—*Results of tests on the antitoxin of unknown potency by 8 participating laboratories*

	<i>Number of units</i>
Denmark: State Serum Institute, Copenhagen.....	235-250
France: Pasteur Institute, Paris.....	200
Germany:	
State Institute for Experimental Therapy, Frankfurt (Main).....	220
State Department of Health, Berlin.....	200
Great Britain:	
Wellcome Physiological Research Laboratories, Beckenham, Kent..	200
The Lister Institute, Elstree, Herts.....	200
National Institute for Medical Research, London.....	210
United States: National Institute of Health.....	200-225

It is thus evident that 7 of the 8 participants in the test reported values ranging from 200 to 225 units per cc.

On the basis of the results of the tests made by the eight participants in the international tests, it was recommended to the international conference of the Health Section of the League of Nations that the standard preparation and unit adopted in the United States be considered suitable for international use. This recommendation was adopted.

Much credit is due the National Institute for Medical Research, London, for organizing and directing the work of carrying out the international tests.

REFERENCES

- (1) Hygienic Laboratory Bull. No. 122, p. 13. (1920.)
- (2) League of Nations Health Organization. Report of the Permanent Commission on biological standardization, London, June 23, 1931. Report by Dr. P. Hartley, National Institute for Medical Research, London, p. 13.

MILK-SANITATION RATINGS OF CITIES

Cities for Which Milk-Sanitation Ratings of 90 Percent or More Were Reported by State Milk-Sanitation Authorities During the Months of February and March 1934

In accordance with the policy announced in the PUBLIC HEALTH REPORTS of January 26, 1934, in which issue was first published the list of cities for which milk-sanitation ratings of 90 percent or more had been reported, additional supplementary lists of such ratings will be published each month or two. The first supplementary list, cities reported for January 1934, was printed in the PUBLIC HEALTH REPORTS for February 23, 1934. A table is presented herewith showing the cities for which ratings of 90 percent or more were reported during the months of February and March 1934.

The rules governing the inclusion of cities in these lists and the significance of the milk-sanitation ratings made in accordance with the Public Health Service rating methods were presented in the PUBLIC HEALTH REPORTS of January 26, 1934, and in Reprint No. 1610.

Cities included in this list and in the previous lists are again advised to bring their milk-sanitation status to the level required by the 1933 edition of the Public Health Service Milk Ordinance and Code, since this edition will be used for ratings made in 1934. Cities which are not now on the lists should improve their milk supplies as much as possible and then request the State milk-control authority to determine their ratings.

State milk-control authorities are urged to equip themselves to make milk-sanitation ratings of their cities as soon as possible in fairness to the cities. States already equipped for this work should not permit ratings of their cities to lapse, as no rating more than 2 years old will be included in the complete semiannual revision of the list to be published next July.

Cities having ratings of 90 percent or more according to reports received during February and March 1934

City	Pasteurized milk rating	Raw milk rating	Percentage of milk pasteurized	Date of rating
Las Cruces, N. Mex.	95	95	20	February 27, 1934.
Bartlesville, Okla.	96	95	15	March 6, 1934.
Tulsa, Okla.	94	93	74	February 16, 1934.
Arlene, Tex.	96	96	68	November 22, 1933.
Corsicana, Tex.	92	92	0	February 22, 1934.
Denton, Tex.	97	99	56	November 1933.

COURT DECISION ON PUBLIC HEALTH

Barbering ordinance held unconstitutional.—(Nebraska Supreme Court; *Ernesti et al. v. City of Grand Island et al.*, 251 N.W. 899; decided Dec. 22, 1933.) An ordinance of the city of Grand Island on barbering contained, among other things, sanitary requirements and provisions fixing hours when barber shops could open and close. Persons engaged in operating or employed in beauty shops or hair dressing parlors patronized by women and children were, by the terms of the ordinance, exempted from its provisions. In a suit brought against the city and others it was claimed that the ordinance was discriminatory as to the closing hour because its terms did not apply to but expressly excepted beauty parlors, although they performed in many respects the same service as barber shops. The defendants sought to justify the ordinance as a health measure authorized to be enacted by the city council under the police power.

The supreme court stated that the acts performed on customers of barber shops and on customers of beauty shops seemed very similar in their nature, and that, in their relation to health and disease, about the only real difference was that arising from the difference in the sexes treated. Proceeding, the court said that "Under the constitution, persons in the same class, or who should be considered as included within the relations and circumstances provided for, must be governed by the same rules; otherwise the legislation is unconstitutional." The conclusion reached was that the ordinance was unconstitutional and void, the court summing the matter up in the following language:

Without covering the vast field opened up by the arguments and briefs of the parties, it is sufficient to say that the classification by the ordinance of barbers as within the rules and the express exemption therefrom of beauty shop operators is discriminatory in that it is not uniform as to classes doing similar work, is arbitrary under the evidence, and is unconstitutional. No reason of public policy and no substantial difference of circumstances authorize the exemption. * * *

DEATHS DURING WEEK ENDED APR. 7, 1934

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

	Week ended Apr. 7, 1934	Correspond- ing week, 1933
Data from 86 large cities of the United States:		
Total deaths.....	9,063	8,325
Deaths per 1,000 population, annual basis.....	12.6	11.6
Deaths under 1 year of age.....	642	586
Deaths under 1 year of age per 1,000 estimated live births.....	60	50
Deaths per 1,000 population, annual basis, first 14 weeks of year.....	12.7	12.2
Data from industrial insurance companies:		
Policies in force.....	67,704,611	68,561,926
Number of death claims.....	14,547	13,353
Death claims per 1,000 policies in force, annual rate.....	11.2	10.2
Death claims per 1,000 policies, first 14 weeks of year, annual rate.....	11.1	11.1

¹ Data for 81 cities.

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

CURRENT WEEKLY STATE REPORTS

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers

Reports for Weeks Ended Apr. 14, 1934, and Apr. 15, 1933

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Apr. 14, 1934, and Apr. 15, 1933

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933
New England States:								
Maine.....	2		3	3	33	5	0	1
New Hampshire.....					164		0	0
Vermont.....					94	60	0	0
Massachusetts.....	20	28		1	2,257	428	2	2
Rhode Island.....		4			5		0	0
Connecticut.....	3	5	6	7	55	242	2	1
Middle Atlantic States:								
New York.....	60	53	111	128	1,260	3,771	0	8
New Jersey.....	12	19	13	8	673	1,454	2	4
Pennsylvania.....	68	86			5,460	1,403	3	8
East North Central States:								
Ohio.....	23	28	81	154	1,191	811	1	1
Indiana.....	26	17	30	20	1,130	141	3	1
Illinois.....	22	32	15	30	1,784	681	6	13
Michigan.....	13	14	1	10	179	1,363	0	2
Wisconsin.....	2	4	27	49	1,255	462	1	0
West North Central States:								
Minnesota.....	6	7	1		263	844	0	0
Iowa.....	12	11	10		350	30	3	0
Missouri.....	71	19	101	5	729	267	6	1
North Dakota.....	4	4	1		117	50	0	0
South Dakota.....	12	3		1	336	14	0	0
Nebraska.....	1	5		15	324	29	1	4
Kansas.....	9	7	1	1	359	359	1	1
South Atlantic States:								
Delaware.....	2	2	1	2	140	6	0	0
Maryland.....	2	8	18	6	1,985	16	0	3
District of Columbia.....	11	5		2	429	8	0	2
Virginia.....	17	5			1,377	406	7	0
West Virginia.....	6	9	21	8	166	177	2	0
North Carolina.....	19	9	28	11	2,343	663	2	0
South Carolina.....	8	14	420	376	695	288	0	0
Georgia.....	10	8		90	757	128	0	2
Florida.....	4	10	1	8	560		0	2

NOTE.—See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers
for weeks ended Apr. 14, 1934, and Apr. 15, 1933—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933
East South Central States:								
Kentucky.....	16	5	20	26	244	144	1	2
Tennessee.....	12	14	80	70	702	56	3	4
Alabama ¹	17	14	48	37	811	82	0	4
Mississippi.....	4	4					2	0
West South Central States:								
Arkansas.....	10	9	10	24	176	252	2	0
Louisiana.....	21	10	5	24	265	38	0	1
Oklahoma ¹	4	6	52	34	453	95	3	2
Texas ¹	78	49	350	118	1,606	1,263	1	3
Mountain States:								
Montana.....	1		247	6	109	39	0	0
Idaho ¹					96	20	0	0
Wyoming ¹					44	5	0	0
Colorado ¹	4	4		37	343	1	1	0
New Mexico.....	3	21	26	2	105	6	1	0
Arizona.....	3		2	5	71	66	0	1
Utah ¹			4		438	5	0	1
Pacific States:								
Washington.....	3	4			121	43	0	0
Oregon.....		1	43	44	142	78	0	0
California.....	26	40	35	55	688	1,220	2	1
Total.....	657	615	1,712	1,317	33,002	17,495	58	75

Division and State	Pollomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933
New England States:								
Maine.....	0	0	30	24	0	0	3	1
New Hampshire.....	0	0	6	20	0	0	0	0
Vermont.....	0	0	8	14	0	0	0	0
Massachusetts.....	0	0	302	375	0	0	1	2
Rhode Island.....	0	0	12	28	0	0	0	0
Connecticut.....	0	0	64	140	0	0	1	0
Middle Atlantic States:								
New York.....	1	2	739	1,085	0	0	8	7
New Jersey.....	0	2	218	223	0	0	0	0
Pennsylvania.....	1	1	774	1,141	0	0	14	3
East North Central States:								
Ohio.....	1	3	981	1,098	1	5	2	9
Indiana.....	0	1	210	188	1	0	12	3
Illinois.....	2	2	570	540	5	8	6	6
Michigan.....	0	0	904	617	0	2	1	7
Wisconsin.....	1	1	216	148	22	8	0	0
West North Central States:								
Minnesota.....	0	0	69	80	6	0	0	0
Iowa ¹	0	0	58	34	1	30	0	1
Missouri.....	0	0	80	81	7	0	3	0
North Dakota.....	0	0	67	8	0	0	1	0
South Dakota.....	0	0	11	36	15	0	0	5
Nebraska.....	1	0	28	20	18	2	0	2
Kansas.....	0	0	95	49	3	3	1	1
South Atlantic States:								
Delaware.....	0	0	8	14	0	0	2	1
Maryland ¹	0	0	91	103	0	0	2	3
District of Columbia.....	0	0	14	15	0	0	2	0
Virginia.....	0	0	35	42	0	0	3	1
West Virginia.....	0	0	72	12	0	0	3	5
North Carolina.....	2	0	22	59	1	0	0	15
South Carolina.....	0	2	4	4	1	0	5	5
Georgia ¹	0	0	15	10	0	0	8	5
Florida.....	0	0	6	1	0	0	1	2

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Apr. 14, 1934, and Apr. 15, 1933—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933	Week ended Apr. 14, 1934	Week ended Apr. 15, 1933
East South Central States:								
Kentucky.....	0	0	46	36	1	0	4	3
Tennessee.....	1	1	31	36	0	0	3	3
Alabama ¹	0	1	6	5	0	1	8	4
Mississippi.....	0	0	6	6	6	0	2	7
West South Central States:								
Arkansas.....	0	0	4	4	3	2	2	1
Louisiana.....	0	0	17	7	0	0	13	6
Oklahoma ⁴	0	0	7	21	1	2	8	0
Texas ²	1	1	86	64	24	20	10	9
Mountain States:								
Montana.....	0	0	5	9	1	0	0	1
Idaho ⁵	1	0	2	5	2	1	0	0
Wyoming ⁵	0	0	5	5	7	0	0	1
Colorado ³	0	1	27	20	6	0	1	0
New Mexico.....	0	0	9	11	0	3	1	0
Arizona.....	0	0	15	7	0	0	0	0
Utah ¹	0	0	10	6	2	0	0	1
Pacific States:								
Washington.....	1	3	50	36	5	8	2	2
Oregon ³	1	0	26	22	4	4	3	1
California.....	6	3	212	157	1	32	6	3
Total.....	20	24	6, 273	6, 675	144	131	142	126

¹ New York City only.

² Week ended earlier than Saturday.

³ Typhus fever, week ended Apr. 14, 1934, 21 cases, as follows: Maryland, 1; Georgia, 9; Alabama, 2; Texas, 9.

⁴ Exclusive of Oklahoma City and Tulsa.

⁵ Rocky Mountain spotted fever, week ended Apr. 14, 1934, 10 cases, as follows: Idaho, 1; Wyoming, 2; Colorado, 1; Oregon, 6.

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week:

State	Menin- gococ- cus menin- gitis	Diph- theria	Infu- enza	Ma- lar- ia	Mea- sles	Pel- lagra	Pollo- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>March 1934</i>										
Arizona.....		4	121	1	261	1	2	109	2	5
Maryland.....	2	32	112	4	4, 077	1	1	398	0	17
New York.....	21	207		6	5, 616			3, 931	0	37
North Dakota.....	3	17	56		504		2	126	5	1
Oregon.....		4	344	2	388		0	141	32	5
Vermont.....		4			308		0		0	2

March 1934		Mumps:	Cases	Trachoma:	Cases
Botulism:	Cases	Arizona	26	Arizona	62
Oregon	2	Maryland	255	North Dakota	2
Chicklen pox:		North Dakota	24	Oregon	8
Arizona	110	Oregon	27	Trichinosis:	
Maryland	646	Vermont	24	Maryland	1
New York	3,347	Ophthalmia neonatorum:		New York	30
North Dakota	95	Maryland	1	Tularaemia:	
Oregon	203	New York	5	New York	1
Vermont	88	Paratyphoid fever:		Typhus fever:	
Conjunctivitis:		New York	3	New York	2
Arizona	2	Oregon	1	Undulant fever:	
Diarrhea:		Psittacosis:		Arizona	1
Maryland	3	New York	1	Maryland	1
Dysentery:		Puerperal septicemia:		New York	39
Arizona	12	Oregon	1	North Dakota	1
Maryland	8	Rabies in animals:		Vermont	2
New York (amoebic)	17	Maryland	2	Vincent's infection:	
New York (bacillary)	15	New York	4	Maryland	23
German measles:		Vermont	1	New York	104
Arizona	192	Rocky Mountain spotted fever:		North Dakota	10
Maryland	246	Oregon	10	Oregon	5
New York	143	Scabies:		Whooping cough:	
Impetigo contagiosa:		Arizona	11	Arizona	238
Maryland	14	Oregon	36	Maryland	1,050
Oregon	33	Septic sore throat:		New York	1,810
Lethargic encephalitis:		New York	60	North Dakota	39
Arizona	2	North Dakota	1	Oregon	205
Maryland	4	Oregon	4	Vermont	227
New York	7	Tetanus:			
Oregon	2	New York	4		

¹ Exclusive of New York City.

CASES OF VENEREAL DISEASES REPORTED FOR FEBRUARY 1934

This statement is published monthly for the information of health officers in order to furnish current data as to the prevalence of the venereal diseases. The figures are taken from reports received from State health officers. They are preliminary and are, therefore, subject to correction. It is hoped that the publication of these reports will stimulate more complete reporting of these diseases.

State	Syphilis		Gonorrhea	
	Cases reported during month	Monthly case rates per 10,000 population	Cases reported during month	Monthly case rates per 10,000 population
Alabama ¹				
Arizona	28	0.62	82	1.81
Arkansas ¹	6	.03	17	.09
California	1,523	2.51	993	1.64
Colorado ¹				
Connecticut ¹	149	.91	98	.60
Delaware	94	3.90	27	1.12
District of Columbia	111	2.24	74	1.49
Florida ¹				
Georgia	471	1.62	299	1.03
Idaho	0			
Illinois	1,351	1.73	1,136	1.45
Indiana	192	.58	102	.31
Iowa ¹	132	.53	145	.58
Kansas	140	.74	82	.43
Kentucky	194	.73	281	1.08
Louisiana	138	.64	92	.43
Maine	31	.39	20	.36
Maryland	517	3.11	200	1.20
Massachusetts	350	.81	416	.96
Michigan	388	.77	363	.72
Minnesota	308	1.18	256	.99
Mississippi	917	4.48	1,484	7.25
Missouri ¹				
Montana ¹	27	.50	24	.45
Nebraska	36	.26	79	.57
Nevada ¹				
New Hampshire	10	.21	16	.34
New Jersey	524	1.25	240	.57
New Mexico ¹	50	1.15	34	.75
New York	4,494	8.47	1,153	.89
North Carolina	1,009	3.08	376	1.15
North Dakota	42	.61	53	.77

¹ Have been reporting regularly but no report received for current month.

² Incomplete.

³ Not reporting.

Cases of venereal diseases reported for February 1934—Continued

State	Syphilis		Gonorrhea	
	Cases reported during month	Monthly case rates per 10,000 population	Cases reported during month	Monthly case rates per 10,000 population
Ohio ¹	628	0.92	263	0.39
Oklahoma ²	128	.52	134	.54
Oregon.....	109	1.11	70	.71
Pennsylvania.....	229	.23	176	.18
Rhode Island.....	96	1.23	62	.74
South Carolina ¹	422	2.41	514	2.94
South Dakota.....	10	.14	23	.33
Tennessee ¹	603	2.26	230	.86
Texas ¹				
Utah ¹				
Vermont.....	21	.58	21	.58
Virginia ¹	290	1.19	199	.82
Washington.....	173	1.08	202	1.26
West Virginia ¹				
Wisconsin ⁴	43	.14	173	.58
Wyoming.....	6	.26	10	.43
Total.....	15,976	1.47	10,218	.94

¹ Have been reporting regularly but no report received for current month.

² Incomplete.

⁴ Only cases of syphilis in the infectious stage are reported.

NOTE.—Surveys in which all medical sources have been contacted in representative communities throughout the United States have revealed that the monthly rate per 10,000 population is 6.6 for syphilis and 10.2 for gonorrhea.

WEEKLY REPORTS FROM CITIES

City reports for week ended Apr. 7, 1934

[This table summarizes the reports received regularly from a selected list of 121 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table. Weekly reports are received from about 700 cities, from which the data are tabulated and filed for reference.]

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
		Cases	Deaths								
Maine											
Portland.....	0		0	1	1	6	0	0	0	6	26
New Hampshire:											
Concord.....	0		0	24	1	0	0	0	0	1	11
Manchester.....	0		0	0	1	0	0	1	0	0	18
Nashua.....	0		0	9	0	0	0	0	0	0	
Vermont:											
Barre.....	0		0	0	0	0	0	1	0	0	3
Burlington.....	0		0	0	0	3	0	0	0	8	6
Massachusetts:											
Boston.....	7	1	3	419	24	40	0	10	1	74	256
Fall River.....	2		0	1	4	6	0	0	0	6	43
Springfield.....	0		0	4	3	5	0	0	0	4	45
Worcester.....	0		0	4	4	0	0	2	0	8	51
Rhode Island:											
Pawtucket.....	0		0	0	0	0	0	0	0	0	19
Providence.....	0		0	12	5	1	0	2	0	13	67
Connecticut:											
Bridgeport.....	0		0	1	0	18	0	1	0	4	28
Hartford.....	0		0	0	8	5	0	3	0	0	54
New Haven.....	0		1	1	1	2	0	0	0	1	32
New York:											
Buffalo.....	3		0	169	24	20	0	10	0	27	143
New York.....	55	26	11	122	195	312	0	83	2	96	1,588
Rochester.....	1	1	0	4	3	51	0	0	1	11	70
Syracuse.....	0		0	18	6	4	0	2	0	34	65
New Jersey:											
Camden.....	2		0	99	3	8	0	1	0	0	40
Newark.....	0	5	1	7	9	16	0	8	0	45	112
Trenton.....	1	2	0	64	3	22	0	1	0	7	48
Pennsylvania:											
Philadelphia.....	8	3	2	1,050	46	119	0	31	2	73	603
Pittsburgh.....	10	7	4	195	35	28	0	6	1	42	192
Reading.....	2		0	1	0	5	0	2	0	8	24
Scranton.....	0		0	0	0	3	0	0	0	0	

City reports for week ended Apr. 7, 1934—Continued

State and city	Influenza		Meas-les cases	Pneu-monia deaths	Scar-let fever cases	Small-pox cases	Tuber-culosis deaths	Ty-phoid fever cases	Whoop-ing cough cases	Deaths, all causes
	Cases	Deaths								
Ohio:										
Cincinnati.....	5	1	18	27	42	0	14	0	12	167
Cleveland.....	4	34	3	75	31	125	0	16	0	121
Columbus.....	1	1	1	2	6	48	0	4	0	28
Toledo.....	1	0	75	7	25	0	8	0	119	77
Indiana:										
Fort Wayne.....	8	0	45	0	13	0	0	3	4	23
Indianapolis.....	1	0	195	11	34	0	8	0	41	23
South Bend.....	0	0	0	1	9	0	2	0	0	17
Terre Haute.....	0	0	1	2	4	0	0	0	3	21
Illinois:										
Chicago.....	3	2	5	267	72	232	0	38	1	192
Cicero.....	0	0	0	0	0	0	0	0	0	9
Springfield.....	0	0	177	4	1	0	0	0	24	17
Michigan:										
Detroit.....	8	1	1	92	34	155	0	13	0	91
Flint.....	2	0	7	5	79	0	2	0	11	25
Grand Rapids.....	0	0	1	5	26	0	0	0	2	33
Wisconsin:										
Kenosha.....	0	0	5	0	12	0	0	0	3	5
Madison.....	0	0	3	6	6	1	0	0	32	22
Milwaukee.....	0	0	15	8	69	0	0	0	87	109
Racine.....	1	0	3	1	5	3	0	0	1	13
Superior.....	0	0	0	1	8	0	1	0	0	12
Minnesota:										
Duluth.....	0	0	0	1	1	0	1	0	0	25
Minneapolis.....	2	0	11	6	13	0	0	1	48	117
St. Paul.....	0	0	7	13	13	0	1	0	32	63
Iowa:										
Des Moines.....	4	0	0	0	18	0	0	0	0	39
Sioux City.....	2	4	4	0	0	0	0	0	2	2
Waterloo.....	0	0	0	0	2	0	0	0	31	2
Missouri:										
Kansas City.....										
St. Joseph.....	2	0	10	6	1	0	0	0	1	21
St. Louis.....	25	0	78	13	37	1	11	2	76	257
North Dakota:										
Fargo.....	0	0	37	2	0	0	0	0	7	12
Grand Forks.....	0	0	0	0	1	0	0	0	3	3
South Dakota:										
Aberdeen.....	0	0	44	0	0	0	0	0	12	0
Sioux Falls.....	0	0	6	0	0	0	0	0	0	0
Nebraska:										
Omaha.....	1	0	157	5	11	1	4	0	14	57
Kansas:										
Topeka.....	0	1	5	0	2	0	0	2	36	7
Wichita.....	0	0	28	4	1	0	1	0	20	21
Delaware:										
Wilmington.....	1	0	88	8	1	0	1	2	0	41
Maryland:										
Baltimore.....	5	6	3	1,136	38	28	0	14	1	183
Cumberland.....	0	0	0	0	2	1	0	0	2	269
Frederick.....										9
District of Col.:										
Washington.....	6	2	1	375	19	7	0	12	0	22
Virginia:										
Lynchburg.....	0	0	1	1	2	0	0	0	11	13
Norfolk.....	1	0	73	5	1	0	1	0	0	39
Richmond.....	0	2	225	3	6	0	6	1	0	59
Roanoke.....	0	0	3	2	1	0	2	0	4	34
West Virginia:										
Charleston.....	0	0	0	1	0	0	0	0	0	9
Huntington.....	1	0	1	0	15	0	0	0	0	0
Wheeling.....	0	0	2	2	8	0	0	0	3	16
North Carolina:										
Raleigh.....	0	0	9	0	0	0	0	0	19	15
Wilmington.....	0	0	2	1	0	0	0	0	4	9
Winston-Salem.....	1	1	0	35	2	4	0	0	0	12
South Carolina:										
Charleston.....	0	21	0	43	2	3	0	4	2	6
Columbia.....	0	0	0	3	0	0	0	0	0	37
Greenville.....	0	0	1	8	0	0	0	1	1	24
Georgia:										
Atlanta.....	1	2	1	92	11	2	0	3	0	5
Brunswick.....	0	0	45	0	0	0	0	2	0	3
Savannah.....	0	3	1	22	1	1	0	1	1	0
Florida:										
Miami.....	2	0	71	3	0	0	0	0	7	30
Tampa.....	2	1	0	143	1	0	0	4	0	32

1 Nonresident.

City reports for week ended Apr. 7, 1934—Continued

State and city	Diphtheria cases		Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Small-pox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths, all causes
	Cases	Deaths	Cases	Deaths								
Kentucky:												
Ashland.....	1				23		0	0		0		1
Lexington.....	0			0	14	3	2	0	2	0		9
Louisville.....	2			0	13	13	25	0	3	0		43
Tennessee:												
Memphis.....	1			3	169	16	5	0	12	0		4
Nashville.....	0			1	15	4	4	0	1	0		11
Alabama:												
Birmingham.....	1	5		3	41	4	4	0	2	0		5
Mobile.....	0			0	8	1	0	0	0	1		0
Montgomery.....	4	1			174		0	0		0		5
Arkansas:												
Fort Smith.....	1				5		2	0		0		1
Little Rock.....	0			0	32	6	1	0	1	0		2
Louisiana:												
New Orleans.....	12	9		2	34	7	20	0	13	1		119
Shreveport.....	1			0	20	6	4	0	0	0		1
Oklahoma:												
Oklahoma City.....	0	16		0	24	16	2	0	1	0		6
Tulsa.....	0				12		0	0		0		2
Texas:												
Dallas.....	9	2		2	1	9	3	2	1	1		1
Fort Worth.....	1			0	10	9	6	0	1	0		2
Galveston.....	1			0	0	1	1	0	0	0		0
Houston.....	7			1	5	5	4	3	8	0		0
San Antonio.....	3			2	0	3	3	0	4	0		0
Montana:												
Billings.....	0			0	0	0	0	0	0	0		3
Great Falls.....	0			0	10	3	0	0	0	0		2
Helena.....	0			0	1	0	0	0	0	0		1
Missoula.....	0			0	0	1	0	0	0	0		0
Idaho:												
Boise.....	0			0	4	0	3	1	1	0		0
Colorado:												
Denver.....	1	49		5	121	3	10	0	6	0	101	62
Pueblo.....	0			0	17	0	5	0	0	0		29
New Mexico:												
Albuquerque.....	0			0	14	0	3	0	4	0		2
Utah:												
Salt Lake City.....	0			0	157	2	7	0	2	0		35
Nevada:												
Reno.....	0			0	1	0	0	0	0	0		0
Washington:												
Seattle.....	0				2	5	20	1	6	1		93
Spokane.....	0	1		1	24	4	5	0	1	0		12
Tacoma.....	0			0	56	0	0	0	0	0		17
Oregon:												
Portland.....	0			1	8	1	7	1	0	0		13
Salem.....	0	2		0	0	0	0	0	0	0		1
California:												
Los Angeles.....	26	17		1	58	22	40	0	21	0		57
Sacramento.....	0			0	10	5	3	0	4	2		3
San Francisco.....	1	1		2	132	8	8	0	7	3		18

¹ Nonresident.

State and city	Meningococcus meningitis		Polio-myelitis cases	State and city	Meningococcus meningitis		Polio-myelitis cases
	Cases	Deaths			Cases	Deaths	
Massachusetts:							
Boston.....	0	1	0	Minnesota:			
Duluth.....							
0			0	0	1		0
Connecticut:							
New Haven.....	1	0	0	Iowa:			
Des Moines.....							
1			0	1	0		0
New York:							
New York.....	3	2	3	Missouri:			
St. Joseph.....							
0			0	0	1		0
Pennsylvania:							
Philadelphia.....	1	0	0	Tennessee:			
Memphis.....							
1			0	1	1		0
Ohio:							
Cleveland.....	1	0	0	Arkansas:			
Fort Smith.....							
1			0	2	0		0
Indiana:							
Indianapolis.....	1	0	0	Texas:			
Dallas.....							
1			0	1	1		0
Illinois:							
Chicago.....	11	5	0	California:			
Los Angeles.....							
			0	1	1		2

Lethargic encephalitis.—Cases: Boston, 1; New York, 2; Chicago, 1; St. Louis, 1; Atlanta, 1.

Pellagra.—Cases: Boston, 1; Washington, 1; Charleston, S.C., 1; Tokepa, 1; Birmingham, 1; San Francisco, 1.

Typhus fever.—Cases: Atlanta, 1; Mobile, 1.

FOREIGN AND INSULAR

CANADA

Quebec Province—Communicable diseases—2 weeks ended April 7, 1934.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the 2 weeks ended April 7, 1934, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis.....	3	Measles.....	248
Chicken pox.....	118	Ophthalmia neonatorum.....	3
Diphtheria.....	27	Puerperal septicemia.....	4
Dysentery.....	1	Scarlet fever.....	136
Erysipelas.....	16	Tuberculosis.....	96
German measles.....	27	Typhoid fever.....	54
Influenza.....	1	Undulant fever.....	1
Lethargic encephalitis.....	1	Whooping cough.....	213

CUBA

Provinces—Notifiable diseases—4 weeks ended February 24, 1934.—During the 4 weeks ended February 24, 1934, cases of certain notifiable diseases were reported in the provinces of Cuba, as follows:

Disease	Pinar del Rio	Habana	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer.....	1	3	3	10	-----	2	19
Chicken pox.....	-----	-----	4	5	4	-----	13
Diphtheria.....	-----	9	5	5	2	-----	21
Hookworm disease.....	-----	1	-----	2	-----	-----	3
Leprosy.....	-----	-----	-----	3	-----	-----	3
Malaria.....	139	20	244	1,167	59	990	2,619
Measles.....	1	2	-----	2	-----	4	9
Tetanus, infantile.....	-----	-----	-----	1	-----	-----	1
Tuberculosis.....	7	16	36	60	18	66	203
Typhoid fever.....	3	3	4	20	4	9	43

PUERTO RICO

Notifiable diseases—4 weeks ended March 24, 1934.—During the 4 weeks ended March 24, 1934, cases of certain notifiable diseases were reported in the municipalities of Puerto Rico, as follows:

Disease	Cases	Disease	Cases
Chicken pox.....	204	Pellagra.....	10
Diphtheria.....	41	Puerperal fever.....	1
Dysentery.....	49	Ringworm.....	8
Erysipelas.....	1	Syphilis.....	4
Filariasis.....	4	Tetanus.....	7
Influenza.....	58	Tetanus, infantile.....	4
Malaria.....	15,006 ¹	Trachoma.....	32
Measles.....	71	Tuberculosis.....	511
Mumps.....	50	Typhoid fever.....	10
Ophthalmia neonatorum.....	6	Whooping cough.....	343

¹ Includes results from a special survey

YUGOSLAVIA

Communicable diseases—February 1934.—During the month of February 1934 certain communicable diseases were reported in Yugoslavia, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	16	3	Poliomyelitis.....	3	2
Cerebrospinal meningitis.....	12	4	Scarlet fever.....	248	18
Diphtheria and croup.....	744	108	Sepsis.....	10	3
Dysentery.....	15	3	Tetanus.....	7	2
Erysipelas.....	151	12	Typhoid fever.....	152	24
Measles.....	1,216	21	Typhus fever.....	357	36
Paratyphoid fever.....	13				

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Hygiene, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

[C indicates cases; D, deaths; P, present]

Place	Week ended—																					
	August 1933			September 1933			October 1933			November 1933			January 1934			February 1934			March 1934			April 7, 1934
	Aug. 27-30, 1933	Oct. 1-26, 1933	Nov. 28-30, 1933	Aug. 27-30, 1933	Oct. 1-26, 1933	Nov. 28-30, 1933	Jan. 6-13, 1934	Jan. 20-27, 1934	Jan. 27, 1934	Feb. 3-10, 1934	Feb. 10-17, 1934	Feb. 17-24, 1934	Feb. 24, 1934	Mar. 3-10, 1934	Mar. 10-17, 1934	Mar. 17-24, 1934	Mar. 24, 1934	Apr. 7, 1934				
China: Hankow	1																					
India:	14,422	9,939	7,571	C	8,161	C	978	1,417	1,049	1,014	1,036	956	1,153									
Bombay Presidency:	6,654	3,923	3,799	D	5,043	C	503	815	519	602	476	492	510									
Bombay	3,111	1,876	1,100	D	1,388	C	109	78	109	78	37	59	89									
Calcutta	1,412	634	454	D	65	C	65	59	40	67	42	22	29	35								
Chittagong	93	68	55	C	4	C	1															
Madras Presidency:	1,058	727	1,039	C	4	C	15	26	20	37	16	41	32	40	108		3					
Madras	444	292	453	D	4	C	282	362	210	165				3	1							
Rangoon	1		1	D		C	2	6	2													
Vissaspaiam	1		4	D		C	2	2														
India (French):				C		C																
Chandernagor	2		2	D		C																
Karikal	1			D		C																
Indo-China (see also table below):				C		C																
Philippine Islands:				C		C																
Antique Province																						
Bohol Province	17	16	8	C	8	C																
Cebu Province:	6	87	173	C	6	C	78	63	93	58	30	29	66	95	13	12	3					
Cebu	3	47	101	C	3	C	59	37	66	21	19	41	61	41	26	7	4					
Naga	39	63	71	C	17	C	12	6	4	1							2					
Naga	28	36	45	C	8	C	8	12	7	3							1					
Naga	9	21	17	C	8	C											1					
Naga	7	8	18	C	4	C																
Naga			9	C	3	C																

No cholera was reported in the Philippine Islands for the week ended Apr. 14, 1934.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

CHOLERA—Continued

[C indicates cases; D, deaths; P, present]

Place	Week ended—																								
	August 1933			September 1933			October 1933			November 1933			December 1933			January 1934		February 1934		March 1934			April 7, 1934		
	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-31	1-10	11-20	21-31	
Philippine Islands—Continued.																									
Holo Province.....																									
Holo.....																									
Leyte Province.....																									
Occidental Misamis Province.....																									
Occidental Negros Province.....																									
Oriental Negros Province.....																									
Samar Province.....																									
Slam.....																									
Bangkok.....																									

* For 2 weeks.

* For the month of October.

Place	August 1933		September 1933		October 1933		November 1933		December 1933		January 1934	
	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-31
Indo-China (French) (see also table above):												
Cambodia.....												
Cochin-China ¹												

¹ Reports incomplete.

PLAGUE!

[C Indicates cases; D, deaths; F, present]

Place	Week ended—												
	Aug. 27- Sept. 30, 1933			Oct. 1-26, 1933			Oct. 29- Nov. 26, 1933			Nov. 29- Dec. 30, 1933			
	January 1934			February 1934			March 1934						
	6	13	20	27	3	10	17	24	3	10	17	24	31
Angola, ¹													
Argentina (see also table below) Buenos Aires Province..	C												
	D												
Azores:													
Faya	C	1											
Fons Delgada.	C												
St. Michaels	C												
Bolivia. (See table below.)	C												
British East Africa (see also table below):													
Kenya.	C												
Tanganyika.	C												
Uganda.	D												
Ceylon: Colombo.	C	30	18	37	21	5	9	5	2	1	4		4
Plague-infected rats		113	63	81	77	13	5	10	8	6	7	6	
China, Manchuria, ²	C	109	61	79	72	12	6	9	8	6	7	6	
Dutch East Indies: West Java.	C	1	1	1	1	1	1	1	1	1	1	1	
Ceylon: Colombo.	C	1	1	1	1	1	1	1	1	1	1	1	
Ecuador. (See table below.)	C	1,465	4,816	1,868	1,671	529	545	453					
Ecuador. (See table below.)	D	1,463	4,814	1,860	1,576	529	545	453					
Egypt:													
Alexandria.	C				1								
Asyut.	C	2	1										
Fayum.	C	3	2										
Gharbiya.	C	2	3										
Ghiza.	D												
Minya.	C	1											

¹ Including plague in the United States and its possessions.² During December 1933 and January 1934, 32 cases of plague with 17 deaths were reported in Angola.³ For 5 weeks.⁴ For 3 weeks.⁵ A report dated Nov. 13, 1933, states that plague was reported in Manchuria, China, as follows: Fengtien Province, 249 cases; Hsilingan Province, 200 cases; Jehol Province, 61 cases; Kirin Province, 479 cases.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

PLAGUE—Continued

[O indicates cases; D, deaths; P, present]

Place	Week ended—											
	1933			1934			1934			1934		
	Aug. 27- Sept. 30, 1933	Oct. 1-28, 1933	Oct. 29- Nov. 26, 1933	Nov. 27- Dec. 30, 1933	Jan. 6-13, 1934	Jan. 20-27, 1934	Feb. 3-10, 1934	Feb. 17-24, 1934	Feb. 24-3, 1934	Mar. 10-17, 1934	Mar. 24-31, 1934	
France: Marseille—Plague-infected rats.												
Hawaii Territory: Hawaii Island—Hamamur—Plague-infected rats.			1									
India:												
Bassett	13,642	11,755		5								
Bombay Presidency	7,971	6,430		12,687	4,195	3,929	4,645	4,307				
Bombay				7,921	2,760	2,528	3,143	2,867				
Poonah				1	2	1	3	3				
Rangoon	8,009	4,922		5,799	1,323	1,127	1,223	1,340				
Siam	5,117	2,928		3,621	860	719	763	865	744	641		
Szechwan	7	3		1	1	6	6	5	1	1		
Yunnan	8	475		8	1	2	2	4	1	2		
Calcutta		527		83								
Madras Presidency												
Rangoon	1,181	521		657	255	213	165	209				
India, Portuguese—Colonn.	547	294		267	139	142	90	110				
Indo-China (see also table below):	2	1		1	8	1	3	3				
Saigon and Cholon	2	2		2	1	2	1	2				
From-Ferri												
Saigon and Cholon	2	2		1	1	1	1	1				
Libya	3	1		2	1	2	1	1				
Madagascar. (See table below.)												
Fern. (See table below.)												
Portuguese West Africa.				5	1	1	1	1				
Senegal. (See table below.)				11	2	2	1	2				
Siam	10	6		6								
South-West Africa.												
Union of South Africa:												
Cape Province.												
Orange Free State.												
Transvaal.												
			18	3								
			1	1								

United States: California—Santa Clara County—Plague-infected ground squirrels..... 1
 On vessel: S. S. Angkor at Beirut from Marseille..... 0

* Imported.
 † 116 cases of plague with 5 deaths were reported in Ovamboland, South-West Africa, from Jan. 1 to Dec. 2, 1933. Antiplague measures have been taken.
 ‡ Plague has been reported in ground squirrels in Kern and Tulare Counties, Calif., 10 to 18 miles east of Delano, Calif. Twenty-one lots of plague-infected squirrels have been reported.

Place	Sep-tem-ber 1933	Octo-ber 1933	Novem-ber 1933	De-cem-ber 1933	Jan-uary 1934	Feb-ru-ary 1934
Argentina (see also table above).....	6	2	4	1	1	1
Bolivia.....	2	1	5	1	1	1
British East Africa (see also table above):						
Kenya.....	26	71	36	14	19	19
Uganda.....	97	71	83	63	49	49
Ecuador.....	3					
Indo-China (see also table above):						
Cambodia.....	16	8	2	1	2	4
Cochin-China.....	1			1	1	1
Place						
Madagascar.....	77					
Peru.....	73					
Senegal:	8	18	19	12	7	6
Dakar*.....	1	7				
Medina*.....	5	4	15	3	1	2
Tiveouane*.....	3	9	10	3	1	2
	2	1	1	1		

* Reports incomplete.

	5	3	17	57	12	29	27	40	22	26	30	28	43	35	35	49	11
Shanghai.....																	
South Manchuria Railway Zone.....																	
Swatow.....		2	1			1											
Tientsin.....				1													
Coasta Rica. (See table below.)																	
Danonomy. (See table below.)																	
Ecuador. (See table below.)																	
Egypt:																	
Alexandria.....			3		1	1	1	2	1			2					
Aswan.....						7	3	24		19		6					
Asyut.....	43	40	7	30	3	3		4		1		2					
Beni-Suef.....	31	13											2				
Cairo.....	1											1		1			
Dakahlia.....			87		7	7	1	4									
Fayum.....	3	1	13										6				
Gharbiya.....	6	2	7			6	3	8		6		3	6				
Matruh.....	9		20			48	71	63		68		37	17				
Minya.....			32														
Qena.....	4	25	24			77	79	96	108	103		64		31	42		
Provinces.....	160	95	168	265	117												
Eritrea: Asmara.....																	
Gold Coast:																	
Great Britain:																	
England and Wales.....	20	10	9	27	3	13	7	9	8	16	20	22	11	6	11	6	
Blackburn.....																	
London and Great Towns.....	14	10	9	27	3	13	7	9	8	16	20	22	11	6	11	6	
London.....	16	10	9	27	3	13	7	9	8	16	16	13	9	4	10	6	
Greece (see also table below): Salonika.....	9																
India:																	
Bassein.....	7,062	4,699	6,677	10,824	2,053	3,150	2,781	4,170	3,837	5,664	5,313						
Bombay Presidency.....	1,628	1,079	1,282	2,707	507	718	569	1,143	918	1,149	1,313						
Bombay.....	19	12	12	33	9	11	24	18	23	17	13	17	11	6	2	10	
Calcutta.....	6		11		8	3	7		8	4	6	4		4	5	6	
Cochin.....	873	699	673	1,368	411	263	410	477	448	537	777	808	809				
Madras Presidency.....	160	91	116	286	74	69	94	109	90	95	127	158	123				
Bombay.....	1	4	4	20	4	6	8	13	26	11	8	11	10	9	14	12	
Calcutta.....	1	4	3	13	1	2	4	4	7	5	6	5	6	6	6	6	
Cochin.....	10	8	13	76	31	42	46	62	80	100	105	81	76	55	76		
Madras Presidency.....	3	3	5	42	20	24	34	37	48	68	78	61	56	42	46		
Karschi.....	2	2	1	4	3	5	6	4	5	4	8	1	1	3	6	3	
Karschi.....	4	1	4														
Madras Presidency.....	2,944	2,432	2,479	660	867	1,300	1,045	1,191	1,191	1,296	1,297						
Negapatam.....	513	507	447	133	20	22	61	247	197	23	27	21	16	20	23	33	
Rangoon.....	209	81	41	83	20	22	3	1	24	23	27	21	16	20	23	33	
Rangoon.....	209	81	41	83	20	22	3	1	24	23	27	21	16	20	23	33	
Tuticorin.....	4	9	17	20	4	5	1	4	8	2	9	9	2	6	9	12	
Tuticorin.....	4	1	6	9	4	5	1	4	8	2	9	9	2	6	9	12	
Vizagapatam.....	2	1	2	3	1	1	1	2	1	6	6	1	5	1	5	7	
Vizagapatam.....	2	1	2	3	1	1	1	2	1	6	6	1	5	1	5	7	

1 Imported.

* For 2 weeks.

† From Jan. 1, 1934 to Feb. 9, 1934, 140 cases of smallpox with 17 deaths were reported in Mukden, Manchuria, China.

‡ Includes 1 imported case.

Persia.....	20	46	12	25																	
Teheran.....	11	5	6	2																	
Peru. (See table below):	8	11	8	3	4	1	2	1	5	1	2	2	2								
Portugal (see also table below):	1	4	2	2	3	1	1	1	3		1	2	2								
Poland.....																					
Portugal (see also table below):																					
Lisbon.....	3	2	1	2	4																
Oporto.....																					
Siam.....	250	534	578	260	70	73	1	162			27	76									4
Sierra Leone.....	16	11	40	3	3	7	8	5			3	6	8								
Spain.....	1	15	15	61	17		8	9	13	41	6	14	25	6	40	5					
Sudan (Anglo-Egyptian).....																					
Syria.....																					
Beirut.....																					
Provinces.....	7	34	35	20	12	20	19	10	12	8	13	12	7								1
Turkey. (See table below.)				44	11	30	30	30	8	14	12	4									
On vessels:																					
S.S. Clan Macquarie at Suez.....	1																				
S.S. Lohienfels at Suez from Calcutta.....																					
S.S. Shahjehan at Madras.....	1																				
S.S. Rohan at Penang from Madras.....			1																		
S.S. Enterprise at Karachi.....																					
S.S. Jaldurga at Rangoon from Gogalpora.....																					
S.S. Pembeshira at Hong Kong.....									P												
S.S. Oranor at Singapore from Penang and Belawan.....																					
S.S. Jufuku Maru at Chefoo from Dairen.....																					
S.S. Halobing at Amoy.....									P												
S.S. Elsie at Suez from Bombay.....																					
S.S. Red Sea at Colombo from Singapore.....																					
S.S. King City at Victoria.....																				2	
S.S. Ranpara at Bombay from Shanghai.....																				1	

1 Imported.

2 For 2 weeks.

3 Dec. 18, 1933: 90 cases of smallpox were reported in Juarez, Mexico, with 18 deaths occurring from Dec. 1 to 10, 1933.

4 Includes one unsuspected case.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued

SMALLPOX—Continued

[C indicates cases; D, deaths; P, present]

Place	September 1933		October 1933		November 1933		December 1933		January 1934		February 1934		
	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-31	
Dahomey.....	27	8	15	9	9	5							
Indo-China (see also table above).....	6	6		6	6								
	81	30	78	24	22	11	63	65	92	99	124	113	
	32	10	18	10	8		7	10	14	14	27	26	
Place	Septem-ber 1933	Octo-ber 1933	Novem-ber 1933	Decem-ber 1933	Janu-ary 1934	Feb-ru-ary 1934	Place	Septem-ber 1933	Octo-ber 1933	Novem-ber 1933	Decem-ber 1933	Janu-ary 1934	Feb-ru-ary 1934
Angola.....	4						Lithuania	16				49	
Arabia.....			20	14			Mexico (see also table above).....	C	16		7		
Belgian Congo (see also table above).....							Morocco.....	C	12	3	16	1	1
Bolivia.....							Nyasaland.....	C	315	289	391	132	180
Costa Rica.....			39	21			Peru.....	C	60	23	21	25	
Ecuador.....			8				Portugal (see also table above).....	C	106	214	323	128	
Greece (see also table above).....							Turkey.....	D	27	31	21	16	19
			2					C	66	12	17	23	

TYPHUS FEVER

[C indicates cases; D, deaths; P, present]

Place	Aug. 27- Sept. 30, 1933	Oct. 1-25, Nov. 26, 1933	Week ended—															
			December 1933				January 1934				February 1934				March 1934			
			2	9	16	23	30	6	13	20	27	3	10	17	24	3	10	17
Algeria:																		
Algiers Department.....																		
Constantine Department.....																		
Bone.....																		
Philippeville.....																		
Oran Department.....																		
Basutoland. (See table below.)																		
Bolivia. (See table below.)																		
British East Africa:																		
Tanganyika.....																		
Uganda.....																		
Chile.....																		
Antofagasta.....																		
San Pedro, ¹																		
Santiago.....																		
Valparaiso.....																		
China:																		
Hankow.....																		
Harbin.....																		
Kwantung Leased Territory.....																		
Nanking.....																		
Shanghai.....																		
South Manchuria Railway Zone.....																		
Chosen. (See table below.)																		
Czechoslovakia. (See table below.)																		
Egypt:																		
Alexandria.....																		
Asyut.....																		
Behera.....																		
Cairo.....																		
Dakhliya.....																		
Damieta.....																		
Gharbiya.....																		
Girga.....																		

¹ For 2 weeks.² Incomplete reports from San Pedro, Chile, for the month of November 1933 show 113 cases of typhus fever.

