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ANTINEURITIC VITAMINE IN SKIM MILK POWDER.

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Reconstructed milk has recently come into use in localities where an ample supply of fresh milk is not available. This milk is made from skim milk powder, butter fat, and water, mixed in the proportions necessary to re-form liquid milk. The mixing is carried out in a specially designed machine, so that a separation of the butter fat takes place only upon long standing. It became necessary to decide whether skim milk powder used in making reconstructed milk retains its water-soluble vitamine (B) content or whether this is destroyed by the process of drying. We have, therefore, attempted to determine the amount of skim milk powder necessary to prevent polyneuritis in pigeons.

Vedder and Clark¹ found that 5 c. c. daily of fresh cow's milk or 5 c. c. of canned milk did not prevent polyneuritis in fowls. E. A. Cooper² fed fresh milk to pigeons and found that 35 c. c. daily only delayed the onset of polyneuritis until the fiftieth day. Protection was not secured by this amount. Gibson and Concepción³ found that the minimum protective amount of liquid cow's milk for fowls is between 100 and 200 c. c. daily. They concluded that milk contains such a small amount of antineuritic substance that care should be used to extend the diet of infants as early as possible. They did not find any advantage of raw milk over autoclaved milk in this respect.

EXPERIMENTAL.

Skim milk powder made by the spray process was used. The polished rice was picked over by hand and all incompletely polished grains were carefully removed. The rice was then ground in a small mill and mixed in varying proportions with the skim milk powder. A small amount of water was added to make a sticky dough. This was dried out under the electric fan and broken into small pieces. The pigeons ate this food very readily.

The table shows the results obtained from the feeding of rice and various percentages of skim milk powder. All of the 6 control pigeons fed on 100 per cent rice developed symptoms of polyneuritis and

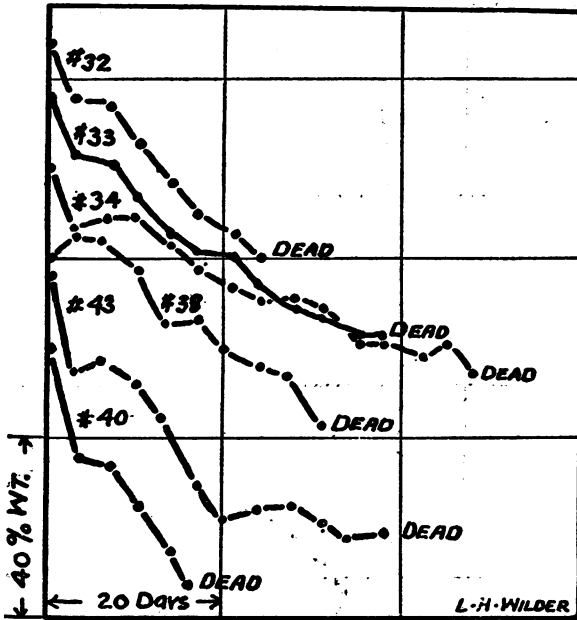
¹ Philippine Jour. Sci. VII, B, 423 (1912).

² Jour. Hyg. XIV, 12 (1914).

³ Philippine Jour. Sci. XI, B, 119 (1916).

died within 48 days. Histological examination of their sciatic nerves showed the presence of fatty degeneration. Of 7 pigeons fed on a diet composed of 80 per cent rice and 20 per cent skim milk powder, 5 showed fatty degeneration of the sciatic nerve and 1 showed a normal nerve; the seventh bird escaped, but had shown no symptoms of polyneuritis after 139 days. The onset of polyneuritis in 1 case of the 5 cases was delayed until the one hundred and twenty-eighth day. Of 4 pigeons fed on a diet composed of 75 per cent rice and 25 per cent skim milk powder, 3 showed fatty degeneration of the sciatic nerve and 1 a normal nerve. However, the onset of polyneuritis was delayed in the 3 cases from 57 to 82 days. Of 16 pigeons fed on diets

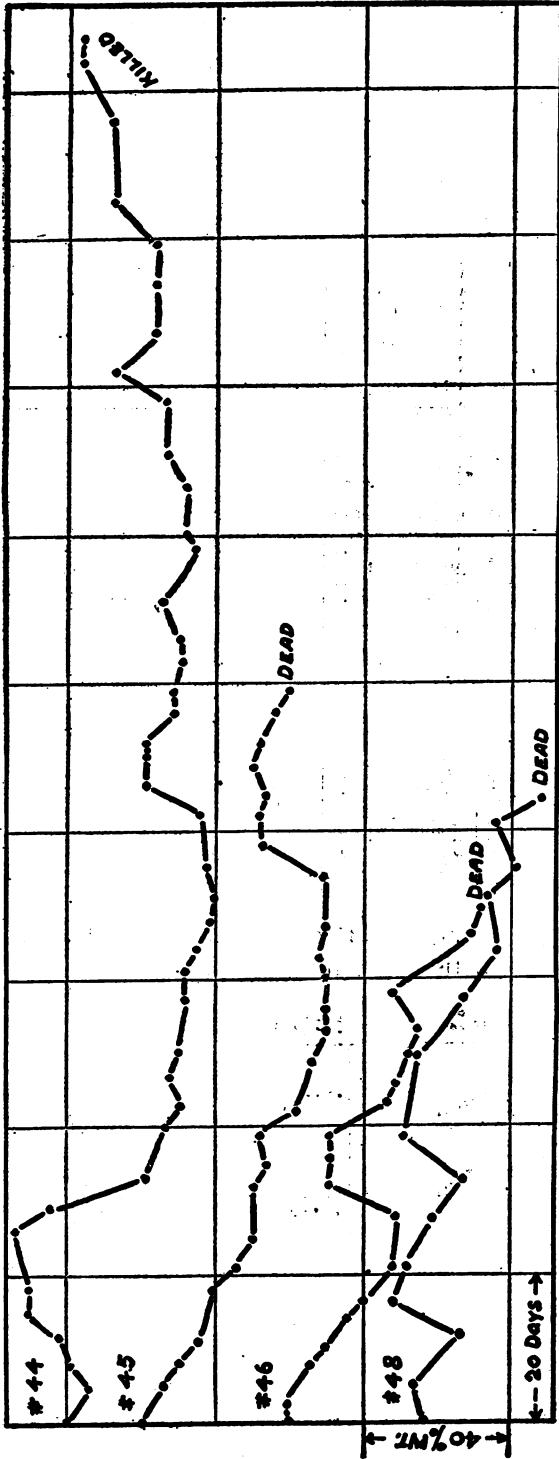
CHART 1 :- 100% Rice.



composed of 30-100 per cent skim milk powder and 70-0 per cent rice all showed normal sciatic nerves. However, in 3 cases, symptoms of polyneuritis with subsequent recovery were observed.

An examination of the table will show that in order to secure complete protection from polyneuritis the skim milk powder must constitute at least 30 per cent of the diet. A diet containing 25 per cent skim milk powder will delay the development of polyneuritis but will not protect against it. Even 20 per cent skim milk powder delayed the onset in a few cases. The pigeons consumed about 20-25 grams daily of the mixture of skim milk powder and rice. Therefore it requires about 6-7 grams daily of skim milk powder to protect from polyneuritis. This corresponds to about 75 c. c. of liquid milk.

CHART 3: - 75 % RICE - 25 % SKIM MILK POWDER.

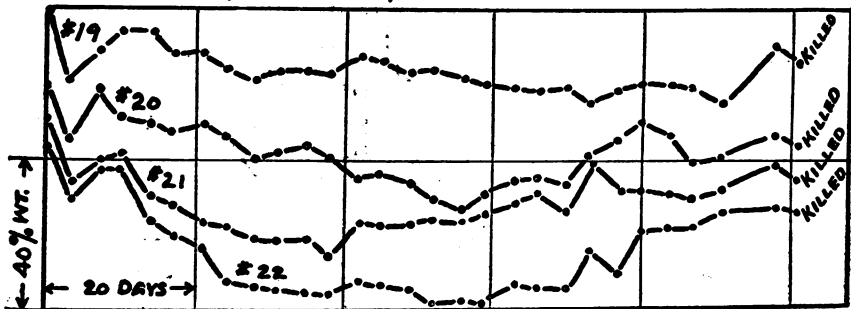


Results of experimental feeding of pigeons.

Pigeon No.	Food.		Symptoms of polyneuritis.	Length of life.	Termination.	Sciatic nerve.
	Per cent rice.	Per cent skim milk powder.				
32	100	.....	After 16 days.....	<i>Days.</i> 24	Died....	Extensive fatty degeneration (Marchi).
33	100	.....	After 31 days.....	37	Do.....	Do.
34	100	.....	After 32 days.....	48	do.....	Do.
38	100	.....	After 24 days.....	31	do.....	Do.
43	100	.....	After 14 days.....	16	do.....	Do.
40	100	.....	After 39 days.....	41	do.....	Definite fatty degeneration (Marchi)
42	80	20	After 128 days.....	130	do.....	Do.
35	80	20	After 27 days.....	46	do.....	Moderate fatty degeneration (Marchi).
36	80	20	After 24 days.....	23	do.....	Do.
37	80	20	Emaciated by tenth day.	12	do.....	Definite fatty degeneration (Marchi).
39	80	20	None.....	7	do.....	Normal.
41	80	20	do.....	139	Escaped	
47	80	20	After 81 days.....	84	Died....	Definite fatty degeneration (Marchi).
44	75	25	After 121 days; recovery.	187	Killed...	Normal.
45	75	25	Emaciated after 60 days.	99	Died....	Moderate fatty degeneration (Marchi).
46	75	25	After 57 days.....	65	do.....	Definite fatty degeneration (Marchi).
48	75	25	After 82 days.....	84	do.....	Extensive fatty degeneration (Marchi).
19	70	30	None.....	102	Killed...	Normal.
20	70	30	do.....	102	do.....	Do.
21	70	30	do.....	102	do.....	Do.
22	70	30	After 32 days; recovery.	102	do.....	Do.
23	60	40	None.....	102	do.....	Do.
24	60	40	do.....	102	do.....	Do.
25	60	40	do.....	101	do.....	Do.
26	50	50	do.....	101	do.....	Do.
27	50	50	do.....	101	do.....	Do.
28	50	50	After 32 days; recovery.	101	do.....	Do.
29	40	60	None.....	102	do.....	Do.
30	40	60	do.....	101	do.....	Do.
31	40	60	do.....	102	do.....	Do.
10	0	100	do.....	83	do.....	Do.
11	0	100	do.....	83	do.....	Do.
12	0	100	Questionable at 42 days.	44	Died....	Do.

Since Cooper found that 35 c. c. of fresh milk delayed the development of polyneuritis only until the fiftieth day, and Gibson and

CHART 4 :- 70% RICE - 30% MILK POWDER.



Concepción found that fowls required 100-200 c. c. of fresh milk daily for protection, it appears that even fresh milk contains very little antineuritic substance. Our work shows that the amount of

this substance in skim milk powder is of the same order of magnitude as in fresh milk, and that therefore the process of drying skim milk does not lead to an appreciable destruction of the vitamine in question.

CHART 5:- 60% RICE - 40% SKIM MILK POWDER.

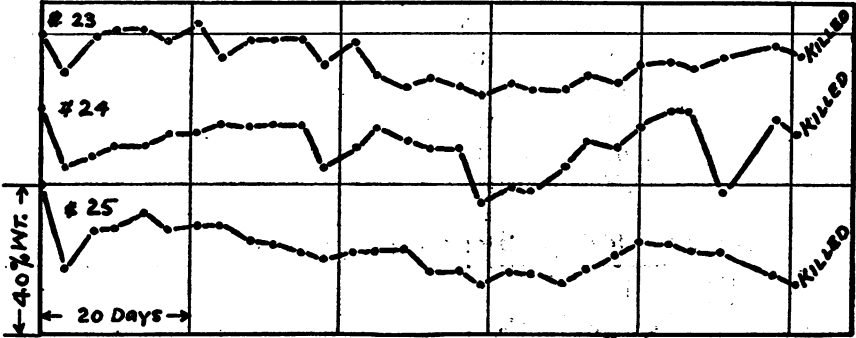


CHART 6:- 50% RICE - 50% SKIM MILK POWDER.

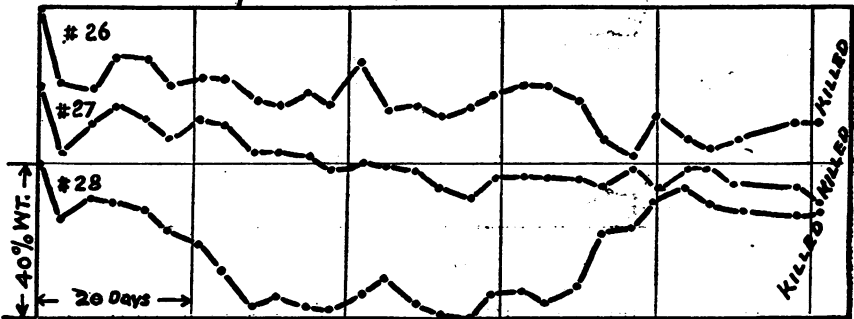
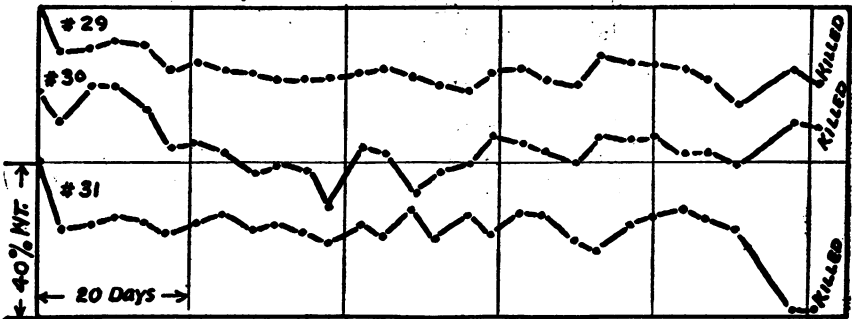


CHART 7:- 40% RICE - 60% MILK POWDER.



The feeding of rats on a purified basal ration plus milk, by Osborne and Mendel⁴ and one of the present authors,⁵ shows that a large amount of milk is required to give normal growth to albino rats. If

⁴ Jour. Biol. Chem. XXXIV, 537 (1918).

⁵ J. M. Johnson, unpublished work.

we accept that the antineuritic and water-soluble vitamine are the same, we would expect to find that it required a large amount of milk to prevent polyneuritis in pigeons, an assumption which is in accord with the facts presented in this paper.

The pigeons weighed about 300 grams each. With a requirement of 6 to 7 grams daily for the pigeons, a child of 4.5 k. body weight would require 1,125 c. c. daily of reconstructed milk in order to receive an adequate amount of antineuritic substance, provided that the requirements of the two species were the same.

The charts give the picture of the weight changes of the pigeons. The curves are plotted upon the basis of per cent, starting with the initial weight as 100 per cent.

CHART 8:— 100 % SKIM MILK POWDER.



SUMMARY.

Pigeons fed upon mixtures of spray process skim milk powder with polished rice require 30 per cent of the food in skim milk powder in order to get full protection from polyneuritis. This corresponds to about 75 c. c. daily liquid milk.

ACKNOWLEDGMENTS.

The thanks of the authors are due to Dr. Carl Voegtlin, Chief of the Division of Pharmacology, under whose directions this work was carried out and who aided in many ways during the progress of the work.

THE GROWTH-PROMOTING PROPERTIES OF MILK AND DRIED MILK PREPARATIONS.

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Numerous investigators have studied the effect of milk upon growth. Janet Lane-Claypon¹ found practically no difference between boiled and raw milk when fed with bread to growing albino rats. F. G. Hopkins² observed that when rats are fed upon a well-balanced diet of purified foodstuffs, furnishing all the necessary elements except the growth-promoting accessories, which, as shown by control experiments, did not permit normal growth, the addition of very small amounts of fresh milk, from 1 to 3 or 4 per cent of the total solids of the food, gave immediate and good growth.

Osborne and Mendel,³ however, found that in feeding fresh milk to rats as the sole source of water-soluble vitamin⁴, at least 16 c. c. daily were required to give normal growth, and sometimes even that amount failed.

G. Winfield⁴ found that 87 infants fed upon dried whole milk, compared with infants fed upon the breast, did not grow as well as the latter at first, but later made approximately normal or even better growth. Experiments upon 40 rats fed upon dried whole milk only, showed that normal health was maintained for a period of 16 months or more, but growth fell below normal when one-half to two-thirds of adult weight was reached. Osborne and Mendel⁵ found that it was necessary to use at least 24 per cent dried whole milk in making up a food mixture which would give normal growth to rats.

The object in the experiments carried out by the author of this paper was to compare raw and pasteurized cow's milk with that obtained by addition of the required amount of water and butter fat to skim milk powder, so-called "reconstructed" milk. This milk has come into use in certain places where there is a scarcity of dairy herds. Under normal conditions it can not be produced more economically than fresh milk; but where transportation for great distances enters into the equation, because of the fact that 87 per cent water must be carried with fresh milk, it pays to consider "reconstructed" milk. Therefore, the question comes up whether it is safe to allow this milk to be sold where the public will place the same reliance upon it as upon fresh milk as a food for children or adults.

¹ Jour. Hyg. (1909), IX, 233.

² Jour. Physiol. (1912), XLIV, 425.

³ Jour. Biol. Chem. (1918), XXXIV, 537.

⁴ Brit. Local Govt. Board Food Rep. (1918), XXIV, 139-56.

⁵ Loc. cit.

MILKS STUDIED.

1. Reconstructed milk made from skim milk powder by the addition of butter and water. The skim milk powder was obtained from a factory using the spray method of drying. For a good part of the time of the experiment this milk was secured from a restaurant conducted under the auspices of the United States War Department, where the milk powder, water, and butter were mixed in a machine especially devised for this purpose. During the other part of the experiment the milk was made up in the Laboratory so as to approximate the composition of standard pasteurized milk with 3.5 per cent butter fat.

2. Raw milk obtained from the dairy of the United States Department of Agriculture.

3. Raw certified milk obtained from a local dairy.

4. Pasteurized milk obtained from another local dairy.

5. A few experiments were also carried out with a mixture of skim milk powder and a basal diet.

METHOD OF FEEDING.

Healthy young white rats weighing 40 to 60 grams were selected and kept in individual cages. The food intake was accurately controlled. The animals were kept supplied with fresh water. Body weight was taken twice a week. The food was made up as follows: A basal mixture was made of starch, 48 per cent; casein, 25 per cent; Osborne and Mendel's⁶ salt mixture, 5 per cent; lard, 10 per cent; unsalted butter, 10 per cent; powdered agar, 2 per cent. The casein in this mixture was washed free of water-soluble vitamines with dilute acetic acid, followed by washing with water many times, and was dried and ground before using. Ten per cent of butter was selected in order to give the animals an excess of fat-soluble vitamines, since the experiments dealt only with a comparison of water-soluble vitamines in the milks. In the making of reconstructed milk, butter is used; therefore a study of its fat-soluble vitamines content was unnecessary.

The diets fed to the rats were made up fresh each day by the addition of measured portions of the milk with a weighed portion of the basal mixture. No control experiments were run upon the basal mixture alone, but proof was obtained that it contained no growth-promoting accessories by the experiments with small amounts of milk mixed with it, when all the animals failed to grow. The animals were given each day slightly more food than they would eat. This caused a moderate variation in the food consumption of rats on the same diet.

⁶Jour. Biol. Chem. (1917), XXXII, 317.

In order to be sure that there was no appreciable difference between the chemical composition of these various milks, chemical analyses were made at frequent intervals during the progress of the experiment. Averages are given for the month in each case. Although the results of the chemical analyses show that there is quite a marked variation of the fat and total solids content, I do not think that the difference is great enough to cause an appreciable change in the concentration of the water-soluble vitamines.

TABLE I.—Average chemical composition of milks.¹

Month.	Total solids.	Fat.	Solids not fat.	Protein.	Ash.	Milk.
1919.						
June.....	12.48	4.01	8.47	3.16	0.541	Agricultural Department.
Do.....	13.38	3.73	9.58	3.58	.64	Reconstructed.
July.....	12.81	4.33	8.48	3.11	.55	Agricultural Department.
Do.....	13.19	4.09	9.10	3.36	.59	Reconstructed.
August.....	12.63	4.10	8.53	3.17	.55	Agricultural Department.
Do.....	12.86	4.12	8.74	3.05	.61	Reconstructed.
September.....	13.40	4.83	8.57	3.28	.....	Agricultural Department.
Do.....	12.77	4.07	8.70	3.12	.....	Reconstructed.
October.....	14.38	5.74	8.63	3.42	.....	Agricultural Department.
Do.....	11.98	3.72	8.26	2.94	.....	Reconstructed.
November.....	15.40	6.5	8.65	3.31	.....	Agricultural Department.
Do.....	12.10	3.65	8.46	3.11	.....	Reconstructed.
December.....	14.81	5.9	8.30	3.30	.....	Agricultural Department.
Do.....	12.43	3.68	8.75	3.21	.....	Reconstructed.
1920.						
January.....	13.86	5.2	8.63	3.33	.....	Agricultural Department.
Do.....	12.83	3.65	9.18	3.50	.....	Reconstructed.
February.....	15.26	6.93	8.32	3.26	.....	Agricultural Department.
Do.....	.....	5.1	.....	.....	.....	Local certified.
Do.....	.....	4.2	.....	.....	.....	Local pasteurized.
March.....	15.62	7.48	8.14	3.14	.....	Agricultural Department.
Do.....	.....	6.0	.....	.....	.....	Local certified.
April.....	12.73	4.3	8.39	3.12	.....	Agricultural Department.
Do.....	.....	3.5	.....	.....	.....	Local certified.
May.....	12.88	4.33	8.55	3.15	.....	Agricultural Department.
Do.....	.....	4.8	.....	.....	.....	Local certified.
Do.....	.....	3.1	.....	.....	.....	Local pasteurized.

¹ The chemical analyses of the milks were carried out by various members of the division of chemistry of the Hygienic Laboratory, most of them by Mr. O. H. Schunk and Mr. C. G. Rensburg.

Table II gives the various diets fed.

TABLE II.—Diets fed.

Diet No.	Amount of basal mixture.	Amount of milk.	Diet No.	Amount of basal mixture.	Amount of milk.
IV	100	25 Agricultural Department plus 25 water.	V	100	100 reconstructed.
III	100	50 Agricultural Department plus 50 water.	X	100	200 reconstructed.
II	100	25 Agricultural Department plus 75 water.	XIII	100	250 reconstructed.
I	100	100 Agricultural Department.	XIV	100	300 reconstructed.
VIII	100	150 Agricultural Department.	XVI	100	350 reconstructed.
IX	100	200 Agricultural Department.	XXII	100	200 local pasteurized.
XI	100	250 Agricultural Department.	XX	100	250 local pasteurized.
XII	100	300 Agricultural Department.	XVII	100	300 local pasteurized.
XV	100	350 Agricultural Department.	XVIII	100	350 local pasteurized.
VII	100	50 reconstructed plus 50 water.	XIX	100	250 local certified.
VI	100	75 reconstructed plus 25 water.	XXIII	100	300 local certified.
					31.2 grams spray process skim milk powder.

RESULTS.

Table III gives the results of the experiments carried out with the diets composed of basal mixture plus Agricultural Department raw milk. In some cases where the rat failed to show good growth, small amounts of yeast were given in order to supply additional water-soluble vitamine. This usually caused improvement. This addition of yeast is not shown in the tables, but will be found indicated in the charts at the end of the article.

TABLE III.—Summary of experiments on rats fed on Agricultural Department milk.

Number of rat.	Diet fed.	Initial weight.	Maximum weight.	Final weight.	Duration of experiment in days.	Average c. c. of milk consumed daily.		Remarks.
						Number of days weighed.	C. c.	
23♂	IV.....	66	125	104	149	All.	1.5	Discharged.
27♂	IV.....	63	133	130	149	All.	1.5	Do.
28♂	IV.....	43	108	69	137	All.	1.1	Died.
29♂	IV.....	61	113	109	149	All.	1.4	Discharged.
32♂	IV.....	47	100	82	149	All.	1.1	Do.
33♂	IV.....	54	137	123	149	All.	1.5	Do.
17♂	IX.....	63	80	78	39	All.	2.7	Changed to IX.
20♂	IX.....	78	153	142	104	All.	10.8	Discharged.
23♂	III.....	50	71	71	39	All.	2.8	Changed to IX.
23♂	IX.....	71	129	124	104	All.	9.7	Discharged.
24♂	III.....	64	71	68	39	All.	2.6	Changed to IX.
24♂	IX.....	68	136	121	104	All.	9.2	Discharged.
9♀	II.....	53	100	86	133	All.	3.9	Do.
11♂	II.....	73	180	178	149	All.	5.8	Do.
12♂	II.....	42	110	104	133	All.	3.9	Do.
13♂	II.....	80	244	226	149	All.	6.1	Do.
14♂	II.....	57	97	91	133	All.	3.3	Do.
15♂	II.....	64	142	141	133	All.	4.3	Do.
16♂	II.....	56	103	101	133	All.	3.4	Do.
1♂	I.....	47	58	58	39	All.	4.5	Changed to VIII.
1♂	VIII.....	58	69	43	68	All.	4.3	Died.
3♂	I.....	55	77	74	39	All.	4.7	Changed to VIII.
3♂	VIII.....	74	140	135	104	All.	8.6	Discharged.
4♂	I.....	62	94	94	39	All.	6.2	Changed to XIII.
4♂	VIII.....	94	140	140	94	All.	9.3	Discharged.
5♂	I.....	58	119	119	39	All.	7.0	Changed to VIII.
5♂	VIII.....	119	182	166	104	All.	10.9	Discharged.
7♂	I.....	62	117	115	39	All.	7.0	Changed to VIII.
7♂	VIII.....	115	195	187	104	All.	9.7	Discharged.
8♂	I.....	67	95	88	39	All.	5.9	Changed to VIII.
8♂	VIII.....	88	110	100	94	All.	6.1	Discharged.
102♂	IX.....	88	210	205	157	45	13.0	Died.
103♂	IX.....	78	150	150	180	49	11.4	Discharged.
104♂	IX.....	75	188	188	180	48	14.5	Do.
84♂	XI.....	47	220	202	198	62	17.4	Do.
85♂	XI.....	49	281	281	198	64	20.0	Do.
86♂	XI.....	44	221	203	198	61	18.1	Do.
87♂	XI.....	47	283	286	198	61	21.5	Do.
88♂	XI.....	43	211	211	198	61	16.0	Do.
53♂	XII.....	46	165	158	209	36	17.7	Do.
54♂	XII.....	62	295	295	209	39	22.9	Do.
55♂	XII.....	58	270	270	209	35	23.1	Do.
56♂	XII.....	56	182	182	209	35	19.9	Do.
57♂	XV.....	77	237	232	253	64	22.5	Do.
58♂	XV.....	53	200	200	209	35	24.2	Do.
59♂	XV.....	52	203	203	209	35	21.5	Do.
77♀	XV.....	46	187	180	212	53	15.9	Accident; died.

It is seen from Table III that a food mixture consisting of purified foodstuffs plus milk as the sole source of water-soluble vitamine must contain at least 2½ parts of milk to 1 part of the basal ration in

order to produce normal growth. Since a full-grown male rat weighs about 280-300 grams, and a full-grown female about 180 grams, a rat upon such a diet consumes just about 16-18 cubic centimeters of milk daily. These figures agree with those of Osborne and Mendel.⁷ It is also seen that the rate of growth of rats receiving less than 2½ parts of milk in their diet was accelerated after increasing the amount of milk in the diet.

The results obtained with reconstructed milk (Table IV) show that here again normal growth was not attained until the milk mixture was composed of at least 2½ parts of milk to 1 part of basal ration.

TABLE IV.—*Summary of experiments on rats fed on reconstructed milk.*

Number of rat.	Diet fed.	Initial weight.	Maximum weight.	Final weight.	Duration of experiment in days.	Average c. c. of milk consumed daily.		Remarks.
						Number of days weighed.	C. c.	
		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>				
44 ♀	VII.....	39	87	81	116	All.	1.8	Discharged.
45 ♀	VII.....	35	95	92	116	All.	1.9	Do.
47 ♀	VII.....	48	100	87	116	All.	2.2	Do.
48 ♀	VII.....	30	139	139	131	All.	2.4	Do.
39 ♀	VI.....	33	71	67	116	All.	2.8	Do.
40 ♀	VI.....	51	100	100	116	All.	3.6	Do.
41 ♀	VI.....	34	101	52	106	All.	3.1	Died.
42 ♀	VI.....	48	149	135	126	All.	4.5	Discharged.
43 ♀	VI.....	48	104	94	116	All.	3.3	Do.
35 ♂	V.....	62	145	130	116	All.	6.4	Do.
36 ♀	V.....	30	91	62	101	All.	3.9	Died.
37 ♂	V.....	39	100	97	116	All.	4.0	Discharged.
49 ♀	X.....	38	157	157	342	All.	11.4	Do.
50 ♀	X.....	49	168	152	320	All.	9.1	Do.
51 ♀	X.....	44	154	149	240	All.	10.7	Do.
52 ♀	X.....	75	230	230	246	All.	13.4	Do.
115 ♀	X.....	41	72	50	40	21	7.6	Died.
80 ♀	XIII.....	55	197	192	198	56	14.8	Discharged.
90 ♀	XIII.....	54	205	200	198	53	16.1	Do.
91 ♀	XIII.....	40	187	187	198	57	14.2	Do.
92 ♀	XIII.....	45	168	165	198	50	12.2	Do.
61 ♂	XIV.....	58	297	297	209	32	22.6	Do.
62 ♂	XIV.....	62	254	252	266	64	15.1	Do.
113 ♂	XIV.....	47	232	164	146	94	17.9	Do.
63 ♀	XVI.....	45	182	182	209	31	18.1	Do.
64 ♂	XVI.....	64	281	281	209	30	25.7	Do.
65 ♀	XVI.....	46	195	194	208	29	19.1	Do.
66 ♂	XVI.....	40	216	216	208	28	24.0	Do.

⁷ Loc. cit.

The results on pasteurized milk (Table V) again show that not until the food mixture is composed of at least 2½ parts of milk to 1 part of basal ration is there normal growth obtained.

TABLE V.—*Summary of experiments on rats fed on pasteurized milk.*

Number of rat.	Diet fed.	Initial weight.	Maximum weight.	Final weight.	Duration of experiment in days.	Average c. c. of milk consumed daily.		Remarks.
						Number of days weighed.	C. c.	
		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>				
105 ♀	XXII.....	38	154	152	180	57	11.6	Discharged.
107 ♀	XXII.....	59	151	163	163	59	10.9	Do.
108 ♀	XXII.....	45	127	99	73	8	7.1	Died.
114 ♀	XXII.....	40	162	160	126	86	16.2	Discharged.
94 ♂	XX.....	40	275	275	198	70	21.3	Do.
95 ♂	XX.....	45	227	227	198	67	19.2	Do.
96 ♂	XX.....	60	227	227	198	67	16.3	Do.
67 ♀	XVII.....	41	213	213	208	29	21.1	Do.
69 ♀	XVII.....	32	207	207	208	39	19.3	Do.
101 ♂	XVII.....	55	260	260	198	74	20.6	Do.
70 ♂	XVII.....	43	305	302	208	36	19.3	Do.
71 ♂	XVIII.....	45	240	240	208	37	26.6	Do.
72 ♀	XVIII.....	45	193	187	208	36	21.4	Do.
73 ♀	XVIII.....	30	221	221	208	36	22.6	Do.
74 ♀	XVIII.....	47	203	203	89	(¹)	-----	Unknown.
106 ♀	XVIII.....	76	185	184	175	77	23.9	Discharged.

¹ Accident; died.

The results on certified milk (Table VI) are in accord with those found in the other milks; that is, that it is necessary to use 2½ parts of milk to 1 part of basal mixture to give a ration that will produce full growth in rats.

TABLE VI.—*Summary of experiments on rats fed on local certified milk.*

Number of rat.	Diet fed.	Initial weight.	Maximum weight.	Final weight.	Duration of experiment in days.	Average c. c. of milk consumed daily.		Remarks.
						Number of days weighed.	C. c.	
		<i>Grams.</i>	<i>Grams.</i>	<i>Grams.</i>				
97 ♀	XXI.....	52	190	190	198	71	15.5	Discharged.
98 ♀	XXI.....	44	187	187	198	66	16.7	Do.
99 ♀	XXI.....	54	207	205	198	63	18.6	Do.
100 ♂	XXI.....	67	297	294	178	66	19.4	Do.
117 ♂	XXI.....	47	315	315	70	66	27.4	Do.
118 ♂	XXI.....	36	285	285	70	66	25.8	Do.
119 ♂	XXI.....	40	270	270	91	66	23.0	Do.
120 ♀	XXI.....	33	180	180	98	66	20.2	Do.
121 ♀	XXI.....	42	185	185	70	66	19.8	Do.
122 ♀	XXI.....	43	235	230	98	66	21.4	Do.
123 ♀	XXI.....	45	189	185	91	66	19.3	Do.
79 ♀	XIX.....	37	195	184	216	74	18.2	Do.
80 ♀	XIX.....	50	197	188	203	64	22.4	Do.
81 ♀	XIX.....	42	260	258	216	75	21.7	Do.
82 ♀	XIX.....	54	247	214	235	65	18.6	Do.
83 ♀	XIX.....	59	185	170	216	75	15.2	Do.

Table VII gives the results obtained on feeding a dry mixture of the basal ration plus skim milk powder.

TABLE VII.—Summary of experiments on rats fed on spray process skim-milk powder plus basal mixture.

Number of rat.	Diet fed.	Initial weight.	Maximum weight.	Final weight.	Duration of experiment in days.	Average grams of milk powder consumed daily.		Remarks.
						Days weighed.	Grams.	
109 ♂	XXIII.....	46	290	270	165	97	2.6	Discharged.
110 ♂	XXIII.....	45	240	234	150	94	2.4	Do.
111 ♂	XXIII.....	54	204	190	165	99	2.5	Do.
112 ♀	XXIII.....	53	185	178	153	97	2.5	Do.

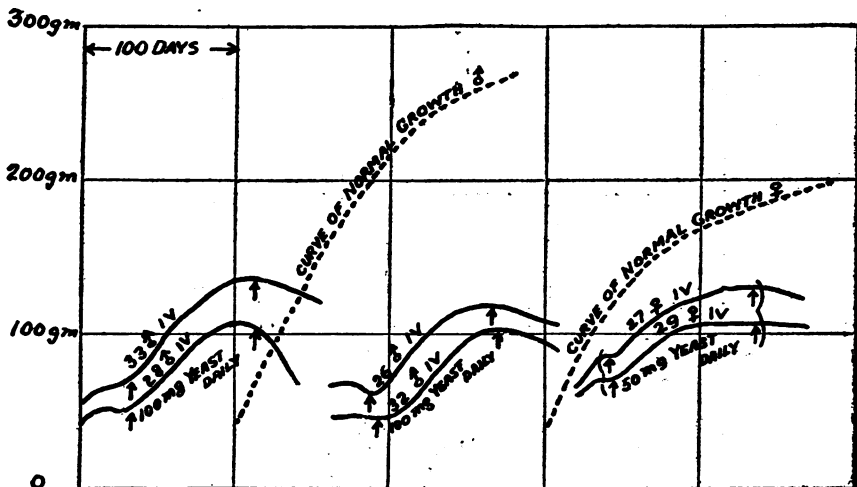


CHART 1.—Showing unsatisfactory growth of albino rats on diets low in raw milk. Addition of yeast resulted in increased growth. (Arrows indicate period of yeast feeding.)

Diet: IV. 100 grams basal, 25 c. c. Agr. Dept. raw milk, 75 c. c. water.

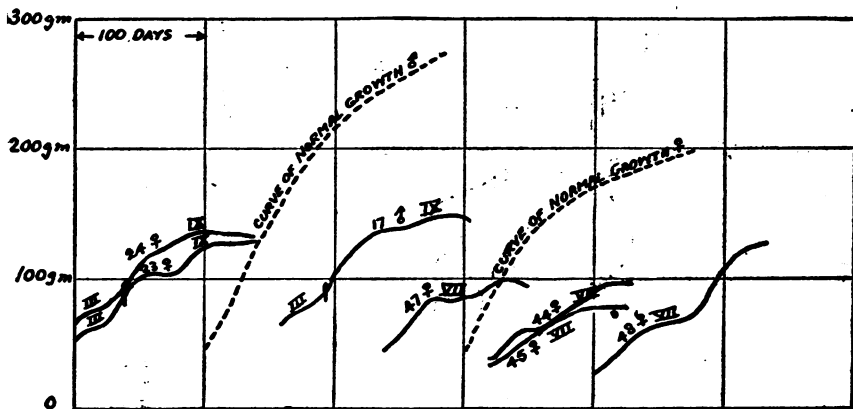


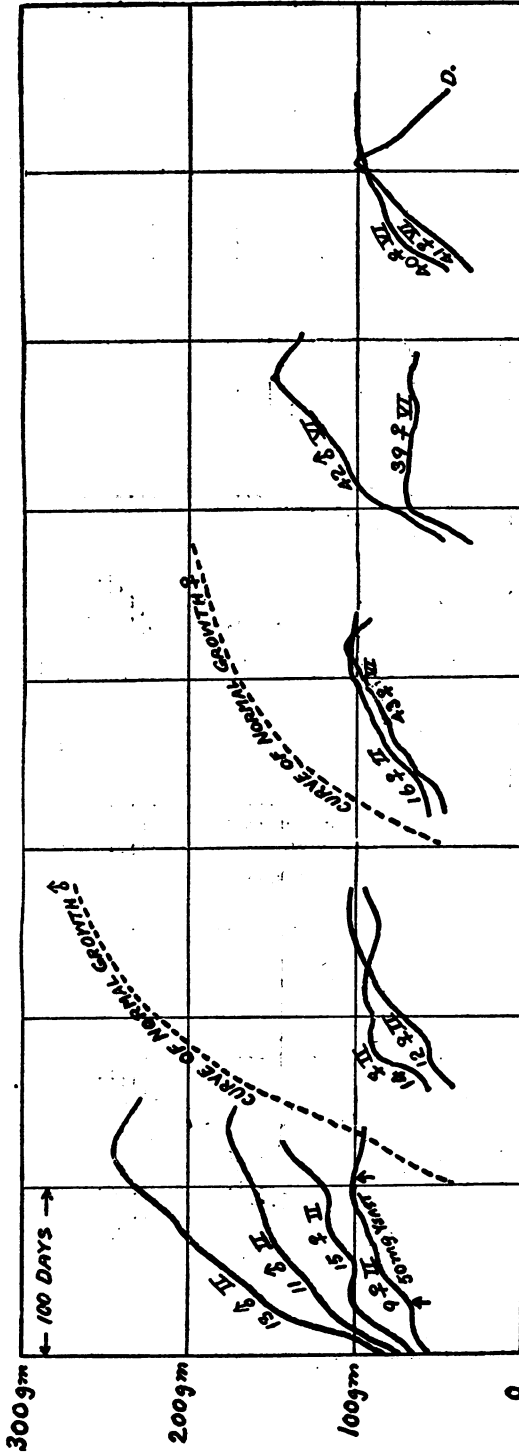
CHART 2.—Showing unsatisfactory growth of albino rats on diets low in milk; no difference between raw and reconstructed milks. Increase of milk in diet caused increased growth (17, 23, 24).

Diets:

III. 100 grams basal, 50 c. c. Agr. Dept. raw milk, 50 c. c. H₂O.

IX. 100 grams basal, 200 c. c. Agr. Dept. raw milk.

VII. 100 grams basal, 50 c. c. reconstructed milk, 50 c. c. H₂O.



CHAR 3.—Showing unsatisfactory growth of albino rats on diets low in milk; raw milk is no better than reconstructed. (Arrows indicate period of yeast feeding in addition.)

Diets:

II. 100 grams basal, 75 c. c. Agr. Dept. raw milk, 25 c. c. H_2O .

VI. 100 grams basal, 75 c.c. reconstructed milk, 25 c. c. H_2O .

Diet XXIII was so mixed as to give in terms of liquid milk the same ratio as three and one-half times as much milk as basal ration. By the use of this diet it was possible to determine whether the subnormal growth observed in rats receiving $3\frac{1}{2}$ parts of liquid milk to 1 part of basal ration was due to an insufficient consumption of solids on account of the excessive water content of such mixtures. The above mixture also contains approximately 24 per cent skim milk powder.

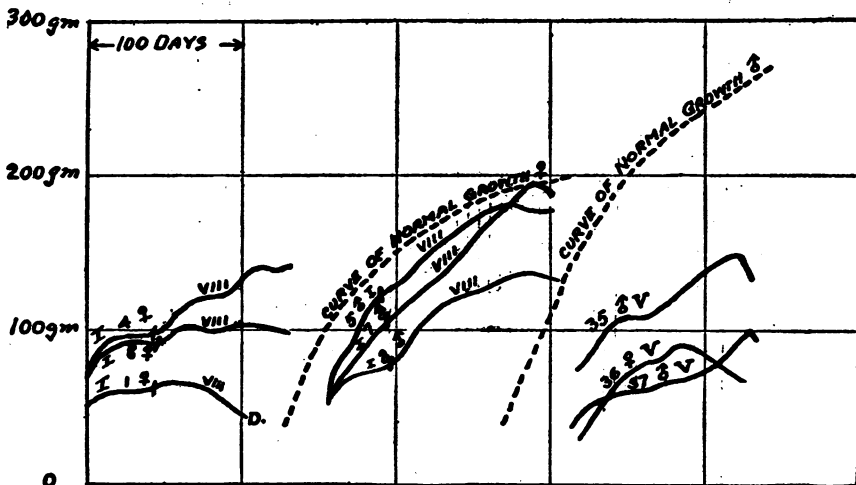


CHART 4.—Showing unsatisfactory growth of albino rats on diets low in milk; raw milk is no better than reconstructed milk.

Diets:

- I. 100 grams basal, 100 c. c. Agr. Dept. raw milk.
- VIII. 100 grams basal, 150 c. c. Agr. Dept. raw milk.
- V. 100 grams basal, 100 c. c. reconstructed milk.

All except one of the animals upon this diet attained full growth. Osborne and Mendel⁸ had previously found that 24 per cent was the minimum for whole milk powders in such a mixture to promote growth. These figures of 24 per cent whole milk powder are far in excess of their figures of 16 c. c. daily per animal, going upon the average daily consumption of food by a growing rat.

Charts I-IX give in graphic form the results of the same experiments as shown in the tables. Normal curves are taken from "The Rat," by Henry H. Donaldson, 1915, and are begun at 40 gm. body weight.

SUMMARY.

1. Reconstructed milk made from skim milk powder (spray process), water, and butter fat contains growth-promoting properties for albino rats equal to those of fresh and pasteurized milk; that is to

⁸ Loc. cit.

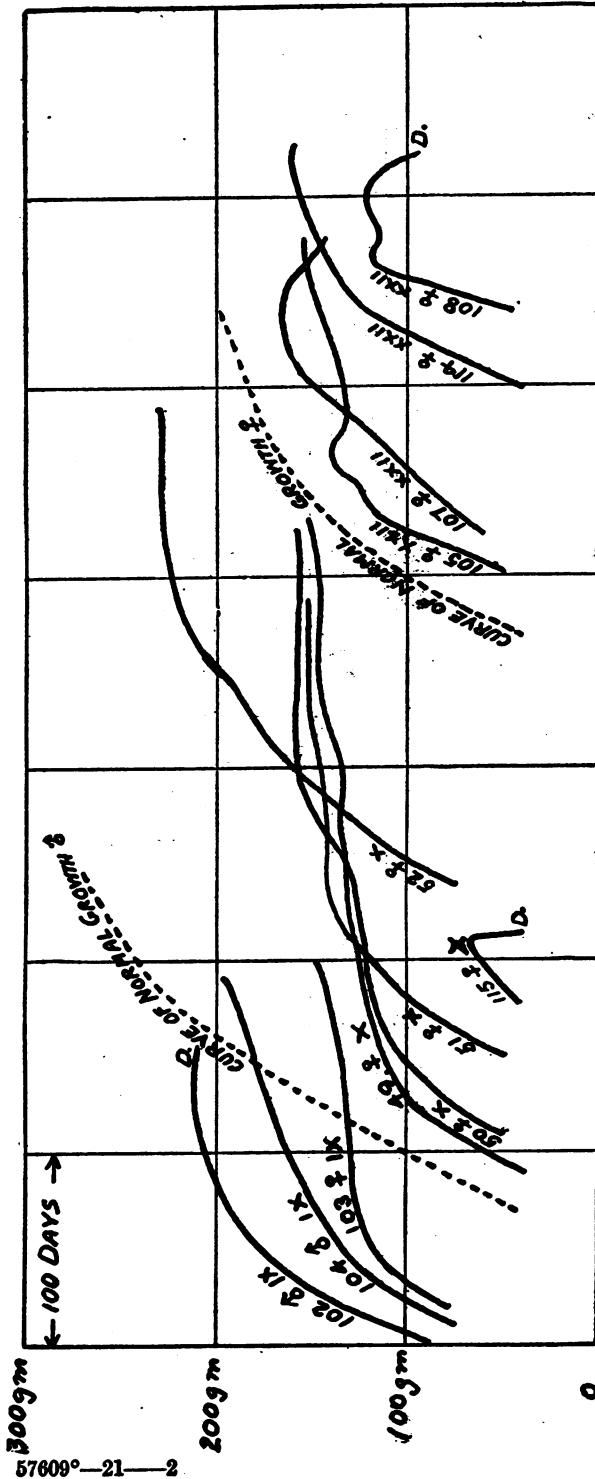


CHART 5.—Showing a growth not quite satisfactory of albino rats on diets composed of 100 grams basal mixture to 200 c. c. milk. There is no difference between raw, pasteurized, and reconstructed milks.

- Diets:
 IX. 100 grams basal, 200 c. c. Agr. Dept. raw milk.
 X. 100 grams basal, 200 c. c. reconstructed milk.
 XII. 100 grams basal, 200 c. c. pasteurized milk.

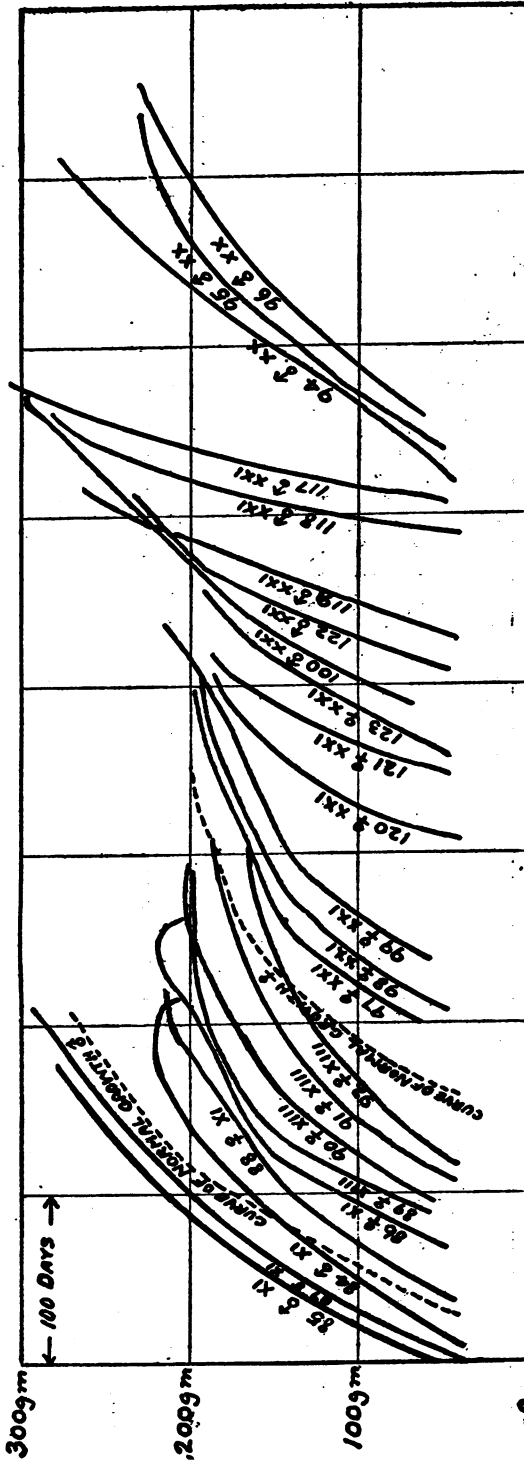


CHART 6.—Showing excellent growth of albino rats on diets composed of 100 grams basal mixture to 250 c. of milk. There is no difference between raw, pasteurized, and reconstructed milks.

Diets:

- XI. 100 grams basal, 250 c. c. Agr. Dept. raw milk.
- XIII. 100 grams basal, 250 c. c. reconstructed milk.
- XX. 100 grams basal, 250 c. c. pasteurized milk.
- XXI. 100 grams basal, 250 c. c. certified milk.

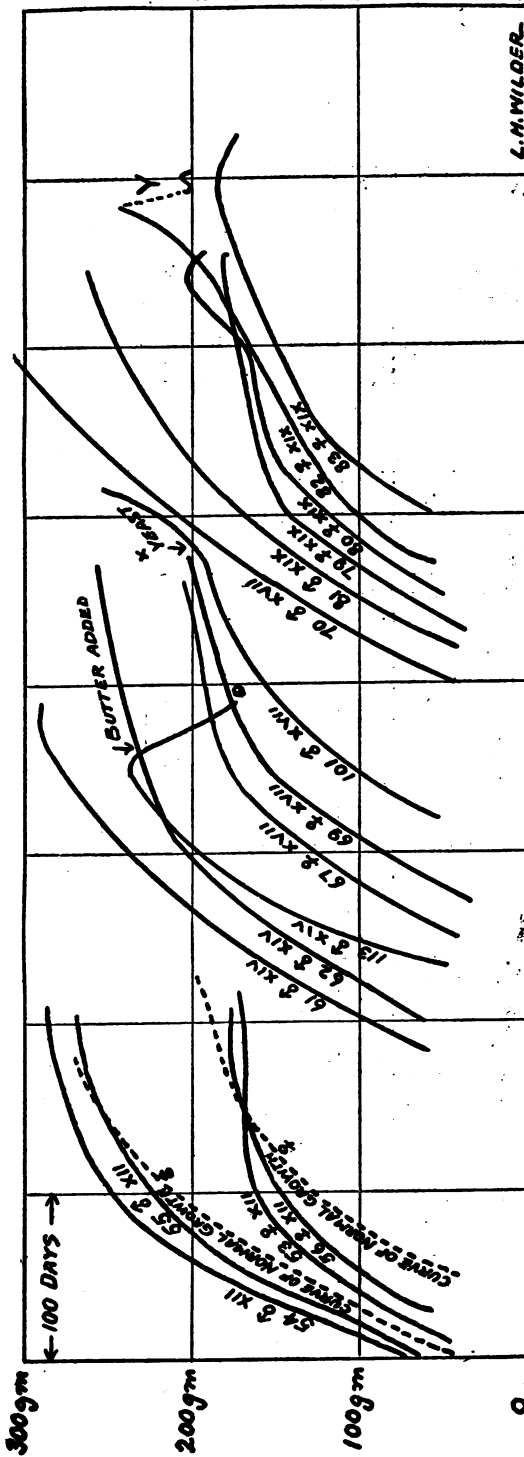


CHART 7.—Showing excellent growth of albino rats on diets high in milk. There is no difference between raw, pasteurized, and reconstructed milks. Addition of butter caused a very slight increase in growth (92). Addition of yeast to diet caused increased growth (101).

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- Diets:
- XII. 100 grams basal, 300 c. c. Agr. Dept. raw milk.
 - XIV. 100 grams basal, 300 c. c. reconstructed milk.
 - XVII. 100 grams basal, 300 c. c. pasteurized milk.
 - XIX. 100 grams basal, 300 c. c. certified milk.
- Y. Birth of young.

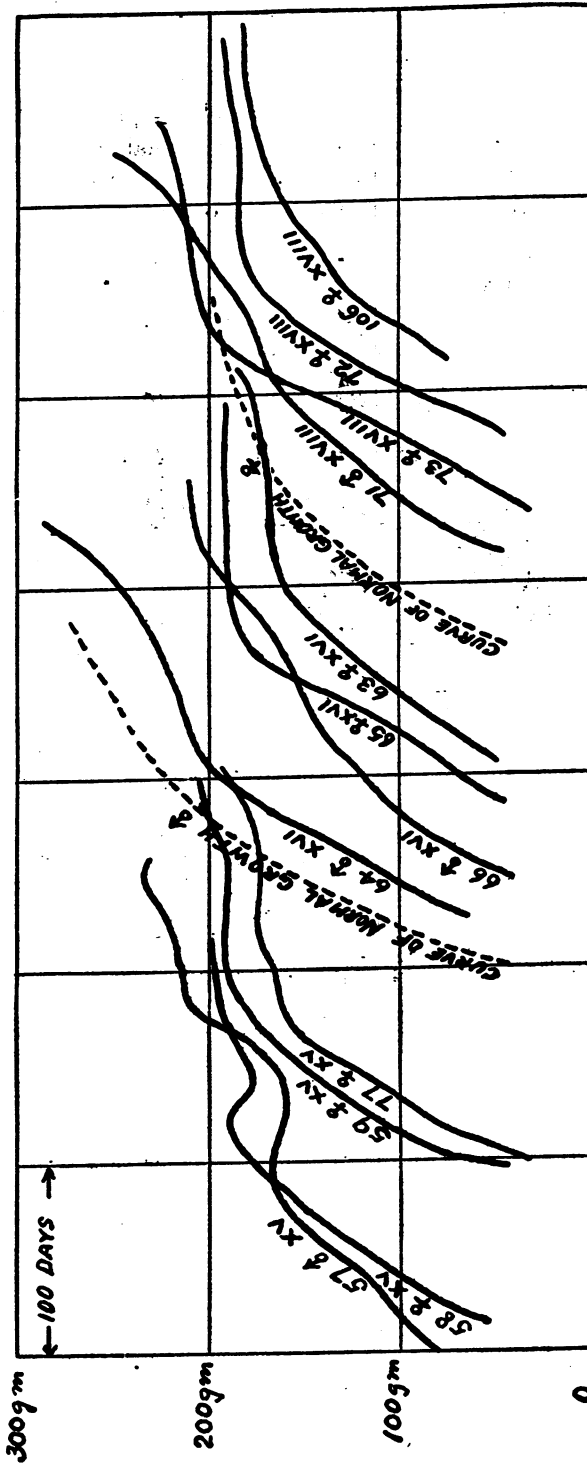


CHART 8.—Showing growth of albino rats on diets composed of 100 grams basal to 350 c. c. of milk. This excessive amount of milk does not give quite as good growth as 260 or 300 c. c. There is no difference between raw, pasteurized, and reconstructed milks.

Diets:

- XV. 100 grams basal, 350 c. c. Agr. Dept. raw milk.
- XVI. 100 grams basal, 350 c. c. reconstructed milk.
- XVIII. 100 grams basal, 350 c. c. pasteurized milk.

say, the process of drying skim milk by the spray process does not injure the water-soluble vitamine.

2. In feeding albino rats a basal mixture of purified foodstuffs plus milk of any kind, it is necessary to give at least $2\frac{1}{2}$ parts of milk to 1 part of the basal mixture in order to promote normal growth. This is confirmatory of Osborne and Mendel, who found that 16 c. c. of fresh milk daily is required by a growing albino rat.

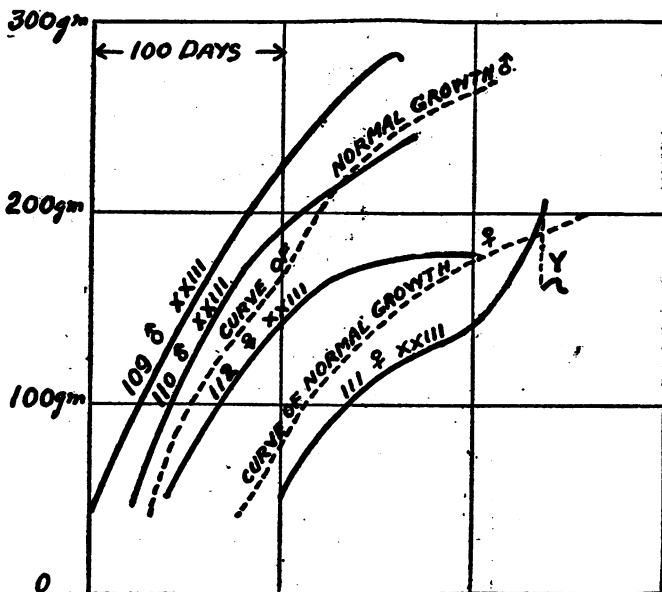


CHART 9.—Showing good growth of albino rats on a diet composed of dry basal mixture and dry skim milk powder. This gave about 24 per cent of milk powder.

Diet: XXIII. 100 grams basal, 31.2 grams spray process skim milk powder, fed dry.
Y, Birth of young.

3. An excessive amount of liquid milk furnished to albino rats gives subnormal growth after a time, because of the large amount of liquid in proportion to the solids in such a diet.

ACKNOWLEDGMENTS.

The author takes this opportunity of expressing his thanks to Dr. Carl Voegtlin, Chief of the Division of Pharmacology, under whose direction this work was carried out, and who aided in many ways during its progress. Thanks are also due to Mr. J. W. Thompson, who rendered material assistance in the work.

THE SYPHILITIC FACTOR IN ESSENTIAL EPILEPSY.

By N. NOVICK, Associate Bacteriologist, United States Public Health Service Hospital No. 34, East Norfolk, Mass.

The coexistence of epilepsy with other nervous and mental diseases, both of syphilitic and nonsyphilitic origin, has been frequently emphasized. Indeed, the present tendency in the medical literature is toward the usage of the term "epilepsies," the plural form of the noun. The etiology of epilepsy is still in the problematic state, and hence to account for certain convulsive attacks, whether epileptic or epileptoid in character, the syphilitic factor as, perhaps, contributory to or explanatory of seizure manifestations, presents itself prominently in the diagnosis and study of these cases. Is syphilis associated frequently enough with epilepsy to justify its inclusion as a necessary and highly desirable eliminating factor in the diagnosis of the "epilepsies"? The genuine, or classic, epilepsy, in the sense and description of Clark (1), constitutes a disease entity group perhaps nonsyphilitic in origin. Buchanan (2), in a study of 128 cases of epilepsy, found the Wassermann reaction uniformly negative. Rawlings (3), in studying the colloidal gold reaction in the spinal fluid of a large number of psychiatric patients, included a group of forty cases of epilepsy in which but one gave a positive Wassermann in the blood serum. It was felt that the inquiry into the frequency of a positive Wassermann reaction in the blood serum of essential epileptics without a clinical history of infection or other manifestations of syphilis, as well as the incidence of frank cases of syphilis with epilepsy, might prove of some import. This, then, is the primary object of this communication, namely, the determination of the syphilitic factor in a considerable number of epileptic patients, as evidenced by history of infection, clinical manifestations of syphilis, and corroborative proof of the Wassermann examinations, and also the frequency of a positive Wassermann alone in the blood serum of epileptics in the absence of clinical manifestations of syphilis, viewed, perhaps, as constituting the etiological factor in these particular cases.

The diagnosis of the cases under consideration has been fairly well established by a group of trained men, by constant and careful observation in an institution apparently favorable for them, where seizure manifestations have been watched with a view to correct diagnosis and treatment. It is apparent that if a sero-diagnostic study in epilepsy with relation to syphilis is to be of any value at all, the establishment of the diagnosis of the epilepsy should, perhaps, constitute a prerequisite. This was apparently accomplished at our hospital, where the clinical observations of the cases was in no way influenced by the laboratory. It is perhaps venturesome to state that the typical convulsive seizures, if clearly exhibited,

make the diagnosis comparatively simple, and that the nondeteriorated or potential epileptic or those who present the epileptic equivalents as the only symptom of the disease, often compare favorably with the average normal individual in their general behavior toward their fellow men. Often, however, the epilepsy is superimposed by psychosis of one class or another: In these cases, to be sure, the syphilitic factor needs elimination; and in view of the fact that a history of specific infection is often difficult of elucidation in such patients as a class, by virtue of their peculiar mental make-up, the Wassermann reaction must of necessity remain the guiding hand, if not the only one, in certain instances. Stuart (4) sums up the situation in the following sentence: "It is unsafe to assume that any patient is a true epileptic until that patient has had the thorough going over that he or she is entitled to; and until, by these means, other convulsive-producing diseases have as far as possible been eliminated." In the presence of a positive Wassermann reaction in an epileptic patient, the convulsive attacks are given special inventory, and some ground for specific therapy is thus created. It is needless to state that the method of treatment of syphilitic epileptics is different from the general hygienic, occupational, and dietetic treatments offered in institutional care for patients of the essential type; the specific angle of attack must be resorted to in addition to the general method of treatment.

Incidence of syphilis in epilepsy.

Clinical diagnosis.	Total number of cases.	Wassermann reaction.		Per cent positive.	Clinical and other laboratory evidence.
		Positive.	Negative.		
Essential epilepsy	226	5	221	2.2	No history of infection.
Epilepsy with syphilis.....	5	5	0	2.1	
Epilepsy with psychosis.....	19	1	18	.....	No history of infection; spinal fluid negative.
Hysteria.....	33	0	33	.....
Mental deficiency, no epilepsy.	27	1	26	.....	Chronic specific urethritis.
Total serum examinations....	404	.....	.....	.....

It is seen from the table that the incidence of frank syphilis associated with epilepsy in a series of 231 cases was found to be about 2.2 per cent. In three of the positive cases there was, with the epilepsy, a definite history of syphilitic infection several years back, among which one showed luetic scars and one oral lesions; in one the diagnosis of neurosyphilis with epilepsy was made upon a positive Wassermann and other positive tests in the spinal fluid; and in the fifth case the epilepsy was associated with a condition of general paralysis of the insane. Further study of the table will show that the frequency of a possible syphilitic factor in a group of 245 cases of essential epilepsy (19 cases of epilepsy with psychosis), as evi-

denced by a persistent positive Wassermann reaction alone without clinical manifestations of the disease possible of elucidation or other diseases for which a positive complement fixation could have been accounted for was found to be about 2 per cent, a small percentage indeed. It may be remarked by way of discussion that these particular cases, unlike the frankly syphilitic epileptics, have given apparently good results under arsphenamine treatment intravenously and regularly administered as far as their condition of epilepsy was concerned. The term "apparently" is here used advisedly, as the criterion of improvement or cure in epilepsy is debatable; in our instance the frequency of seizures was curtailed and the general mental and physical conditions were improved. It would appear that the condition of epilepsy might have been either due to an obscure syphilitic involvement or much intensified by the latter. This, evidently, was difficult to ascertain. However, the serodiagnosis in these cases appears to be quite valuable from the point of view of therapy as well as diagnosis; they would appear to justly constitute the syphilitic factor index in the group of essential epilepsy under discussion.

The group of hysteria cases, although those cases do not concern us in the present study, has been included in the table because of the possibility that some of the patients in the group, having been subsequently diagnosed as epileptic by longer observation at the hospital, might be placed in the epileptic group and further reduce the percentage calculations of the series here presented. None of those cases gave a positive Wassermann reaction.

The method used at this hospital laboratory was essentially that of the Hygienic Laboratory of the United States Public Health Service, and described in detail by Passed Assistant Surgeon M. H. Neill in Reprint No. 483 from the Public Health Reports. It was closely followed to secure uniform and accurate results. The antigen used was a fresh beef-heart extract of acetone-insoluble fraction of lipoids. Amboceptor was obtained in the usual way, by intravenous injection into rabbits of small doses of sheep cell suspension, and used as a constant in the hemolytic mixture. Complement was obtained from five normal guinea pigs, through aspiration from the heart, and was pooled, salted, and titrated against the amboceptor-red-cell suspension mixture before performing the day's work. (Rarely were there less than five pigs used, and almost always a freshly obtained complement was employed.) Incubation was as follows: Primary incubation in water bath at 37° C. for one hour, and secondary incubation at same temperature for thirty minutes. The latter period was modified to one hour in the latter part of the work. Results were read after the tubes had remained in the ice box over night. In doubtful cases the test was repeated at weekly intervals.

SUMMARY AND CONCLUSIONS.

In the light of the present usage of the plural term "epilepsies," intended to comprise a group of disease conditions in which the nature of the seizure manifestations varies and in which the etiology of the convulsive attacks possibly differs, the writer endeavored to determine the incidence of syphilis in a series of established institutional cases of essential epilepsy as evidenced by history of primary infection, clinical manifestations, and corroborative evidence of the Wassermann reaction. In 231 cases the incidence of syphilis was found to be 2.2 per cent.

These cases are viewed in the light of the probability of the luetic infection existing side by side with the epilepsy; the seizure manifestations may or may not be traced to the specific involvement, but are perhaps aggravated by the latter disease.

The occurrence of a syphilitic factor in epilepsy as evidenced by repeated positive Wassermann tests alone, in the absence of clinical support, as far as it was possible of determination, was found in 2 per cent of the cases.

This small percentage might, perhaps, constitute the possible syphilitic etiology of epilepsy as determined in a series of 245 cases. Further proof can not be offered.

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- (1) Clark, Pierce L., *Clinical Studies in Epilepsy*. G. E. Stechart and Co., New York, 1917.
- (2) Buchanan, J. A., *Minnesota Medicine*, St. Paul, Vol. 3, No. 11, November, 1920. Abstracted in *Jour. Am. Med. Assoc.*, Dec. 4, 1920.
- (3) Rawlings, Eva., *Archives of Neurology and Psychiatry*, August, 1919, p. 180.
- (4) Stuart, Daniel D., jr., *Jour. Am. Med. Assoc.*, October, 1920, p. 933.

INDIANA LAW FOR PREVENTION OF PROCREATION BY CERTAIN PERSONS HELD INVALID.

The following abstract of a decision by the Indiana Supreme Court is taken from the advance sheets of the *Federal Reporter*, issue of August 11, 1921:

The chief physician of the Indiana Reformatory, the board of managers, and two chosen physicians were enjoined from performing vasectomy on an inmate of the reformatory, and on their appeal the law under which they proposed to act was held invalid, as denying due process of law, by the Indiana Supreme Court in *Williams v. Smith*, 131 *Northeastern Reporter*, 2, for the reason that it gave the inmate no opportunity to cross-examine the experts deciding on the operation, to controvert their opinion, or to establish that he was not within the class designated in the statute which includes confirmed criminals, idiots, rapists, and imbeciles, whose mental and physical condition makes procreation inadvisable. The questions of cruel and unusual punishment and infliction of pains and penalties by the legislative body through administrative boards were not considered by Judge Townsend, who wrote the opinion, the act being held to be in plain violation of the fourteenth amendment to the Federal Constitution.

PREVALENCE OF POLIOMYELITIS.

The following table gives the number of cases of poliomyelitis (infantile paralysis) reported to the Public Health Service by State health officers from May 29 to August 20, 1921, inclusive. These reports are preliminary and necessarily incomplete.

Poliomyelitis (infantile paralysis)—Number of cases of poliomyelitis occurring in various States, as reported to the Public Health Service by the State health officers in weekly telegraphic or mail reports.

[States omitted are those from which no reports have been received or which have reported no poliomyelitis during the period covered. Leaders indicate that reports were received but no cases of poliomyelitis were reported.]

State.	Week ended (1921)—											
	June—				July—					August—		
	4	11	18	25	2	9	16	23	30	6	13	20
Arkansas.....				1							7	7
California.....	1	1	2	5		3	3	6	10	4	9	4
Colorado ¹										1		2
Connecticut.....				6	2	3	2	4	5	1	4	5
District of Columbia.....						3	4	3	7	3		
Florida.....										1		
Georgia.....		1	1		1							
Illinois.....		2	4	5	10	12	15	24	39	38	27	28
Indiana.....			2	1	1	1		6	8	5	2	3
Iowa.....					1	1		1	1	7	6	16
Kansas.....		1				2	2		1		1	3
Kentucky.....		1			1	2	2	1				(²)
Louisiana.....									2			
Maine.....		3					1			1		1
Maryland.....		1	2	3	4	1	4	8	7	6	10	16
Massachusetts.....	1	2	1	4	4	3	6	4	10	10	12	18
Minnesota.....		1	1	2	10	1	3	5	101	81	48	62
Mississippi.....		1										
Missouri.....			(²)	6		(²)	8	3	4	5	3	2
Montana.....	1										2	2
Nebraska.....		1			3		1	2	2		4	5
New Jersey.....		2	1	1	2	(¹)	3	1	6	7	6	8
New York ³				1		2	4	10	15	24	27	41
North Carolina.....			3		4	3	1				1	2
Ohio.....	(²)	(²)	(²)	(²)	(²)	(²)	(²)	(²)	27	(²)	(²)	(²)
South Dakota.....							3			2		1
Texas.....								(²)	3			
Vermont.....						3	1		3	3	2	4
Virginia.....		(²)	(²)	1		(²)	2	1	2	(²)	(²)	1
Washington.....												13
West Virginia.....										2	3	
Wisconsin.....	2				1	4	9	14	12	21	16	15

¹ Exclusive of Denver.

² No report received.

³ Exclusive of New York City.

PRINCIPAL CAUSES OF DEATH COMPARED.

COMPARISON OF DEATH RATES FOR PRINCIPAL CAUSES FOR MAY AND JUNE, 1921, AND FOR JUNE AND YEAR 1920, IN A GROUP OF INSURED PERSONS.

The accompanying table is reprinted from the Statistical Bulletin of the Metropolitan Life Insurance Co. for July, 1921. It presents the mortality data of the industrial department of the company for the months of May and June, 1921, June, 1920, and for the year 1920. The figures are based on a strength of approximately 13,000,000 insured persons.

Although these rates apply to a more or less selected group, they are very good indices of the comparative mortality conditions of the general population.

Death rates (annual basis) per 100,000 lives exposed, for principal causes, May and June, 1921, and for June and year 1920.

[Industrial Department, Metropolitan Life Insurance Co.]

Cause of death.	Death rate per 100,000 lives exposed.			
	June, 1921.	May, 1921.	June, 1920.	Year 1920.
Total, all causes.....	922.2	855.1	1,000.2	989.4
Typhoid fever.....	5.3	3.8	5.5	6.7
Measles.....	3.1	4.8	13.3	8.5
Scarlet fever.....	8.0	7.5	6.2	6.0
Whooping cough.....	3.9	3.8	7.2	6.6
Diphtheria.....	19.8	18.5	17.4	22.1
Influenza.....	4.2	9.8	16.3	53.5
Tuberculosis (all forms).....	124.3	125.0	160.9	137.9
Cancer.....	77.4	69.9	77.0	69.8
Meningitis (all forms).....	5.6	6.8	7.3	5.2
Cerebral hemorrhage.....	58.9	58.0	64.1	61.3
Organic diseases of heart.....	120.4	116.6	121.8	117.0
Pneumonia (all forms).....	55.1	71.0	75.4	106.1
Other respiratory diseases.....	13.9	13.3	17.1	18.2
Diarrhea and enteritis.....	13.6	9.5	13.9	15.8
Bright's disease.....	72.8	69.7	74.9	70.8
Puerperal state.....	20.9	17.8	22.1	23.0
Suicides.....	7.8	7.8	7.8	6.1
Homicides.....	7.6	4.6	6.5	5.8
Other external causes (excluding suicides and homicides).....	67.0	48.9	63.2	60.1
Traumatism by automobile.....	13.9	9.8	12.9	11.1
All other causes.....	222.8	188.4	222.4	188.9

DEATHS DURING WEEK ENDED AUG. 13, 1921.

Summary of information received by telegraph from industrial insurance companies for week ended Aug. 13, 1921, and corresponding week, 1920. (From the Weekly Health Index, Aug. 16, 1921, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Aug. 13, 1921.	Corresponding week, 1920.
Policies in force.....	47, 196, 166	43, 812, 306
Number of death claims.....	7, 104	6, 692
Death claims per 1,000 policies in force.....	7.8	8.0

Deaths from all causes in certain large cities of the United States during the week ended Aug. 13, 1921, infant mortality, annual death rate, and comparison with corresponding week of preceding years. (From the Weekly Health Index, Aug. 16, 1921, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population, July 1, 1921.	Week ended Aug. 13, 1921.		Average annual death rate per 1,000. ²	Deaths under 1 year.		Infant mortality rate, week ended Aug. 13, 1921. ³
		Total deaths.	Death rate. ¹		Week ended Aug. 13, 1921.	Previous year or years. ³	
Akron, Ohio.....	229,195	29	6.6	4 11.1	5	4	48
Albany, N. Y.....	115,071	31	14.0	C 12.4	7	C 4	157
Atlanta, Ga.....	207,473	65	16.3	C 14.9	C 4	C 12	.....
Baltimore, Md.....	752,863	182	12.6	A 18.5	40	A 58	112
Birmingham, Ala.....	136,133	60	16.8	A 17.8	11	A 9	.....
Boston, Mass.....	757,634	168	11.6	A 14.2	31	A 43	84
Bridgeport, Conn.....	149,967	23	8.0	A 14.7	5	A 11	63
Buffalo, N. Y.....	519,608	117	11.7	C 10.9	24	C 17	98
Cambridge, Mass.....	110,444	24	11.3	A 13.6	7	A 6	125
Camden, N. J.....	119,672	18	7.8	.....	7	.....	104
Chicago, Ill.....	2,780,655	554	10.4	A 15.6	102	A 170	.....
Cincinnati, Ohio.....	403,418	88	11.4	C 13.9	13	C 10	86
Cleveland, Ohio.....	831,138	164	10.3	C 9.0	43	C 24	115
Columbus, Ohio.....	245,358	64	13.6	C 12.2	7	C 4	81
Dallas, Tex.....	165,232	24	7.6	A 12.1	3	A 4	.....
Dayton, Ohio.....	158,119	23	7.6	C 8.4	6	C 4	98
Denver, Colo.....	263,152	67	13.3	A 10.4	4	.....	.....
Detroit, Mich.....	1,070,450	204	9.9	C 9.3	62	C 32	79
Fall River, Mass.....	120,668	24	10.4	C 13.4	5	C 10	75
Grand Rapids, Mich.....	141,197	24	8.9	C 6.8	4	C 4	68
Houston, Tex.....	144,340	36	13.0	.....	7	.....	.....
Indianapolis, Ind.....	325,215	76	12.2	C 11.6	15	C 9	117
Jersey City, N. J.....	302,788	61	10.5	C 11.5	14	C 9	96
Kansas City, Kans.....	103,884	19	9.5	C 12.3	7	C 7	167
Kansas City, Mo.....	336,157	77	11.9	C 11.9	21	C 7	.....
Los Angeles, Calif.....	111,921	143	12.2	A 12.0	22	A 12	104
Lowell, Mass.....	113,757	24	11.0	A 19.0	7	A 14	113
Memphis, Tenn.....	165,389	36	11.4	C 16.9	5	C 8	.....
Milwaukee, Wis.....	468,386	79	8.8	A 9.7	20	A 17	97
Minneapolis, Minn.....	392,815	67	8.9	C 10.3	6	C 15	34
Nashville, Tenn.....	122,036	24	10.3	C 13.2	3	C 10	.....
New Bedford, Mass.....	125,012	24	10.0	A 15.7	8	A 16	123
New Haven, Conn.....	167,007	32	10.0	C 15.6	3	C 12	35
New Orleans, La.....	394,657	107	14.1	A 18.6	12	A 19	.....
New York, N. Y.....	5,751,867	1,043	9.5	C 9.9	210	C 244	82
Newark, N. J.....	424,885	84	10.3	C 10.5	23	C 9	102
Norfolk, Va.....	121,230	25	10.8	.....	3	.....	53
Oakland, Calif.....	226,472	32	7.4	A 9.6	2	A 4	25
Omaha, Nebr.....	197,066	59	15.6	.....	8	.....	92
Paterson, N. J.....	137,463	35	13.3	.....	12	.....	203
Philadelphia, Pa.....	1,866,212	375	10.5	4 17.1	72	4 134	87
Pittsburgh, Pa.....	602,452	150	13.0	C 12.6	45	C 43	160
Portland, Oreg.....	264,859	51	10.0	C 9.8	3	C 8	30
Providence, R. I.....	239,645	56	12.2	C 10.1	19	C 11	154
Richmond, Va.....	175,695	37	11.0	C 18.4	9	C 12	110
Rochester, N. Y.....	305,229	61	10.4	C 10.8	13	C 13	101
St. Louis, Mo.....	786,164	150	9.9	C 11.4	14	C 33	.....
St. Paul, Minn.....	237,781	34	7.5	C 9.5	1	C 9	10
Salt Lake City, Utah.....	121,595	23	9.9	A 10.8	4	.....	62
San Francisco, Calif.....	520,546	137	13.7	C 12.0	7	C 9	41
Seattle, Wash.....	327,227	39	6.2	A 7.8	3	A 5	25
Spokane, Wash.....	104,442	24	12.0	C 10.5	4	C 1	87
Springfield, Mass.....	135,877	37	14.2	C 9.1	8	C 6	121
Syracuse, N. Y.....	177,265	38	11.2	C 12.3	11	C 9	132
Toledo, Ohio.....	253,696	53	10.9	A 14.2	11	A 10	111
Trenton, N. J.....	122,760	43	18.3	A 21.6	10	A 12	152
Washington, D. C.....	454,026	108	12.4	A 13.6	17	A 17	99
Wilmington, Del.....	113,408	27	12.4	C 8.4	7	.....	.....
Worcester, Mass.....	184,972	32	9.0	C 8.9	10	C 1	107
Yonkers, N. Y.....	103,324	9	4.5	A 12.1	1	A 6	23
Youngstown, Ohio.....	139,432	43	16.1	C 11.6	9	C 11	114

¹ Annual rate per 1,000 population.

² "A" indicates data for the corresponding week of the years 1913 to 1917, inclusive. "C" indicates data for the corresponding week of the year 1920.

³ Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1920. Cities left blank are not in the registration area for births.

⁴ Data based on statistics of 1915, 1916, and 1917.

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 STATE SUMMARIES.

Telegraphic Reports for Week Ended Aug. 20, 1921.

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

ALABAMA.		Cases.	COLORADO.	
			(Exclusive of Denver.)	Cases.
Chicken pox.....		1	Chicken pox.....	2
Diphtheria.....		47	Diphtheria.....	32
Hookworm disease.....		23	Pneumonia.....	1
Malaria.....		62	Poliomyelitis.....	2
Measles.....		31	Scarlet fever.....	2
Mumps.....		7	Smallpox.....	12
Paratyphoid fever.....		2	Tuberculosis.....	123
Pellagra.....		3	Typhoid fever.....	15
Pneumonia.....		2	Whooping cough.....	1
Scarlet fever.....		15		
Septic sore throat.....		1	CONNECTICUT.	
Smallpox.....		7	Cerebrospinal meningitis.....	1
Tetanus.....		1	Chicken pox.....	1
Trachoma.....		2	Diphtheria:	
Tuberculosis.....		16	New Haven.....	10
Typhoid fever.....		50	Scattering.....	25
Whooping cough.....		20	German measles.....	1
ARKANSAS.			Influenza.....	2
Chicken pox.....		2	Lethargic encephalitis.....	1
Diphtheria.....		19	Measles:	
Influenza.....		2	Tolland.....	9
Malaria.....		272	Scattering.....	6
Pellagra.....		50	Mumps.....	8
Poliomyelitis.....		7	Pneumonia (lobar).....	2
Scarlet fever.....		3	Poliomyelitis.....	5
Trachoma.....		2	Scarlet fever.....	8
Tuberculosis.....		7	Septic sore throat.....	1
Typhoid fever.....		42	Trachoma.....	1
Whooping cough.....		6	Tuberculosis (all forms).....	28
CALIFORNIA.			Typhoid fever.....	19
Cerebrospinal meningitis:			Whooping cough.....	22
Los Angeles.....		1	DELAWARE.	
Oakland.....		1	Diphtheria.....	2
Orange.....		1	Malaria.....	1
San Francisco.....		3	Measles.....	1
Influenza.....		12	Pneumonia.....	1
Lethargic encephalitis:			Scarlet fever.....	3
San Francisco.....		3	Tuberculosis:	
Scattering.....		2	Wilmington.....	16
Poliomyelitis:			Scattering.....	4
Oakland.....		1	Typhoid fever.....	1
Sacramento.....		3	Whooping cough.....	5
Smallpox.....		21		
Typhoid fever.....		41		

FLORIDA.

	Cases.
Diphtheria.....	17
Influenza.....	61
Lethargic encephalitis.....	1
Malaria.....	75
Paratyphoid fever.....	1
Pneumonia.....	55
Scarlet fever.....	7
Smallpox.....	19
Trachoma.....	1
Typhoid fever.....	28

GEORGIA.

Cerebrospinal meningitis.....	1
Chicken pox.....	2
Conjunctivitis (acute infectious).....	10
Diphtheria.....	47
Dysentery (amebic).....	1
Hookworm disease.....	40
Influenza.....	1
Malaria.....	91
Measles.....	3
Paratyphoid fever.....	2
Pellagra.....	3
Pneumonia.....	4
Scarlet fever.....	17
Septic sore throat.....	10
Smallpox.....	10
Tuberculosis (pulmonary).....	6
Typhoid fever.....	54
Whooping cough.....	12

IDAHO.

Scarlet fever.....	1
Typhoid fever.....	3

ILLINOIS.

Cerebrospinal meningitis:	
Chicago.....	1
Oak Park.....	1
Diphtheria:	
Chicago.....	100
Peoria.....	8
Scattering.....	56
Influenza.....	6
Lethargic encephalitis:	
Chicago.....	2
Peoria.....	1
Pneumonia.....	66
Poliomyelitis:	
Alton.....	2
Batchtown.....	2
Bloomington.....	1
Blue Mound.....	1
Chicago.....	2
Franklin.....	1
Joliet.....	1
Joy.....	1
Kane County—Plato Township.....	1
La Salle.....	1
McLean.....	1
Macoupin County—South Palmyra Town- ship.....	1
Mattoon.....	1
Monmouth.....	2
Montgomery County—Nokomis Township.....	1
Morgan County—Woodson Precinct.....	1

ILLINOIS—continued.

	Cases.
Poliomyelitis—Continued.	
Mount Pulaski.....	1
O'ney.....	1
Peoria.....	1
Rock Island.....	1
Sangamon County—Gardner Township.....	1
Schuyler County—Bainbridge Township..	1
Tonica.....	1
Williamson.....	1
Scarlet fever:	
Chicago.....	29
Scattering.....	22
Smallpox.....	1
Typhoid fever.....	61

INDIANA.

Cerebrospinal meningitis—Warrick County...	1
Diphtheria.....	45
Poliomyelitis:	
Marshall County.....	1
St. Joseph County.....	2
Rabies in animals:	
Harrison County.....	1
Marion County.....	1
Scarlet fever.....	18
Smallpox.....	9
Typhoid fever.....	60

IOWA.

Cerebrospinal meningitis:	
Fort Dodge.....	1
Grandview.....	1
Shelby.....	1
Thornton.....	1
Williams.....	1
Diphtheria.....	20
Poliomyelitis:	
Cleona.....	2
Davenport.....	1
Delmar.....	1
Des Moines.....	1
Dubuque.....	1
Eldridge.....	1
Fontanelle.....	1
Fort Dodge.....	1
Jesup.....	1
Lowden.....	1
Lost Nation.....	1
Rowley.....	1
Tripoli.....	1
Vinton.....	1
Walcott.....	1
Scarlet fever.....	31
Smallpox.....	11

KANSAS.

Cerebrospinal meningitis.....	2
Chicken pox.....	3
Diphtheria.....	61
Dysentery.....	3
German measles.....	1
Malaria.....	3
Measles.....	1
Mumps.....	1
Pneumonia.....	6
Poliomyelitis.....	3

KANSAS—continued.

	Cases.
Scarlet fever.....	58
Septic sore throat.....	2
Smallpox.....	8
Tetanus.....	2
Tuberculosis.....	73
Typhoid fever.....	62
Whooping cough.....	25

LOUISIANA.

Diphtheria.....	8
Lethargic encephalitis.....	2
Paratyphoid fever.....	2
Pellagra.....	121
Scarlet fever.....	4
Smallpox.....	3
Typhoid fever.....	27
Whooping cough.....	58

MAINE.

Cerebrospinal meningitis.....	1
Diphtheria.....	11
Pneumonia.....	1
Poliomyelitis.....	1
Scarlet fever.....	5
Smallpox.....	1
Tuberculosis.....	28
Typhoid fever.....	19
Whooping cough.....	6

MARYLAND.¹

Cerebrospinal meningitis.....	1
Chicken pox.....	1
Diarrhea.....	1
Diphtheria.....	24
Dysentery.....	10
Influenza.....	4
Lethargic encephalitis.....	2
Malaria.....	54
Measles.....	18
Mumps.....	4
Ophthalmia neonatorum.....	1
Paratyphoid fever.....	1
Pellagra.....	2
Pneumonia (all forms).....	15
Poliomyelitis.....	16
Scarlet fever.....	19
Tetanus.....	1
Tuberculosis.....	64
Typhoid fever.....	99
Whooping cough.....	59

MASSACHUSETTS.

Cerebrospinal meningitis.....	5
Chicken pox.....	10
Conjunctivitis (suppurative).....	8
Diphtheria.....	114
German measles.....	3
Influenza.....	1
Lethargic encephalitis.....	1
Measles.....	55
Mumps.....	19
Ophthalmia neonatorum.....	22
Pneumonia (lobar).....	12

MASSACHUSETTS—continued.

	Cases.
Poliomyelitis.....	18
Scarlet fever.....	60
Septic sore throat.....	2
Trachoma.....	1
Tetanus.....	1
Tuberculosis (all forms).....	166
Typhoid fever.....	26
Whooping cough.....	75

MINNESOTA.

Cerebrospinal meningitis.....	3
Diphtheria.....	35
Measles.....	1
Poliomyelitis:	
Cass County.....	5
Hennepin County.....	9
Olmstead County.....	5
Todd County.....	5
Scattering.....	38
Scarlet fever.....	64
Smallpox.....	28
Tuberculosis.....	84
Typhoid fever.....	12
Whooping cough.....	7

MISSISSIPPI.

Diphtheria.....	31
Scarlet fever.....	4
Smallpox.....	3
Typhoid fever.....	20

MISSOURI.

Chicken pox.....	2
Diphtheria.....	56
Epidemic sore throat.....	1
Measles.....	4
Mumps.....	1
Poliomyelitis.....	2
Scarlet fever.....	18
Tuberculosis.....	36
Typhoid fever.....	47
Whooping cough.....	32

MONTANA.

Scarlet fever.....	1
Smallpox.....	5
Typhoid fever.....	3

NEBRASKA.

Cerebrospinal meningitis—Omaha.....	1
Chicken pox.....	1
Diphtheria:	
Omaha.....	16
Scattering.....	4
Influenza.....	3
Lethargic encephalitis—Omaha.....	1
Measles.....	3
Poliomyelitis:	
Omaha.....	1
St. Edward.....	2
Saunders County.....	1
Shelton.....	1
Scarlet fever.....	12
Smallpox:	
Nuckolls County.....	10
Scattering.....	10

¹ The onset of many of these cases occurred in prior weeks.² Week ended Friday.

NEBRASKA—continued

	Cases.
Tetanus	1
Typhoid fever.....	11
Whooping cough	7

NEW JERSEY.

Cerebrospinal meningitis.....	1
Chicken pox.....	4
Diphtheria.....	66
Influenza.....	1
Malaria.....	2
Measles.....	19
Pneumonia.....	24
Poliomyelitis.....	8
Scarlet fever.....	35
Trachoma.....	2
Typhoid fever.....	52
Whooping cough.....	98

NEW MEXICO.

Chicken pox.....	1
Diphtheria.....	18
Malaria.....	1
Measles.....	1
Mumps.....	1
Trachoma.....	3
Tuberculosis.....	79
Typhoid fever.....	6
Whooping cough.....	7

NEW YORK.

(Exclusive of New York City.)

Cerebrospinal meningitis.....	3
Diphtheria.....	138
Influenza.....	1
Lethargic encephalitis.....	2
Measles.....	38
Pneumonia.....	63
Poliomyelitis:	
Utica.....	9
Herkimer County.....	13
Scattering.....	19
Scarlet fever.....	60
Smallpox.....	6
Tetanus.....	6
Typhoid fever.....	57
Whooping cough.....	134

NORTH CAROLINA.

Chicken pox.....	3
Diphtheria.....	113
German measles.....	1
Measles.....	14
Poliomyelitis.....	2
Scarlet fever.....	49
Septic sore throat.....	2
Smallpox.....	8
Typhoid fever.....	78
Whooping cough.....	172

SOUTH DAKOTA.

Chicken pox.....	1
Diphtheria.....	2
Measles.....	1

SOUTH DAKOTA—continued.

	Cases.
Poliomyelitis.....	1
Scarlet fever.....	7
Smallpox.....	4
Tuberculosis.....	1
Typhoid fever.....	3

TEXAS.

Chicken pox.....	3
Diphtheria.....	15
Pellagra.....	2
Typhoid fever.....	24
Whooping cough.....	23

VERMONT.

Chicken pox.....	10
Diphtheria.....	9
Measles.....	24
Mumps.....	2
Poliomyelitis.....	4
Scarlet fever.....	12
Smallpox.....	2
Typhoid fever.....	6
Whooping cough.....	22

VIRGINIA.

Poliomyelitis—Madison County.....	1
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WASHINGTON.

Cerebrospinal meningitis.....	1
Chicken pox.....	6
Diphtheria.....	18
Measles.....	6
Mumps.....	2
Poliomyelitis.....	13
Scarlet fever.....	15
Smallpox.....	23
Tuberculosis.....	4
Typhoid fever.....	20
Whooping cough.....	24

WEST VIRGINIA.

Diphtheria.....	10
Scarlet fever.....	3
Typhoid fever.....	7

WISCONSIN.

Milwaukee:	
Cerebrospinal meningitis.....	1
Diphtheria.....	15
Poliomyelitis.....	2
Scarlet fever.....	3
Tuberculosis.....	16
Whooping cough.....	16
Scattering:	
Cerebrospinal meningitis.....	3
Chicken pox.....	2
Diphtheria.....	29
Measles.....	6
Poliomyelitis.....	13
Scarlet fever.....	35
Smallpox.....	8
Tuberculosis.....	9
Typhoid fever.....	10
Whooping cough.....	27

State Reports for Week Ended Aug. 13, 1921.

ARKANSAS.		KENTUCKY.	
	Cases.		Cases.
Cerebrospinal meningitis.....	1	Cerebrospinal meningitis:	
Chicken pox.....	8	Jefferson County.....	1
Diphtheria.....	20	Diphtheria:	
Hookworm disease.....	2	Jefferson County.....	12
Malaria.....	375	Scattering.....	13
Pellagra.....	145	Dysentery.....	3
Poliomyelitis.....	7	Pellagra.....	1
Scarlet fever.....	4	Pneumonia.....	8
Smallpox.....	4	Scarlet fever.....	12
Trachoma.....	4	Septic sore throat.....	2
Tuberculosis.....	24	Smallpox.....	7
Typhoid fever.....	82	Tonsillitis.....	2
Whooping cough.....	6	Trachoma.....	16
		Tuberculosis:	
		Jefferson County.....	9
		Scattering.....	6
		Typhoid fever:	
		Logan County.....	8
		Scattering.....	75
		Whooping cough.....	15
		MINNESOTA.	
		Cerebrospinal meningitis.....	1
		Diphtheria.....	46
		Measles.....	3
		Poliomyelitis:	
		Minneapolis.....	9
		Rice County.....	5
		Wadena.....	6
		Scattering.....	23
		Scarlet fever.....	34
		Smallpox.....	13
		Tuberculosis.....	61
		Typhoid fever.....	9
		Whooping cough.....	1
		DISTRICT OF COLUMBIA.	
		Diphtheria.....	4
		Scarlet fever.....	1
		Smallpox.....	2
		Tuberculosis.....	39
		Typhoid fever.....	6
		Whooping cough.....	20

SUMMARY OF CASES REPORTED MONTHLY BY STATES.

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

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Poliomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
JULY, 1921.										
Florida.....	47	101	76	14	62	7	11	5	47	60
Indiana.....	183	47	5	451	8	153	2	6	103	121
Louisiana.....	47	69	2	50	2	2	2	74	39	115
Maine.....	69	10	24	151	1	25	46	5	14	22
Maryland.....	88	4	134	54	148	159	141	147	310	86
Michigan.....	452	338	1	11	425	13	220	3	98	71
Minnesota.....	163	14	8	8	13	13	67	41	98	85
Montana.....	14	338	1	11	425	13	220	3	98	71
New Jersey.....	338	1	11	425	13	220	3	98	71	4
New York.....	1	30	6	58	7	74	76	227	4	4
North Carolina.....	5	92	6	58	7	74	76	227	4	4
South Carolina.....	1	30	6	58	7	74	76	227	4	4
South Dakota.....	5	92	6	58	7	74	76	227	4	4
Tennessee.....	10	180	11	103	37	159	144	19	19	19
Texas.....	10	180	11	103	37	159	144	19	19	19
Virginia.....	10	180	11	103	37	159	144	19	19	19
Washington.....	10	180	11	103	37	159	144	19	19	19
West Virginia.....	10	180	11	103	37	159	144	19	19	19
Wisconsin.....	10	180	11	103	37	159	144	19	19	19

112 of these cases were reported to the State board of health in answer to a questionnaire.

RECIPROCAL NOTIFICATION.

Minnesota—July, 1921.

Cases of communicable diseases referred during July, 1921, to other State health departments by the department of health of the State of Minnesota.

Disease and locality of notification.	Referred to health authority of—	Why referred.
Typhoid fever: Stanley Hospital, Rochester, Olmsted County.	Little Cedar, Mitchell County, Iowa.	Blood specimen sent to Minnesota State Board of Health showed Widal reaction present.
City and County Hospital, St. Paul, Ramsey County.	Centerville, Appanoose County, Iowa.	Epidemiological data shows patient's last employment was in Centerville, Iowa.
Tuberculosis: Dahlgren Township, Carver County.	Woodmen, El Paso County, Colo.	Tubercle bacilli present in sputum examined in the laboratory of Minnesota State Board of Health. Patient leaving for Modern Woodmen of America Sanatorium.
Crookston, Polk County...	Casselton, Cass County, N. Dak.	Case diagnosed as a moderately advanced case of tuberculosis by Dr. W. H. Daniels, Crookston.
St. Paul, Ramsey County.	Roberts, St. Croix County, Wis.	Positive examination of sputum at laboratory St. Paul Bureau of Health. Patient leaving for Roberts, Wis.

PLAGUE.

HUMAN CASES OF PLAGUE REPORTED.

Place.	Period covered.	Cases.	Deaths.	Remarks.
California: San Benito County.....	1921. Feb. 7..... June 11.....	..... ..... 1.....	..... ..... 1.....	

¹ A summary of the reports received of the occurrence of plague and the finding of plague-infected rodents in the United States during 1920 was published in Public Health Reports, Jan. 7, 1921, p. 15.

PLAGUE-INFECTED RODENTS.

Place.	Period covered.	Rodents found plague infected.
California: San Benito County.....	1921. May 22 to June 4.....	18
Florida: Pensacola.....	Jan. 1 to Apr. 18..... Apr. 19 to Aug. 20.....	5 0
Louisiana: New Orleans.....	Jan. 1 to May 26..... May 27 to Aug. 20.....	38 0
Texas: Galveston.....	Jan. 1 to May 28..... May 29 to Aug. 20.....	1 0

¹ Ground squirrels, *Citellus beecheyi*.

TYPHUS FEVER

Darien, Conn.

One death from typhus fever occurred in Darien, Conn., August 5, 1921. The date of onset of the disease was July 31.

The source of the infection has not been determined. The patient resided in a seminary in Darien, under excellent sanitary conditions,

and there had been no other illness similar to typhus fever at the school. Two possible sources of infection are stated to have been recent arrivals from abroad, who stayed at the seminary.

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921.

BERIberi.

City.	Cases.	Deaths.
California:		
San Francisco.....		1

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Aug. 6, 1921.		City.	Median for previous years.	Week ended Aug. 6, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
California:				Nebraska:			
Los Angeles.....	0	1		Omaha.....	0	1	1
San Diego.....	0	1		New York:			
San Francisco.....	0	2	2	New York.....	6	4	2
Georgia:				Niagara Falls.....	0	1	
Atlanta.....	0	1		Rochester.....	0		1
Kansas:				Ohio:			
Wichita.....	0		1	Dayton.....	0	1	
Massachusetts:				Springfield.....	0	1	1
Boston.....	1		1	Youngstown.....	0	1	
Fall River.....	0	1		Pennsylvania:			
Lowell.....	0	1	1	Philadelphia.....	1	2	2
Michigan:				Texas:			
Detroit.....	0	1	2	Austin.....	0		1
Minnesota:				Wisconsin:			
Rochester.....		1		Milwaukee.....	1	4	

DIPHTHERIA.

See p. 2077; also Telegraphic weekly reports from States, p. 2065, and Monthly summaries by States, p. 2069.

INFLUENZA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
California:			Maryland:		
Oakland.....		1	Baltimore.....	1	
San Francisco.....	5		Massachusetts:		
Connecticut:			Worcester.....	1	
Greenwich.....	1		New Jersey:		
Dist. of Columbia:			Newark.....	1	
Washington.....	1	1	New York:		
Georgia:			Albany.....	3	
Atlanta.....	1		New York.....	8	3
Savannah.....		1	Pennsylvania:		
Illinois:			Philadelphia.....	1	
Chicago.....	3				

LETHARGIC ENCEPHALITIS.

California:			Connecticut:		
San Francisco.....		4	Norwalk.....	1	

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921—Continued.

MALARIA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			New Jersey		
Anniston.....	1		New Brunswick.....	1	
Arkansas:			Paterson.....	2	
Little Rock.....	7		New York:		
North Little Rock.....	2		New York.....	5	
California:			North Carolina:		
Sacramento.....	1		Winston-Salem.....	1	
Georgia:			Tennessee:		
Atlanta.....	2		Memphis.....	2	2
Savannah.....	2		Texas:		
Valdosta.....		1	Beaumont.....	24	
Illinois:			Dallas.....	10	
Chicago.....	1		Waco.....		1
Massachusetts:					
Boston.....	1				

MEASLES.

See p. 2077; also Telegraphic weekly reports from States, p. 2065, and Monthly summaries by States, p. 2069.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			North Carolina:		
Anniston.....	5		Raleigh.....		1
Birmingham.....		1	Winston-Salem.....	5	
Montgomery.....	1		Oklahoma:		
Arkansas:			Oklahoma City.....		1
Little Rock.....	3		South Carolina:		
North Little Rock.....	1		Charleston.....		2
California:			Tennessee:		
Oakland.....	1		Chattanooga.....	1	
District of Columbia:			Memphis.....	1	
Washington.....	1		Nashville.....		1
Georgia:			Texas:		
Savannah.....		1	Dallas.....		1
Kansas:			Virginia:		
Parsons.....	1		Lynchburg.....	1	
Louisiana:			Petersburg.....	1	
New Orleans.....	7	2	Richmond.....	1	

PNEUMONIA (ALL FORMS).

Alabama:			District of Columbia:		
Anniston.....	1		Washington.....		5
Birmingham.....		7	Georgia:		
Montgomery.....	1	1	Atlanta.....		3
Arizona:			Savannah.....		1
Tucson.....		2	Illinois:		
California:			Chicago.....	67	18
Alameda.....	1	1	Cicero.....	1	
Long Beach.....	1	1	East St. Louis.....	1	
Los Angeles.....	16	5	Kewanee.....		1
Oakland.....	1	4	Peoria.....	3	
Pasadena.....	1	1	Rockford.....		2
Riverside.....	1	1	Springfield.....	1	1
Sacramento.....	1	1	Indiana:		
San Diego.....	2	2	Gary.....		2
San Francisco.....	9	8	Indianapolis.....		4
Santa Cruz.....	1		Kansas:		
Colorado:			Kansas City.....	1	
Denver.....		3	Topeka.....	2	
Connecticut:			Wichita.....	2	
Bridgeport.....		1	Kentucky:		
Bristol.....	1		Louisville.....		3
Milford.....	1		Louisiana:		
New Haven.....	2		New Orleans.....	6	4
Waterbury.....		3	Maine:		
Delaware:			Biddeford.....		1
Wilmington.....	1		Lewiston.....		1

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921—Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Maryland:			New York:		
Baltimore.....	10	10	Albany.....	2	1
Massachusetts:			Buffalo.....	17	1
Boston.....	9	7	Glens Falls.....		1
Braintree.....		1	Jamestown.....		1
Brockton.....	1		Mount Vernon.....	3	2
Cambridge.....		2	New York.....	164	60
Chelsea.....	3		Niagara Falls.....		3
Fall River.....		1	Rochester.....		5
Newton.....	1		Rome.....	1	
Somerville.....	2		Schenectady.....		1
Southbridge.....		1	Syracuse.....		3
Springfield.....		2	Troy.....	1	
West Springfield.....	1		North Carolina:		
Worcester.....		3	Greensboro.....		3
Michigan:			Winston-Salem.....		1
Detroit.....	18	7	Ohio:		
Flint.....	1		Alliance.....		1
Grand Rapids.....	2	1	Cincinnati.....		2
Hamtramck.....	1		Cleveland.....	15	
Pontiac.....	1		Columbus.....		3
Saginaw.....		1	Dayton.....	1	
Minnesota:			Fremont.....	1	
Duluth.....		1	Lima.....		2
Minneapolis.....		1	Newark.....		1
St. Paul.....		1	Oklahoma:		
Missouri:			Oklahoma City.....		2
Kansas City.....		1	Pennsylvania:		
St. Joseph.....	1		Philadelphia.....	29	14
Springfield.....		1	Rhode Island:		
Montana:			Providence.....		1
Billings.....		1	South Carolina:		
Great Falls.....	1		Charleston.....		1
Nebraska:			South Dakota:		
Omaha.....		2	Sioux Falls.....		1
New Hampshire:			Tennessee:		
Concord.....		2	Chattanooga.....	1	
New Jersey:			Nashville.....		1
Bloomfield.....	2		Texas:		
Clifton.....	1		Austin.....		2
Elizabeth.....		2	Dallas.....	4	2
Hackensack.....	1	1	El Paso.....		3
Hoboken.....		1	Virginia:		
Jersey City.....	2	2	Norfolk.....		1
Morristown.....	1		Petersburg.....		1
Newark.....	20	8	Portsmouth.....		2
Trenton.....	3	1	West Virginia:		
West Hoboken.....	1		Wheeling.....		1
West Orange.....	1	1	Wisconsin:		
			Janesville.....		1
			Kenosha.....		1

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Aug. 6, 1921.		City.	Median for previous years.	Week ended Aug. 6, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
California:				Indiana:			
San Francisco.....	0	3	1	South Bend.....	0	3	1
Connecticut:				Iowa:			
Bridgeport.....	0	1	1	Burlington.....	0	1	
Waterbury.....	0	1		Waterloo.....		1	
District of Columbia:				Maryland:			
Washington.....	0	3	1	Baltimore.....	1	5	1
Illinois:				Massachusetts:			
Chicago.....	4	7	1	Adams.....		1	
Elgin.....	0		1	Boston.....	0	5	2
Evanston.....	0	1		Cambridge.....	0	1	
Springfield.....	0		2	Fall River.....	0	1	

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921—Continued.

POLIOMYELITIS (INFANTILE PARALYSIS)—Continued.

City.	Median for previous years.	Week ended Mar. 12, 1921.		City.	Median for previous years.	Week ended Mar. 12, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Massachusetts—Contd.				New York:			
Haverhill.....	0	1	.....	New York.....	4	23	3
Lawrence.....	0	1	1	Port Chester.....			1
Medford.....	0	1	.....	North Dakota:			
North Adams.....	0	1	.....	Fargo.....		2	.....
Norwood.....	0	2	.....	Ohio:			
Michigan:				Cleveland.....	0	5	.....
Battle Creek.....	0	1	.....	Kenmore.....		1	.....
Benton Harbor.....	0	1	.....	Lima.....	0	1	.....
Detroit.....	0	4	.....	Pennsylvania:			
Minnesota:				Erie.....	0	1	.....
Minneapolis.....	0	2	1	Pittsburgh.....	0	1	.....
Missouri:				Pottstown.....	0	1	.....
St. Louis.....	0	5	2	West Virginia:			
Nebraska:				Charleston.....	0	1	.....
Omaha.....	1	1	.....	Wisconsin:			
New Hampshire:				Kenosha.....	0	1	.....
Keene.....		1	.....	Milwaukee.....	0	4	.....
New Jersey:				Racine.....	0	1	.....
Montclair.....	0	1	.....	Wausau.....	0	4	.....
Passaic.....	0	1	.....			
Paterson.....	0	3	.....			
Perth Amboy.....	0	.....	1				

RABIES IN ANIMALS.

City.	Cases.	City.	Cases.
California:		New Jersey:	
Los Angeles.....	6	Clifton.....	1
Massachusetts:		Tennessee:	
Fall River.....	1	Memphis.....	2

RABIES IN MAN.

City.	Cases.	Deaths.
New York:		
Rochester.....		1

SCARLET FEVER.

See p. 2077; also Telegraphic weekly reports from States, p. 2065, and Monthly summaries by States, p. 2069.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Aug. 6, 1921.		City.	Median for previous years.	Week ended Aug. 6, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
California:				Georgia:			
Los Angeles.....	0	3	.....	Savannah.....	0	1	.....
Oakland.....	0	2	.....	Indiana:			
Sacramento.....	0	2	.....	Bloomington.....	0	3	.....
San Diego.....	0	3	.....	Gary.....	1	1	.....
San Francisco.....	0	3	.....	Marion.....	0	2	.....
Colorado:				Mishawaka.....	1	1	.....
Denver.....	8	4	.....	Iowa:			
District of Columbia:				Council Bluffs.....	0	2	.....
Washington.....	0	1	.....	Muscatine.....	0	2	.....
				Sioux City.....	1	1	.....

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921—Continued.

SMALLPOX—Continued.

City.	Median for previous years.	Week ended Aug. 6, 1921.		City.	Median for previous years.	Week ended Aug. 6, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Kansas:				Ohio—Continued.			
Parsons.....	1	1	.....	Lima.....	0	1	.....
Kentucky:				New Philadelphia.....	0	1	.....
Lexington.....	0	3	.....	Toledo.....	0	3	.....
Michigan:				Oklahoma:			
Battle Creek.....	2	1	.....	Oklahoma City.....	2	1	.....
Detroit.....	4	1	.....	South Carolina:			
Hamtramck.....	1	1	.....	Columbia.....	0	1	.....
Pontiac.....	1	4	.....	Utah:			
Port Huron.....	1	1	.....	Salt Lake City.....	7	2	.....
Minnesota:				Washington:			
Duluth.....	0	9	.....	Aberdeen.....	1	9	.....
Minneapolis.....	5	1	.....	Bellingham.....	1	1	.....
St. Paul.....	2	2	.....	Seattle.....	4	6	.....
Missouri:				Spokane.....	3	1	.....
Kansas City.....	2	3	.....	Tacoma.....	0	8	.....
Montana:				Vancouver.....	1	2	.....
Billings.....	0	2	.....	Wisconsin:			
Great Falls.....	2	8	.....	Madison.....	0	1	.....
Ohio:				Milwaukee.....	2	2	.....
Akron.....	3	1	.....	Superior.....	1	1	.....
Canton.....	0	1	.....			

TETANUS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Georgia:			New Jersey:		
Savannah.....	.....	1	Atlantic City.....	1	1
Illinois:			Morristown.....	1	1
Chicago.....	1	.....	Newark.....	1	.....
Maryland:			New York:		
Baltimore.....	1	.....	New York.....	2	1
Massachusetts:			Ohio:		
Beverly.....	1	1	Cincinnati.....	1	.....
Michigan:			Texas:		
Ann Arbor.....	1	1	Corpus Christi.....	1	.....

TUBERCULOSIS.

See p. 2077; also Telegraphic weekly reports from States, p. 2065.

TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1920, inclusive. In instances in which data for the full six years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended Aug. 6, 1921.		City.	Median for previous years.	Week ended Aug. 6, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Colorado:			
Birmingham.....	23	4	1	Denver.....	1	4	.....
Montgomery.....	0	1	.....	Pueblo.....	0	1	.....
Arkansas:				Connecticut:			
Fort Smith.....	0	2	.....	Bridgeport.....	0	1	.....
Hot Springs.....	0	1	.....	Meriden.....	0	1	.....
Little Rock.....	2	7	.....	New Haven.....	2	1	.....
North Little Rock.....	0	2	.....	New London.....	0	.....	1
California:				Delaware:			
Los Angeles.....	3	2	.....	Wilmington.....	0	1	.....
Oakland.....	1	3	.....	District of Columbia:			
Sacramento.....	1	3	.....	Washington.....	9	15	2
San Francisco.....	5	7	.....			

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921—Continued.

TYPHOID FEVER—Continued.

City.	Median for previous years.	Week ended Aug. 6, 1921.		City.	Median for previous years.	Week ended Aug. 6, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Georgia:				New York:			
Atlanta	3	3	2	Albany	1	1	.....
Savannah	3	1	1	Buffalo	4	7	.....
Illinois:				Ithaca	0	4	.....
Aurora	0	1	1	Newburgh	0	1	.....
Chicago	8	6	1	New York	35	17	2
Elgin	0	2	.....	Niagara Falls	0	1	1
Freeport	0	12	2	Port Chester	0	2	.....
Galesburg	0	2	.....	Rochester	2	1	1
Springfield	0	1	.....	Schenectady	1	3	2
Indiana:				White Plains	0	1	.....
Elkhart	0	1	.....	North Carolina:			
Evansville	4	.....	1	Durham	2	2	.....
Fort Wayne	0	3	2	Raleigh	0	1	.....
Gary	0	.....	1	Winston-Salem	2	1	.....
Indianapolis	4	8	.....	Ohio:			
Logansport	0	1	.....	Akron	1	1	.....
Muncie	0	3	.....	Bucyrus	.....	1	1
Terre Haute	0	.....	1	Canton	1	2	.....
Iowa:				Cincinnati	2	5	.....
Waterloo	.....	1	.....	Cleveland	3	6	.....
Kansas:				Columbus	4	6	1
Hutchinson	1	1	.....	Dayton	2	2	.....
Kansas City	1	1	.....	Hamilton	0	2	.....
Topeka	2	2	.....	Lima	0	.....	.....
Wichita	3	34	.....	Marion	0	1	.....
Kentucky:				Newark	0	3	.....
Covington	0	2	1	Niles	.....	1	.....
Lexington	0	4	2	Sandusky	0	1	.....
Louisville	2	10	2	Toledo	5	2	.....
Louisiana:				Youngstown	0	2	1
New Orleans	7	1	.....	Oklahoma:			
Maine:				Tulsa	27	5	.....
Bath	.....	1	.....	Pennsylvania:			
Portland	2	1	.....	Allentown	0	4	.....
Maryland:				Canonsburg	.....	7	.....
Baltimore	12	16	1	Chambersburg	0	3	.....
Cumberland	2	2	.....	Chester	0	1	.....
Massachusetts:				Coatesville	0	1	.....
Adams	0	3	.....	Easton	0	1	.....
Boston	3	8	1	Erie	1	2	.....
Chelsea	0	2	.....	Harrisburg	1	1	.....
Fall River	5	1	.....	Johnstown	0	3	.....
Lawrence	1	1	.....	Lancaster	0	1	.....
Lynn	0	4	.....	New Castle	1	3	.....
Southbridge	0	1	.....	Norristown	0	1	.....
Winthrop	0	1	.....	Oil City	0	1	.....
Michigan:				Philadelphia	12	26	2
Detroit	10	12	6	Pittsburgh	4	12	.....
Flint	2	2	.....	Reading	1	5	.....
Highland Park	0	1	.....	Scranton	0	1	.....
Muskegon	.....	2	.....	Shamokin	0	72	.....
Saginaw	0	3	.....	Sharon	0	1	.....
Minnesota:				Uniontown	0	2	.....
Duluth	0	1	.....	Warren	0	1	.....
Minneapolis	2	3	.....	Rhode Island:			
St. Paul	0	3	.....	Pawtucket	0	1	.....
Missouri:				South Carolina:			
Joplin	0	1	.....	Charleston	5	1	1
Kansas City	4	3	.....	Columbia	1	1	.....
St. Louis	10	17	2	Tennessee:			
Montana:				Chattanooga	20	1	.....
Great Falls	1	2	.....	Knoxville	7	7	1
Nebraska:				Memphis	3	1	.....
Lincoln	0	3	.....	Nashville	13	6	.....
New Jersey:				Texas:			
Elizabeth	0	2	1	Dallas	5	5	1
Garfield	.....	2	.....	Fort Worth	1	3	.....
Jersey City	1	1	.....	Utah:			
Kearny	0	1	.....	Salt Lake City	1	3	.....
Morristown	0	1	.....	Virginia:			
Newark	0	4	.....	Alexandria	1	2	.....
Rahway	0	1	.....	Danville	2	.....	1
Trenton	1	2	.....	Lynchburg	3	2	.....

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921—Continued.

TYPHOID FEVER—Continued.

City.	Median for previous years.	Week ended Aug. 6, 1921.		City.	Median for previous years.	Week ended Aug. 6, 1921.	
		Cases.	Deaths.			Cases.	Deaths.
Virginia—Continued.				West Virginia—Contd.			
Norfolk.....	2	5	.....	Huntington.....	0	1	.....
Petersburg.....	0	2	1	Martinsburg.....	1	2	.....
Portsmouth.....	1	4	.....	Morgantown.....	0	4	.....
Richmond.....	1	1	.....	Parkersburg.....	0	1	.....
Roanoke.....	1	2	.....	Wisconsin:			
Washington:				Green Bay.....	0	1	.....
Seattle.....	1	1	.....	Milwaukee.....	1	1	.....
Tacoma.....	0	1	.....	Oshkosh.....	0	1	.....
Walla Walla.....	1	1	.....	Wausau.....	0	1	.....
West Virginia:							
Bluefield.....	0	4	.....			
Charleston.....	0	3	.....			

TYPHUS FEVER.

City.	Cases.	Deaths.
New York:		
New York.....	1	.....

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Anniston.....	17,734	.....	2	.....	.....	.....	.....	2	.....	.....
Birmingham.....	178,270	52	3	.....	.....	2	.....	2	.....	4
Montgomery.....	43,464	10	1	.....	.....	.....	.....	.....	.....	1
Arizona:										
Tucson.....	20,292	12	.....	.....	.....	.....	.....	.....	.....	1
Arkansas:										
Fort Smith.....	28,811	.....	1	.....	.....	.....	.....	.....	.....	.....
Hot Springs.....	11,695	5	.....	.....	.....	.....	.....	.....	.....	2
Little Rock.....	64,997	.....	.....	.....	.....	2	.....	2	.....	.....
North Little Rock.....	14,048	.....	.....	.....	.....	1	.....	.....	.....	.....
California:										
Alameda.....	28,806	5	.....	.....	.....	.....	.....	.....	.....	.....
Eureka.....	12,923	10	.....	.....	.....	.....	.....	.....	.....	.....
Long Beach.....	55,568	15	3	.....	.....	.....	.....	.....	.....	.....
Los Angeles.....	576,673	151	49	2	4	6	1	53	.....	2
Oakland.....	216,361	41	8	1	.....	3	.....	5	.....	3
Pasadena.....	45,354	8	.....	.....	.....	.....	.....	1	.....	.....
Richmond.....	16,843	3	2	.....	.....	.....	.....	.....	.....	.....
Riverside.....	19,341	4	.....	.....	.....	.....	.....	.....	.....	.....
Sacramento.....	65,857	15	4	.....	.....	.....	1	4	.....	1
San Bernardino.....	18,721	9	.....	.....	.....	.....	.....	.....	.....	4
San Diego.....	74,683	24	.....	.....	8	.....	.....	1	.....	1
San Francisco.....	508,410	153	27	1	4	4	.....	20	.....	15
Santa Cruz.....	10,917	4	1	.....	.....	.....	.....	.....	.....	.....
Stockton.....	40,296	6	2	.....	.....	.....	2	.....	.....	.....
Vallejo.....	21,107	1	.....	.....	.....	.....	.....	.....	.....	.....
Colorado:										
Denver.....	256,369	51	7	1	1	1	.....	.....	.....	4
Pueblo.....	42,908	8	4	1	.....	.....	1	1	.....	1
Connecticut:										
Bridgeport (town) ¹	143,538	23	4	.....	.....	.....	2	10	.....	3
Bristol (town) ¹	20,620	1	.....	.....	.....	.....	.....	2	.....	.....
Derby (town) ¹	11,238	5	.....	.....	.....	.....	.....	.....	.....	.....
Fairfield (town).....	11,475	3	1	.....	.....	.....	1	1	.....	.....

¹ Coextensive with city of same name.

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Connecticut—Continued.										
Greenwich (town).....	22,123	1	5	1	1	2
Meriden (city).....	29,842	.....	.....	.....	.....	.....	.....	1	.....
Milford (town).....	10,193	2	.....	.....	.....	.....	.....	.....	.....
New Haven (town) ¹	162,519	28	5	1	.....	.....	2	.....	13
New London (town) ¹	25,688	4	.....	.....	.....	.....	.....	.....	.....
Norwich (city).....	22,304	8	.....	.....	.....	.....	.....	.....	.....
Waterbury (town) ¹	91,410	19	.....	.....	4	.....	2	.....	6
Delaware:										
Wilmington.....	110,168	16	1	.....	.....	.....	2	.....	.....
District of Columbia:										
Washington.....	437,571	90	1	.....	2	.....	.....	.....	25
Georgia:										
Atlanta.....	200,616	53	4	.....	1	.....	.....	.....	24
Savannah.....	83,252	40	.....	.....	.....	7	.....	1	5
Valdosta.....	10,783	4	1	.....	.....	.....	.....	1	.....
Idaho:										
Boise.....	21,393	6	1	.....	.....	1	.....	.....	.....
Illinois:										
Alton.....	24,682	3	.....	.....	.....	.....	.....	.....	.....
Aurora.....	36,397	14	2	.....	.....	.....	.....	.....	.....
Bloomington.....	28,725	6	.....	.....	.....	.....	.....	.....	.....
Blue Island.....	11,424	2	1	.....	.....	.....	.....	.....	.....
Centralia.....	12,491	4	.....	.....	.....	.....	.....	.....	.....
Chicago.....	2,701,705	496	87	8	17	2	26	1	229	
Cicero.....	44,995	6	5	.....	.....	.....	1	.....	1
Danville.....	33,750	5	.....	.....	.....	.....	.....	.....	.....
East St. Louis.....	66,740	15	.....	1	.....	.....	.....	.....	.....
Elgin.....	27,454	6	.....	.....	.....	.....	.....	.....	1
Evanston.....	37,215	12	.....	.....	.....	.....	.....	.....	.....
Forest Park.....	10,768	.....	1	.....	.....	.....	.....	.....	.....
Freeport.....	19,669	7	.....	.....	.....	.....	1	.....	.....
Galesburg.....	23,834	8	2	.....	.....	.....	.....	1	.....
Jacksonville.....	15,713	6	.....	.....	.....	.....	.....	.....	.....
Kewanee.....	16,026	5	2	.....	.....	.....	.....	.....	.....
La Salle.....	13,050	3	.....	.....	.....	.....	.....	5	.....
Peoria.....	76,121	14	.....	.....	1	.....	4	.....	3
Rockford.....	65,651	18	1	.....	.....	.....	.....	.....	.....
Rock Island.....	31,177	5	.....	.....	.....	.....	1	.....	.....
Springfield.....	59,183	14	1	.....	.....	.....	1	.....	.....
Indiana:										
Bloomington.....	11,505	2	.....	.....	.....	.....	.....	.....	.....
East Chicago.....	35,967	3	.....	.....	.....	.....	.....	.....	.....
Elkhart.....	24,277	6	.....	.....	.....	.....	.....	.....	.....
Evansville.....	85,264	10	1	.....	.....	.....	.....	.....	.....
Fort Wayne.....	36,549	14	1	.....	.....	.....	1	.....	.....
Frankfort.....	11,585	1	.....	.....	.....	.....	.....	1	.....
Gary.....	55,378	15	2	.....	.....	.....	.....	.....	.....
Hammond.....	33,004	5	.....	.....	.....	.....	.....	.....	.....
Huntington.....	14,000	3	.....	.....	.....	.....	.....	.....	.....
Indianapolis.....	314,194	76	19	1	.....	.....	4	.....	18
La Fayette.....	22,486	3	.....	.....	.....	.....	.....	.....	.....
Logansport.....	21,626	1	.....	.....	.....	.....	.....	.....	.....
Marion.....	22,747	9	1	.....	.....	.....	.....	.....	.....
Mishawaka.....	15,185	3	.....	.....	.....	.....	.....	1	.....
Muncie.....	33,624	5	.....	.....	.....	.....	1	.....	.....
South Bend.....	70,983	10	.....	.....	1	.....	.....	.....	1
Terre Haute.....	66,083	17	1	1	.....	.....	1	.....	.....
Iowa:										
Burlington.....	24,057	13	1	.....	.....	.....	.....	.....	.....
Dubuque.....	33,141	1	.....	.....	.....	.....	.....	.....	.....
Mason City.....	21,065	1	.....	.....	.....	.....	1	1	.....
Muscatine.....	16,068	5	.....	.....	.....	.....	.....	.....	.....
Sioux City.....	71,227	2	.....	.....	.....	.....	1	.....	.....
Waterloo.....	33,230	1	.....	.....	.....	.....	.....	.....	.....
Kansas:										
Atchison.....	12,630	.....	.....	.....	.....	.....	.....	.....	2
Coffeyville.....	13,452	.....	2	.....	.....	.....	2	.....	.....
Fort Scott.....	10,663	4	2	.....	.....	.....	.....	.....	.....
Hutchinson.....	23,298	.....	2	.....	.....	.....	3	.....	.....
Kansas City.....	101,177	.....	1	.....	1	.....	1	.....	10
Lawrence.....	12,456	4	.....	.....	.....	.....	.....	.....	.....
Leavenworth.....	16,912	.....	3	.....	.....	.....	.....	.....	.....
Parsons.....	16,028	4	.....	.....	.....	.....	.....	.....	.....

¹ Coextensive with city of same name.

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921—Continued.

DIPHThERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Kansas—Continued.										
Salina.....	15,085	1	1							
Topeka.....	50,022	5							3	
Wichita.....	72,128	30	1				3			
Kentucky:										
Covington.....	57,121	14					2		2	2
Lexington.....	41,534	22					1			
Louisville.....	234,891	51	5		7				9	5
Louisiana:										
Monroe.....	12,675	3								
New Orleans.....	387,219	136	4				2		37	20
Maine:										
Auburn.....	16,985	6					1		1	1
Bath.....	14,731	4							1	
Lewiston.....	31,791	7							1	
Portland.....	69,272	10	3				1			1
Sanford.....	10,691	4								
Maryland:										
Baltimore.....	733,826	175	12	1	4		6		31	17
Cumberland.....	23,837	11	1				1		3	
Massachusetts:										
Adams.....	12,967	2							2	
Amesbury.....	10,036		1							1
Arlington.....	18,665	4			1					
Attleboro.....	19,731	1							1	
Belmont.....	10,749	1	1							
Beverly.....	22,581	3			1					
Boston.....	748,060	158	31	1	21		10		53	14
Braintree.....	10,580	2								
Brockton.....	66,138	12	1						1	1
Brookline.....	37,748	6	1						1	1
Cambridge.....	109,694	23	3		3				2	
Chelsea.....	43,184	13	3						3	1
Chicopee.....	36,214	3			1					
Clinton.....	12,979	4								
Dedham.....	10,792	2								
Easthampton.....	11,261		1		1				1	
Everett.....	40,120	4	2		2		2			
Fall River.....	120,485	32	10	1	2				8	
Framingham.....	17,033	8			2				1	
Gardner.....	16,971	2	2						2	
Greenfield.....	15,462	1								
Haverhill.....	53,884	6	1		1				2	1
Holyoke.....	60,203	14							5	1
Lawrence.....	94,270	24	1		1				2	1
Leominster.....	19,744	2								
Lowell.....	112,479	26	8	1	2					
Lynn.....	99,148	27	3	1	3					2
Malden.....	49,103	4	1	1	4		2		4	
Medford.....	39,038	4								
Melrose.....	18,204	3							1	
Methuen.....	15,189	3							1	
New Bedford.....	121,217	20					2		4	4
Newburyport.....	15,618	6					3			
Newton.....	46,054	4	3		1		1		5	
North Adams.....	22,282	4							1	
Northampton.....	21,851	3	2				1		1	1
Norwood.....	12,627	1	1						1	1
Peabody.....	19,552		1				1			
Pittsfield.....	41,751	2						1		
Plymouth.....	13,045	2								
Quincy.....	47,876	10			6					1
Salem.....	42,529	8							2	
Somerville.....	93,091	12	2		4				2	
Southbridge.....	14,245	4								
Springfield.....	129,563	24	2			1	1		2	2
Taunton.....	37,137	19	1						2	3
Wakefield.....	13,025	2					2			
Watertown.....	21,457	3								
West Springfield.....	13,443	3			1	1				
Westfield.....	18,064	3								
Winthrop.....	15,455	3							1	
Woburn.....	16,574	2								
Worcester.....	179,764	37	7	2	3				3	3

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Michigan:										
Ann Arbor.....	19,516	17								
Battle Creek.....	38,164		1							
Detroit.....	93,739	170	44	5	8		15	2	50	15
Flint.....	91,599	16	4		1		4			
Grand Rapids.....	137,634	34	5				3		4	1
Hamtramck.....	48,615	13	1		2		2		1	
Highland Park.....	46,469	7					1		1	
Ironwood.....	15,739	4								1
Kalamazoo.....	48,858	11	2				5		2	1
Marquette.....	12,718	3								
Muskegon.....	36,570	9								
Pontiac.....	34,273	4	1				2			2
Port Huron.....	25,944	9							1	
Saginaw.....	61,903	12	3							1
Sault Ste. Marie.....	12,096	3							2	1
Minnesota:										
Duluth.....	98,917	10	1			1			6	1
Hibbing.....	15,089		1							
Mankato.....	12,469	4					2			
Minneapolis.....	380,582	64	10		1		16		30	4
Rochester.....	13,722	21			2				2	
St. Paul.....	234,595	39	2				3		15	5
Virginia.....	14,022		1							
Winona.....	19,143				1					
Missouri:										
Cape Girardeau.....	10,252	3					1			
Independence.....	11,686	4								
Kansas City.....	324,410	73	4				3		6	8
Saint Joseph.....	77,939	20	1		1					1
Saint Louis.....	772,897	153	22	1	1		3		39	7
Springfield.....	39,631	18								4
Montana:										
Billings.....	15,100	3			1				1	
Butte.....	41,611	13								
Great Falls.....	24,121	6								
Missoula.....	12,668						1		4	
Nebraska:										
Lincoln.....	54,934	11								
Omaha.....	191,601	54	23	5			2			2
Nevada:										
Reno.....	12,016	1								
New Hampshire:										
Concord.....	22,167	8								
Dover.....	13,029	3								
Keene.....	11,210	3			1				1	
New Jersey:										
Asbury Park.....	12,400	4								1
Atlantic City.....	50,682	19	3						3	
Bayonne.....	76,754		3				1			
Belleville.....	15,660		1						1	
Bloomfield.....	22,019	1			3					
Clifton.....	26,470	6	1	1			1	1		
East Orange.....	50,710	5	2		3		1			
Elizabeth.....	95,682		3				1		1	
Englewood.....	11,627	4					1			
Garfield.....	19,381	1							1	
Hackensack.....	17,667	7							1	
Harrison.....	15,721						1			
Hoboken.....	68,166	12	6				1			2
Irvington.....	25,480								2	
Jersey City.....	297,864	55	10	1	5	1	2		14	2
Kearny.....	26,724	4			2					
Montclair.....	28,810	3							1	
Morristown.....	12,548	8								
New Brunswick.....	32,779	8					1		1	
Newark.....	414,216	96	2		14		5	2	9	9
Orange.....	33,268	1			1				2	
Passaic.....	63,824	15	3	1					3	2
Paterson.....	135,866		5		2				11	
Perth Amboy.....	41,707	7	7							
Phillipsburg.....	16,923	2								
Rahway.....	11,042	1								
Trenton.....	119,289	21	2		3	1			2	

CITY REPORTS FOR WEEK ENDED AUG. 6, 1921—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New Jersey—Continued.										
Union.....	20,651				2					
West Hoboken.....	49,068	4								1
West New York.....	29,926	6					1			1
West Orange.....	15,573	3			2				3	
New Mexico:										
Albuquerque.....	15,157	14								2
New York:										
Albany.....	113,344		6				1		1	
Auburn.....	36,192	9	5	1						
Binghamton.....	66,800	17	4	1						1
Buffalo.....	506,775	100	18	2	3		9		20	9
Glens Falls.....	16,638	3								
Ithaca.....	17,004	9	1							
Jamestown.....	38,917	9	8		5		2			1
Lockport.....	21,308	8	2							1
Mount Vernon.....	42,726	4								
Newburgh.....	30,366	3								
New York.....	5,621,151	1,107	100	8	79	3	28	2	1,290	167
Niagara Falls.....	50,760	17	2				5			
North Tonawanda.....	15,482	3								
Ogdensburg.....	14,609	8								
Olean.....	20,506	8								
Peekskill.....	15,868	6		1	1					
Plattsburg.....	10,909	5							2	
Port Chester.....	16,573	7			1					
Rochester.....	295,750	77	10	1			1		11	3
Rome.....	26,341	8	1				1			1
Saratoga Springs.....	13,181	4							1	
Schenectady.....	88,723	13	1		1		3	1	1	
Syracuse.....	171,717	26	5	1	2		6		2	3
Troy.....	72,013	17					1		4	
White Plains.....	21,031	2			1				2	
Yonkers.....	100,226	11	1							2
North Carolina:										
Durham.....	21,719	4	1							
Greensboro.....	19,861	11								1
Raleigh.....	24,418	6	2						1	
Salisbury.....	13,884	7								1
Wilmington.....	33,372	15								
Winston-Salem.....	48,395	10	1				1		6	
North Dakota:										
Fargo.....	21,961						5			
Ohio:										
Akron.....	208,435	25	5		2		3		1	
Alliance.....	21,603	5								1
Barberton.....	18,811	4								
Bucyrus.....	10,425	2	1							
Canton.....	87,091	9	1							
Cincinnati.....	491,247	95	10	2					15	13
Cleveland.....	796,836		20		4		10			
Columbus.....	237,031	60	10	1			3		3	4
Dayton.....	152,559	32								
East Cleveland.....	27,292	1							2	
Findlay.....	17,021	2	1							
Fremont.....	12,468	3								
Hamilton.....	39,675	8	1						1	
Kenmore.....	12,683						1			
Lancaster.....	14,706	5								1
Lima.....	41,306	6					1			
Lorain.....	37,295	6			1					
Mansfield.....	27,824	3								
Marion.....	27,891		1							
Middletown.....	23,594	3								
Newark.....	26,718	6								
Niles.....	13,080	3	1				5			
Norwood.....	24,966	5	1							
Piqua.....	15,044	5								
Salem.....	10,305	5								
Sandusky.....	22,897	2								
Springfield.....	60,840	11	3				1		1	1
Steubenville.....	28,508	9	1						1	
Tiffin.....	14,375	7								1

1 Pulmonary tuberculosis only.

FOREIGN AND INSULAR.

AZORES.

Plague—Vicinity of Ponta Delgada.

Five cases of plague with three deaths were reported, August 13, 1921, on the Island of St. Michael, Azores. The cases occurred at two localities situated, respectively, 6 and 10 miles from Ponta Delgada.

BRITISH HONDURAS.

Yellow Fever—Belize.

Three cases of yellow fever with one death were reported at Belize, British Honduras, August 22, 1921.

COLOMBIA.

Epidemic Influenza—Barranquilla.

During the two weeks ended July 30, 1921, epidemic influenza was reported at Barranquilla, Colombia, with 30 fatal cases.

CUBA.

Communicable Diseases—Habana.

Communicable diseases have been notified at Habana as follows:

Disease.	July 21-31, 1921.		Remain- ing under treatment July 31, 1921.
	New cases.	Deaths.	
Chicken pox.....	.....	.....	1
Diphtheria.....	1	.....	2
Leprosy.....	.....	.....	11
Malaria.....	36	.....	57
Measles.....	1	.....	.....
Paratyphoid fever.....	2	1	1
Scarlet fever.....	.....	.....	1
Smallpox.....	.....	.....	2
Typhoid fever.....	16	6	40

¹ From the interior 46.

² From the interior 22; from abroad 1.

HAWAII.

Plague—Kalopa.

A fatal case of plague has been reported at Kalopa, Hawaii. The case was stated to have developed July 15, and to have terminated fatally July 19, 1921.

JAMAICA.

Infectious Disease (Alastrim or Kaffir Pox).

During the week ended July 23, 1921, 184 new cases of alastrim or Kaffir pox were reported in the Island of Jamaica.

Typhoid Fever—Vicinity of Kingston.

During the period under report typhoid fever was reported in the vicinity of Kingston, Jamaica, with 21 cases.

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

Reports Received During Week Ended Aug. 26, 1921.¹

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				May 15-June 4, 1921: Deaths, 13,860.
Calcutta.....	June 19-25.....	85	76	
Rangoon.....	June 12-25.....	3	3	
Do.....	June 26-July 2.....	7	3	
Philippine Islands:				
Manila.....	July 3-9.....	7		
Provinces—				
Laguna.....	June 19-25.....	1		
Tarlac.....	do.....	1	1	
Siam:				
Bangkok.....	June 5-11.....	1		

PLAGUE.

Asia Minor:				
Smyrna.....	July 3-16.....	2		
Azores:				At two localities in vicinity of Ponta Delgada.
St. Michael Island.....	Aug. 13.....	5	3	
Brazil:				
Bahia.....	June 12-18.....	1	1	
Ceylon:				
Colombo.....	June 26-July 2.....	1		
Hawaii:				
Kalapa.....	July 15-19.....	1	1	
India.....				June 19-25, 1921: Cases, 190; deaths, 153.
Bombay.....	June 19-25.....	7	7	
Rangoon.....	June 11-25.....	78	67	
Do.....	June 26-July 2.....	33	21	
Mesopotamia:				
Bagdad.....	May 1-31.....	27	33	
Mexico:				In State of Tamau'lipas; case confirmed June 20.
Ciudad Victoria.....	June 7.....	1		
Siam:				
Bangkok.....	June 5-18.....	3	3	
Syria:				
Beirut.....	June 20-30.....	1		
Turkey:				
Constantinople.....	July 10-16.....	1		

¹ From medical officers of the Public Health Service, American consuls, and other sources.

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

Reports Received During Week Ended Aug. 26, 1921—Continued.

SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Australia:				
Victoria—				
Geelong.....	May 16.....	1		Second case reported; first case, May 5, 1921.
Brazil:				
Rio de Janeiro.....	June 26-July 2.....	1		
Sao Paulo.....	May 23-29.....	1		
Canada:				
British Columbia—				
Vancouver.....	June 19-25.....	3		
Do.....	July 10-16.....	3		
Ontario—				
Ottawa.....	July 31-Aug. 6.....	1		
Chile:				
Valparaiso.....	June 26-July 2.....		4	
China:				
Amoy.....	June 26-July 2.....		1	
Chungking.....	June 26-July 2.....			Present.
Foochow.....	June 26-July 9.....			
Manchuria—				
Dairen.....	June 20-28.....	5	1	Do.
Nanking.....	June 19-25.....			Do.
Do.....	June 26-July 2.....			Do.
Chosen (Korea):				
Chemulpo.....	June 1-30.....	4	1	
Fusan.....	do.....	1		
Seoul.....	do.....	2		
Cuba:				
Antilla.....	July 24-31.....	6		
Matanzas.....	July 17-31.....	3	2	
Italy:				
Genoa.....	July 4-10.....	2		
Messina.....	July 11-17.....	1		In Province: July 4-17, 1921: Cases, 9.
Japan:				
Taiwan Island.....	July 1-10.....	1		
Java:				
East Java—				
Surabaya.....	June 19-25.....	2		
West Java—				
Batavia.....	June 17-23.....	6	6	
Buitenzorg.....	do.....	1		
Krawang.....	do.....	3		
Ecuador:				
Guayaquil.....	June 16-30.....	1		
Do.....	July 1-15.....	10		
Great Britain:				
Nottingham.....	July 3-16.....	6		
Queenstown.....	July 3-9.....	1		
Haiti:				
Cape Haitien.....	July 17-30.....	22	2	
India:				
Bombay.....	June 19-25.....	5	4	May 15-21, 1921: Deaths, 338.
Calcutta.....	June 19-25.....	1	1	
Jugoslavia:				
Mar. 14-Apr. 9, 1921: Cases, 251; deaths, 63.				
Mesopotamia:				
Bagdad.....	May 1-31.....	6	4	
Mexico:				
Mexico City.....	July 3-9.....	24		
Portugal:				
Lisbon.....	June 19-25.....		2	
Do.....	June 26-July 2.....		2	
Russia:				
Riga.....	May 1-31.....	15		
Spain:				
Malaga.....	June 1-23.....		23	
Valencia.....	July 17-23.....		1	
Straits Settlements:				
Singapore.....	June 12-18.....	1	1	
Switzerland:				
Zurich.....	July 10-16.....	2		
Tunis:				
Tunis.....	July 9-15.....	3	2	
On vessels:				
S. S. Niagara.....	June 1.....	1		At Sydney, Australia, from Vancouver via Fiji and New Zealand.

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

Reports Received During Week Ended Aug. 26, 1921—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Brazil:				
Bahia.....	June 19-25.....	1	1	
China:				
Antung.....	June 27-July 10....	6		
Manchuria—				
Harbin.....	July 4-10.....	1		
Chosen (Korea):				
Chemulpo.....	June 1-30.....	2		
Gensan.....	do.....	2		
Egypt:				
Cairo.....	May 7-27.....	563	23	
Port Said.....	May 7-13.....	1		
Jugoslavia:				
Zagreb.....	Mar. 14-26.....	133	21	
	July 10-16.....	2		
Mexico:				
Mexico City.....	July 3-9.....	20		Including municipalities in the Federal district.
Rumania:				
District—				
Kishinev.....	Apr. 1-June 30....	89		
Orhei.....	May 1-30.....	66		
Russia:				
Latvia.....	May 1-31.....	208		
Union of South Africa:				
Cape Province.....	June 11-25.....			Fresh outbreaks reported.
East London.....	June 11-18.....	1		

YELLOW FEVER.

British Honduras:				
Belize.....	Aug. 22.....	3	1	
Mexico:				
Vera Cruz.....	July 25-31.....		1	

Reports Received from July 2 to Aug. 19, 1921.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				Mar. 6-May 14, 1921: Deaths, 29, 318.
Bombay.....	May 1-June 18....	11	10	
Calcutta.....	May 8-June 18....	512	445	
Madras.....	May 15-June 25....	3	2	
Do.....	June 26-July 2....	2		
Rangoon.....	Apr. 24-June 4....	15	14	
Indo-China.....				Jan. 1-31, 1921: Cases, 80; deaths, 15. May 29-June 12, 1921: Cases, 251; deaths, 202.
City—				
Cholon.....	June 6-12.....	5	4	
Saigon.....	May 9-June 12....	65	44	
Provinces—				
Anam.....	Jan. 1-31.....	42		In January, 1920: No cases.
Cambodia.....	do.....	8	2	January, 1920: Cases, 27; deaths, 14.
Cochin-China.....	do.....	18	9	January, 1920: Cases, 13; deaths, 10.
Tonkin.....	do.....	12	4	January, 1920: No cases.
Philippine Islands:				
Manila.....	May 22-June 25....	4		
Province—				
Batangas.....	June 12-18.....	2	1	
Pampanga.....	June 5-11.....	1	1	
Poland:				
Bialystok.....	July 25.....			Present.
Pinsk.....	do.....			Do.
Siam:				
Bangkok.....	Apr. 24-June 4....	18	4	
Straits Settlements:				
Singapore.....	June 12-18.....	1	1	

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

Reports Received from July 2 to Aug. 13, 1921—Continued.

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria: Aumale district.....	May 31-July 3.....	71	22	Native district about 140 kilometers from Algiers.
Asia Minor: Smyrna.....	June 19-25.....	1		In suburb.
Brazil: Bahia.....	May 15-23.....	2	1	
Maranhao.....	June 28.....	1	1	
British East Africa: Kenya Colony— Kisumu.....	Apr. 24-May 21.....			Present.
Ceylon: Colombo.....	May 8-June 11.....	2	2	
China: Amoy.....	May 15-June 25.....	7	2	
Roshow.....	May 15-21.....			Do.
Hongkong.....	Apr. 24-June 25.....	81	59	May 1-7, 1921: Plague rat found.
Manchuria— Harbin.....	May 3-22.....	46		
Ecuador: Guayaquil.....	May 1-June 15.....	10	1	
Egypt: Cities— Alexandria.....	May 21-June 24.....	10	3	
Port Said.....	June 16-27.....	4	2	
Suez.....	May 20-June 30.....	9	5	One case pneumonic.
Provinces— Assiout.....	May 24-June 16.....	9	7	One case septicemic.
Gharbieh.....	June 2-25.....	7		
Minieh.....	May 28-June 10.....	2	1	
Hawaii: Paauhau.....	May 21.....	1		
India: Bombay.....	May 1-June 18.....	290	137	May 1-June 18, 1921: Cases, 1,903; deaths, 1,471.
Calcutta.....	May 8-June 18.....	11	11	
Karachi.....	May 8-June 25.....	18	14	
Do.....	June 26-July 2.....	1	1	
Madras Presidency.....	May 22-June 25.....	112	72	
Do.....	June 26-July 2.....	12	9	
Rangoon.....	Apr. 24-June 11.....	84	75	
Indo-China: Saigon.....	May 23-June 12.....	4	1	Jan. 1-31, 1921: Cases, 57; deaths, 51. May 8-15, 1921: 1 plague rat.
Madagascar: Tananarive.....	July 11.....			Present.
Mesopotamia: Bagdad.....	Apr. 1-30.....	5	2	
Mexico: Tampico.....	June 11-30.....	35		Infected rodents found, July 1-Aug. 7, 1921: 31.
Do.....	July 1-Aug. 7.....	20	7	Mar. 1-31, 1921: Cases, 76; deaths, 44. Apr. 1-30, 1921: Cases, 43; deaths, 20. June 1-30, 1921: Cases, 14; deaths, 10. July 1-15, 1921: Cases, 3; deaths, 3.
Peru.....				
Department— Arequipa.....	Mar. 1-31.....	2		At Mollendo.
Callao.....	do.....	7	1	At Callao.
Lambayeque.....	do.....	2	1	At Chiclayo.
Libertad.....	do.....	12	7	In 5 localities.
Lima.....	do.....	32	16	At Lima city, 20 cases, 13 deaths.
Piura.....	do.....	21	19	At Payta, Piura, and Sullana.
Ancachs.....	Apr. 1-30.....	4	1	At Huarmey.
Arequipa.....	do.....	3	3	At Mollendo.
Callao.....	do.....	8	1	At Callao.
Lambayeque.....	do.....	1	1	At Chiclayo.
Libertad.....	do.....	16	5	In 5 localities.
Lima.....	do.....	6	3	In Lima city, 6 cases; 1 death.
Piura.....	do.....	5	7	At Payta, Sullana, and Talara.
Libertad— Salaverry.....	June 1-15.....	1		
Trujillo.....	do.....	2	3	
Lima— Lima.....	do.....	2	3	

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

Reports Received from July 2 to Aug. 19, 1921—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Peru—Continued.				
Department—Continued.				
Piura—				
Piura.....	do.....	1		
Talara.....	do.....	4	3	
Callao—				
Callao.....	June 16-30.....	1		
Do.....	July 1-15.....	5	1	
Lima—				
Lima.....	June 16-30.....	3	1	
Do.....	July 1-15.....	2	2	
Mollendo.....	do.....	2		Department of Arequipa.
Porto Rico.....				Total plague-infected rats found from beginning of outbreak to July 9, 1921: 50.
Manati.....	July 17-23.....	1	1	
Martin Pena.....	July 3-9.....	1		Suburb coextensive with San-turce.
Russia:				
Siberia—				
Vladivostok.....	May 1-31.....	141	145	
Senegal:				
Dakar.....	do.....	5	5	
Do.....	June 26-July 2.....	49	42	
Siam:				
Bangkok.....	Apr. 24-June 4.....	4	3	
Straits Settlements:				
Singapore.....	May 8-June 18.....	5	5	
Syria:				
Alexandretta.....	July 10-16.....	16	4	
Beirut.....	May 31-June 10.....	1		
On vessels:				
S. S. Kishenev.....	May 2.....	1		At Chefoo, China. Plague death en route. Vessels sent to quarantine, Kentucky Island, where to May 6 a total of 16 deaths was reported. (Public Health Reports, July 1, 1921, p. 1534.)
S. S. Oreland.....				At Genoa, Italy, June 12, 1921, from La Plata, Argentina. Two fatal cases plague in crew en route.
S. S. Ralph Moller.....	June 8.....	4	1	At Chefoo, China, from Vladivostok, Siberia. Three fatal cases en route. One case with fatal termination removed at Vladivostok.
S. S. Tenyo Maru.....				En route between Nagasaki and Kobe, Japan, June 28, 1921, 1 fatal case.

SMALLPOX.

Algeria:				
Algiers.....	May 1-June 30.....	3		
Asia Minor:				
Smyrna.....	May 22-28.....	1		On the s. s. Nicholas.
Australia:				
Victoria—				
Geelong.....	May 5.....	1		Mild.
Melbourne.....	Apr. 9-23.....	4	1	Mild epidemic.
Bolivia:				
La Paz.....	Apr. 1-30.....	5	4	
Brazil:				
Pernambuco.....	Mar. 28-May 22.....	28	4	
Rio de Janeiro.....	May 8-June 18.....	11	2	
British East Africa:				
Kenya Colony—				
Zanzibar.....	May 8-14.....	12	4	Origin India.
Bulgaria:				
Sofia.....	May 15-31.....	6		

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

Reports Received from July 2 to Aug. 19, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Canada:				
Alberta—				
Calgary	May 26-June 13. . .	3		
British Columbia—				
Vancouver	May 23-June 11. . .	5		
Manitoba—				
Winnipeg	May 26-June 25. . .	6		
Do.	June 26-July 16. . .	3		
New Brunswick—				
Charlotte County.....	July 10-16.	7		
Restigouche County.....	June 19-25.	1		
Westmoreland County.....	June 26-July 2. . . .	2		
Nova Scotia—				
Sydney	June 5-18.	2		
Do.	June 26-July 2. . . .	4		
Ontario—				
Hamilton	June 12-18.	3		
Do.	July 3-9.	1		
Kingston.....	June 5-11.	1		
London.....	June 5-25.	2		
Montreal.....	June 12-18.	1		
Do.	July 17-23.	1		
North Bay.....	June 11-25.	3		
Do.	June 26-July 9. . . .	2		
Ottawa.....	June 12-25.	21		
Do.	June 26-July 30. . . .	33		
Toronto.....	June 12-25.	5		
Do.	June 26-July 2. . . .	3		
Saskatchewan—				
Regina.....	June 5-25.	3		
Do.	July 10-16.	3		
Saskatoon.....	June 7-27.	3		
Chile:				
Antofagasta.....	May 16-June 19. . . .	228	106	
Arica.....	May 31.	2		
Mejillones.....	May 30-June 5.			Present. Also at interior nitrate plants.
China:				
Amoy.....	May 8-June 4.		4	June 5-25: Present.
Antung.....	May 16-June 26. . . .	12	2	
Canton.....	Apr. 1-30.			Present.
Chungking.....	May 1-June 25.			Do.
Foochow.....	May 8-June 25.			Do.
Hankow.....	May 15-21.	4	1	
Hongkong.....	Apr. 24-June 25. . . .	99	84	
Manchuria—				
Dairen.....	May 9-June 19.	39	4	
Harbin.....	May 16-June 13. . . .	5		
Mukden.....	May 22-June 11.			Do.
Do.	July 3-9.			Do.
Nanking.....	May 8-June 18.			Do.
Shanghai.....	June 20-26.	1		
Tientsin.....	May 8-June 25.	31		Mission hospital.
Do.	June 26-July 2.	5		
Tsingtau.....	May 9-June 12.	4	1	
Chosen (Korea):				
Chemulpo.....	May 1-31.	7	2	
Fusan.....	do.	11	3	
Gensan.....	do.	5	2	
Seoul.....	do.	1		
Colombia:				
Santa Marta.....	June 5-25.			Present.
Do.	June 26-July 23. . . .			Do.
Cuba:				
Antilla.....	June 5-25.	7		
Do.	June 26-July 23. . . .	43		
Cienfuegos.....	do.	1		
Matanzas.....	June 12-18.	1	1	
Do.	July 3-9.	1		
Nuevitas.....	July 4-10.	6		
Santiago.....	June 1-30.	23	2	
Do.	July 1-10.	9	1	
Ecuador:				
Guayaquil.....	May 1-June 15.	30		
Egypt:				
Cairo.....	Mar. 19-Apr. 29.	2	1	
Port Said.....	Apr. 2-May 20.	10		
Finland:				
Do.	May 1-15.	1		

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

Reports Received from July 2 to Aug. 19, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
France:				
Brest.....	May 22-June 4.....	18		
Rouen.....	May 1-20.....	2		
Germany.....				Apr. 24-May 23, 1921: Cases, 12; Additional, Apr. 17-May 7, 1921: Cases, 57; deaths, 7.
Great Britain:				
Nottingham.....	May 29-June 4.....	1		
Southampton.....	June 26-July 2.....	1		
Greece:				
Saloniki.....	June 6-12.....		1	
Haiti:				
Cape Haitien.....	June 19-25.....	24	2	
Do.....	June 26-July 16.....	49	2	
India:				Mar. 20-May 14, 1921: Deaths, 2,994.
Bombay.....	May 1-June 18.....	79	46	
Calcutta.....	May 8-June 11.....	7	7	
Karachi.....	May 29-June 25.....	25	17	
Do.....	June 26-July 2.....	2	2	
Madras.....	May 8-June 25.....	33	11	
Do.....	June 26-July 2.....	2	2	
Rangoon.....	Apr. 24-June 4.....	20	3	
Indo-China:				Jan. 1-31, 1921: Cases, 102; deaths, 15.
City—				
Saigon.....	May 9-15.....	2	1	
Provinces—				
Anam.....	Jan. 1-31.....	35		January, 1920: Cases, 16; deaths, 3.
Cambodia.....	do.....	21	3	January, 1920: Cases, 139; deaths, 54.
Cochin China.....	do.....	19	12	January, 1920: Cases, 8; deaths, 1.
Tonkin.....	do.....	27		January, 1920: Cases, 224; deaths, 43.
Italy:				Province: June 6-20, 1921: Cases, 5.
Catania.....				
Genoa.....	Apr. 1-May 31.....	11		
Messina.....	May 23-June 26.....	2	1	
Palermo.....	May 18-June 14.....	6	1	
Milan.....	Apr. 1-30.....	2		
Japan:				
Kobe.....	May 24-June 26.....	3		
Nagasaki.....	May 23-June 26.....	6	1	
Java:				
West Java—				
Bandoeng.....	May 27-June 3.....	1		
Batavia.....	May 6-June 16.....	11	9	
Buitenzorg.....	Apr. 29-June 16.....	15		
Garoet.....	May 6-12.....	1		
Krawang.....	Apr. 29-June 16.....	20	2	
Lebak.....	Apr. 29-May 26.....	12	2	
Pandeanglang.....	June 3-9.....	1		
Jugoslavia.....				May 7-13, 1921: Cases, 83; deaths, 20.
Mesopotamia:				
Bagdad.....	Apr. 1-30.....	3	1	
Mexico:				
Tampico.....	July 11-20.....	1		
Chihuahua.....	May 23-June 27.....		3	
Mexico City.....	May 15-June 26.....	246		
Do.....	June 26-July 2.....	25		
San Luis Potosi.....	July 17-23.....		1	
Vera Cruz.....	June 13-19.....		1	
Do.....	July 11-17.....		1	
Panama:				Jan. 1-June 10, 1921: Cases, 192; of which 32 were nonresidents.
Canal Zone.....	Jan. 1-June 10.....	2		
Colon.....	do.....	111		
Panama.....	do.....	47		
Poland:				Mar. 1-Apr. 30, 1921: Cases, 1,117; deaths, 142.
District—				
Bialystok.....	Mar. 1-Apr. 30.....	3		
Cracovia.....	do.....	56	6	
Kielce.....	do.....	120	26	
Leopol.....	do.....	52	14	
Lodz.....	do.....	73	9	
Lublin.....	do.....	397	30	
Posen.....	do.....	26	2	

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

Reports Received from July 2 to Aug. 19, 1921—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Poland—Continued.				
District—Continued.				
Silesia.....	do.....	10	.....	In Teschen.
Stanislawow.....	do.....	30	5	
Tarnopol.....	do.....	156	31	
Warsaw.....	do.....	36	4	
Warsaw City.....	do.....	90	13	
Portugal:				
Lisbon.....	May 15-June 18.....	.....	32	
Oporto.....	June 19-25.....	1	.....
Portuguese East Africa:				
Lourenco Marques.....	May 8-28.....	8	.....
Rumania:				
District—				
Hotin.....	Apr. 1-30.....	40	9	
Orhei.....	Mar. 1-31.....	2	.....
Russia:				
Province—				
Esthonia.....	Apr. 1-30.....	6	.....
Latvia—				
Riga.....	do.....	26	.....
Senegal:				
Dakar.....	May 1-31.....	1	1	
Spain:				
Barcelona.....	May 12-June 22.....	.....	13	
Malaga.....	May 1-31.....	.....	34	
Tarragona.....	May 9-15.....	.....	1	
Valencia.....	May 22-28.....	1	.....
Do.....	July 2-9.....	5	.....
Switzerland:				
Zurich.....	May 28-June 11.....	10	.....
Do.....	July 3-9.....	1	.....
Syria:				
Aleppo.....	Apr. 9-16.....	.....	.....	Present.
Beirut.....	May 10-30.....	1	1	
Tunis:				
Tunis.....	May 30-June 17.....	2	3	
Do.....	July 2-8.....	1	2	
Turkey:				
Constantinople.....	June 12-25.....	5	.....
Do.....	June 26-July 2.....	6	.....
Union of South Africa:				
Cape Province.....				
Natal.....	Apr. 24-June 4.....	.....	.....	Outbreak. Do. Do. Do.
Orange Free State.....	Apr. 24-June 18.....	.....	.....
Transvaal.....	May 29-June 18.....	.....	.....
Transvaal.....	May 22-June 18.....	.....	.....

TYPHUS FEVER.

Algeria:				
Algiers.....	May 1-June 30.....	109	25	
Oran.....	May 22-June 30.....	35	28	
Do.....	July 1-20.....	13	9	
Asia Minor:				
Smyrna.....	June 12-18.....	1	.....	In district.
Bolivia:				
La Paz.....	Apr. 1-30.....	32	39	
Brazil:				
Porto Alegre.....	June 19-25.....	.....	3	
Chile:				
Concepcion.....	Apr. 12-June 20.....	.....	8	
Valparaiso.....	Mar. 27-May 28.....	.....	4	
Do.....	June 26-July 2.....	.....	2	
China:				
Antung.....	May 30-June 5.....	1	.....
Hankow.....	May 22-June 11.....	3	.....
Manchuria—				
Harbin.....	May 23-29.....	1	.....
Chosen (Korea):				
Fusan.....	May 1-31.....	1	.....
Gensan.....	do.....	2	.....
Seoul.....	do.....	1	.....
Czechoslovakia:				
Prague.....	June 5-26.....	5	2	

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

Reports Received from July 2 to Aug. 19, 1921—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt:				
Alexandria.....	May 21-June 23...	21	8	
Do.....	June 24-July 15...	10	4	
Cairo.....	Mar. 19-May 6.....	94	39	
Port Said.....	Apr. 2-May 13.....	8	2	
Finland.....	May 1-15.....	5		
Germany.....				Apr. 24-June 4, 1921: Cases, 7.
Hamburg.....	May 27-June 4.....	1		
Great Britain:				
Dublin.....	May 29-June 4.....	1		
Greece:				
Saloniki.....	May 23-June 26...	21	6	
Do.....	June 27-July 3.....	1		
Japan:				
Nagasaki.....	May 23-June 5.....	7	2	
Jugoslavia:				Jan. 30-Mar. 13, 1921: Cases, 109; deaths, 15.
Belgrade.....	May 1-14.....	6		
Zagreb.....	June 19-25.....	3		
Mesopotamia:				
Bagdad.....	May 1-31.....	1	3	
Mexico:				
Mexico City.....	May 15-June 25...	102		Including municipalities in Federal district.
Do.....	June 26-July 2.....	29		
Poland:				Mar. 1-Apr. 30, 1921: Cases, 11,489; deaths, 1,131.
District—				
Bialystok.....	Mar. 1-Apr. 30.....	853	45	
Cracovia.....	do.....	603	90	
Kielce.....	do.....	848	62	
Leopol.....	do.....	2,508	277	
Lodz.....	do.....	521	53	
Lublin.....	do.....	1,446	83	
Posen.....	do.....	77	5	
Silesia.....	do.....	26		In Teschen.
Stanislawow.....	do.....	1,557	232	
Tarnopol.....	do.....	1,855	194	
Warsaw.....	do.....	972	61	
Warsaw city.....	do.....	223	29	
Portugal:				
Oporto.....	July 12-18.....	1		
Rumania:				
District—				
Hotin.....	Apr. 1-30.....	107	10	
Orhei.....	Mar. 1-31.....	80		
Russia:				
Province—				
Eathonia.....	Apr. 1-May 31.....	98		
Latvia.....	Apr. 1-May 31.....	417		
Siberia—				
Vladivostok.....	Mar. 1-May 31.....	5	2	
Spain:				
Madrid.....	May 1-31.....		1	
Syria:				
Beirut.....	May 20-June 10...	1	1	
Tunis:				
Tunis.....	June 11-17.....		3	
Turkey:				
Constantinople.....	May 22-June 18...	11		
Do.....	June 26-July 9.....	7		
Union of South Africa:				
Cape Province				Apr. 24-June 18, 1921: Outbreaks.
Capetown.....	May 13-19.....	10	3	At native cantonment in vicinity.
East London.....	May 22-28.....		1	
Orange Free State				Apr. 24-May 28, 1921: Outbreaks.
Venezuela:				
Maracaibo.....	June 21-27.....		1	

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

Reports Received from July 2 to Aug. 19, 1921—Continued.

YELLOW FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.	
Mexico:					
Alamo.....	June 1-30.....	10		State of Vera Cruz.	
Tampico.....	July 11-17.....	3	2		
Vera Cruz.....	June 12-27.....	7			
Peru:					
Departments—				Mar. 1-31, 1921: Cases 66; deaths, 25. Apr. 1-30, 1921: Cases 106; deaths, 82. In 13 localities. June 1-30, 1921: Cases, 25; deaths, 13. July 1-15, 1921: Cases, 2.	
Lambayeque—					
Chiclayo.....	Mar. 1-31.....	20	10		
Chongollape.....	do.....	2	2		
Ferreñafe.....	do.....	1	1		
Lambayeque.....	do.....	15	5		
Monsefu.....	do.....	18	4		
Motupe.....	do.....	1	1		
Pomales.....	do.....	5	1		
Villa Eten.....	do.....	5	1		
Callao—					
Callao.....	Apr. 1-30.....	1			At quarantine station. From Chiclayo.
Lambayeque—					
Chiclayo.....	do.....	23	5		
Chongollape.....	do.....	10	1		
Jayanca.....	do.....	5	2		
Lambayeque.....	do.....	5	2		
Monsefu.....	do.....	8	5		
Motupe.....	do.....	45	11		
Otmos.....	do.....	2	4		
Villa Eten.....	do.....	2	2		
Zana.....	do.....	1			
Libertad—					
Guadalupe.....	do.....	2			
Fuablo Nuevo.....	do.....	1	1		
Trujillo.....	do.....	1	1	Country.	
Lambayeque—					
Chiclayo.....	June 1-15.....	4	3		
Monsefu.....	do.....	3			
Pacora.....	do.....	1			
Libertad—					
Casa Grande.....	do.....	1		Farm.	
Pacanga.....	do.....	1	1		
Pailan.....	do.....	3	4		
Trujillo.....	do.....	1	1		
Libertad—					
Pacasmayo.....	July 1-15.....	1			
Pacanga.....	June 16-30.....	1	1		
Pailan.....	do.....	10	3		
Do.....	July 1-15.....	1			

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