PUBLIC HEALTH REPORTS

VOL. 51 MARCH 6, 1936 NO. 10

PREVENTION OF INTRAVENOUSLY INOCULATED POLIOMYELITIS OF MONKEYS BY INTRANASAL INSTILLATION OF PICRIC ACID[1]

By CHARLES ARMSTRONG, *Surgeon, United States Public Health Service*

Experimental and epidemiological considerations indicate that the usual natural route of infection in poliomyelitis is from the nose by way of the olfactory tract. Lennette and Hudson (*1*) by an ingenious experiment, have recently (1935) further emphasized the importance of this route of infection. These investigators sectioned the olfactory tract of five monkeys and then intravenously inoculated them, together with five intact controls, with 10 cc of a 10-percent poliomyelitis virus, on each of 3 successive days. Four of the five controls succumbed to poliomyelitis, while the five animals whose olfactory tracts were sectioned all remained well.

Lennette and Hudson feel that infection by the intravenous route is dependent upon the virus escaping from the blood stream to the nasal membranes, from which infection of the nervous system proceeds by way of the olfactory tract. In further support of this contention, these authors (*1*) recovered poliomyelitis virus from the pooled nasal washings collected from three monkeys 4 days following the first intravenous inoculation.

Armstrong and Harrison (*2*) recently showed that intranasally instilled picric acid tends to prevent subsequent poliomyelitis infection of monkeys with virus introduced by the same route. It was deemed of interest, therefore, to determine whether intranasally instilled picric acid would similarly tend to prevent intravenously inoculated poliomyelitis.

EXPERIMENTAL PROCEDURE

Nine monkeys were each given eight intranasal instillations of 1.5 cc of 0.32 percent picric acid in saline into each nostril; these nine prepared and nine nontreated control monkeys were then inoculated with two or three intravenous doses of poliomyelitis virus.[2] (Table 1, experiments 1 and 2.)

[1] From the National Institute of Health, Washington, D. C.

[2] The intranasal picric acid administrations were made with a 2-cc syringe (no needle), the animal being held ventral side up, no anesthesia being employed. The virus inoculations were made into a vein of the leg.

TABLE 1.—*Summary of experiments*

Monkey no.	Date of preparation								Date of virus			Picric-acid prepared		Controls		Clinical and pathological diagnosis
	12/13/35	12/15/35	12/18/35	12/19/35	12/21/35	12/23/35	12/26/35	12/30/35	1/2/36	1/3/36		Days first virus to fever	Days first virus to complete paralysis	Days first virus to fever	Days first virus to complete paralysis	
Experiment 1																
77	P	P	P	P	P	P	P	P	V	V	----	----	S	----	------	
14	P	P	P	P	P	P	P	P	V	V	----	----	S	----	------	
992	P	P	P	P	P	P	P	P	V	V	----	----	S	----	------	
958	P	P	P	P	P	P	P	P	V	V	----	3	7	----	------	Poliomyelitis.
72	P	P	P	P	P	P	P	P	V	V	----	----	*13	----	------	Dysentery.
78	----	----	----	----	----	----	----	----	V	V	----	----	------	3	12	Poliomyelitis.
15	----	----	----	----	----	----	----	----	V	V	----	----	------	6	14	Do.
20	----	----	----	----	----	----	----	----	V	V	----	----	------	11	8	Fever and tremors; no paralysis; poliomyelitis (?).
993	----	----	----	----	----	----	----	----	V	V	----	----	------	9	12	Poliomyelitis.
75	----	----	----	----	----	----	----	----	V	V	----	----	------	----	8	
	1/14/36	1/16/36	1/18/36	1/20/36	1/22/36	1/24/36	1/27/36	1/29/36	1/28/36	1/29/36	1/30/36					
Experiment 2																
129	P	P	P	P	P	P	P	P	V	V	V	----	S	----	------	
130	P	P	P	P	P	P	P	P	V	V	V	----	S	----	------	
131	P	P	P	P	P	P	P	P	V	V	V	5	7	----	------	Poliomyelitis.
132	P	P	P	P	P	P	P	P	V	V	V	----	S	----	------	
133	----	----	----	----	----	----	----	----	V	V	V	----	------	----	S	
134	----	----	----	----	----	----	----	----	V	V	V	----	------	9	11	Poliomyelitis.
135	----	----	----	----	----	----	----	----	V	V	V	----	------	5	10	Do.
136	----	----	----	----	----	----	----	----	V	V	V	----	------	6	8	Do.

P=0.32 percent picric acid.
V=Poliomyelitis virus.
S=Survived.
*No paralysis.

The inoculum was prepared by grinding portions of several glycerinated cords and diluting with saline to make a 4- to 8-percent suspension. The mixture was then centrifuged and 5 to 10 cc of the supernatant fluid was intravenously injected on two or three successive days, controls and treated animals being identically handled.

RESULTS

Many of the monkeys reacted to the virus injections, immediately developing what appeared to be a severe anaphylactic shock from which they recovered after a few minutes.

Among the nine picric-acid-prepared animals there were two deaths from poliomyelitis, both on the seventh day, and one from dysentery on the thirteenth day; the latter showed no clinical or pathological

evidence of poliomyelitis. There were, on the other hand, six deaths from poliomyelitis among the nine control monkeys, while another developed high fever on the eleventh day, with suggestive symptoms. The animal developed no paralysis, however, and the cause of the illness is questionable. It thus appears that picric acid instilled into the nostrils tended to prevent intravenously inoculated poliomyelitis.

DISCUSSION

Armstrong and Harrison (*2*) demonstrated that intranasally instilled picric acid protected 90 percent of monkeys against intranasal inoculation which produced poliomyelitis in approximately 90 percent of the controls.

As noted above, there were seven of nine monkeys which received intranasally instilled picric acid and failed to develop poliomyelitis following the intravenous virus inoculations, as compared with three, and possibly only two, of nine nonprepared controls. It appears, therefore, that intranasally applied picric acid is somewhat more effective against the intranasally inoculated than it is against the intravenously inoculated disease. This moderate difference is possibly to be explained by the assumption that certain portions of the nasal membranes inaccessible to intranasally instilled picric acid are likewise inaccessible to virus by the same route, but accessible to virus from the blood stream. It is conceivable, however, that infection from the blood stream into the central nervous system may occasionally take place, either at levels of the membranes too deep to be influenced by picric acid applied to their surface, or even by a more direct escape of virus from the bood vessels, especially following severe shock such as several of the prepared and control animals suffered at the time of inoculation.

SUMMARY

1. Picric acid instilled into the nostrils tends to protect monkeys from intravenous inoculations with poliomyelitis virus.

2. These results tend to confirm the conclusions of Lennette and Hudson, based on actual section of the olfactory tract, that intravenously inoculated poliomyelitis virus produces infection of the central nervous system by way of the nasal membranes and the olfactory tract.

REFERENCES

(1) Lennette, E. H., and Hudson, N. Paul: Proceedings of the Society for Experimental Biology and Medicine, *32:* 1444–1446 (1935).

(2) Armstrong, Chas., and Harrison, W. T.: Pub. Health Rep., *51:* 203–215 (1936).

THE TRANSPLANTATION OF SPLENIC TISSUE IN MICE

By JOHN J. BITTNER, *Special Investigator, United States Public Health Service, in cooperation with the Roscoe B. Jackson Memorial Laboratory, Bar Harbor, Maine*

As a consideration of the early work on the transplantation of normal tissue is beyond the scope of this paper, reference is made to an article by Loeb (1930) which presents a complete review of the literature.

The importance of using inbred strains of experimental animals in transplantation studies has been realized within the past few years. From a genetic point of view very few experiments may be included in a survey of the literature which included only observations made on homozygous individuals.

The work of Little and Johnson (1922) on the transplantation of splenic tissue in mice showed that the "pedigree" relationship was of less importance than the "genetic" relationship. The conclusion advanced, since the F_2 generation animals were not inoculated, was that in all probability splenic tissue susceptibility was dependent upon multiple factors.

Loeb and King (1927), after transplanting various tissues in rats, "concluded that long continued inbreeding through successive brother and sister matings does not result in a greater homogeneity of the individuality differentials of the various members of the same inbred strain." Spleen was found to be a very sensitive tissue to transplant. Loeb's previous observations were confirmed that the character of the individuality differentials of the host and donor determined the absolute severity of the reaction.

From their work on inbred lines of guinea pigs, Loeb and Wright (1927) stated: "From these results we may conclude that it is not the similarity or difference between individuality differentials of donor and host which determines the reaction against the transplant, but the reaction depends on the presence in the host of genetic factors of the donor. The lack in the donor of genetic factors present in the host is apparently of little or no consequence. * * *". This conclusion was essentially the same as the theory advanced by Little and Johnson for splenic tissue.

Of considerable importance in the transplantation of normal tissue is the length of time the tissues are permitted to remain in the hosts between inoculation and observation. This is clearly demonstrated in the work of Loeb and Wright in which the tissues were graded histologically to express the reaction of the hosts against the transplants. Tissues which were autotransplanted had grade 6. Transplantation from brother to brother within an inbred family gave an average grade of 5.9. In this series the examinations were made

from 10 days to 5 months and 16 days after inoculation. The average grade was 3.2 for tissues from F_1 generation hybrids which were transplanted into pure-strain animals. The time period varied from 20 to 37 days. In one series of 15 animals examined between 20 and 25 days after inoculation the average grade was 3.3, and the average was grade 2.7 for six animals observed between 35 and 37 days. Thus, such a classification would also indicate the time the tissues remained in the hosts following inoculation.

In this report we wish to present the results observed for the transplantation of splenic tissue into inbred mice and their hybrids. All the grafts remained in the hosts for at least 100 days before examination, as preliminary studies showed that some tissues which had been inoculated into expected resistant hosts were in various stages of degeneration for approximately 50 days after inoculation. Thus, we have assumed that individuals which had retained grafts for this period of 100 days may be grouped as susceptible.

STOCKS OF MICE

Two inbred strains of mice were employed as hosts, the *Z* or *C*$_3$*H*, and the *N* stocks. Reciprocal F_1, F_2, and back-cross generation hybrids were inoculated. They are grouped in the tabulations, however, as no significant variation was observed in the results. The back-cross generations were termed the *ZBC* or *NBC*, designating to which parental strain the F_1 mice were mated.

The trochar method of transplantation was used.

RESULTS

The observations obtained from the transplantation of splenic tissue from the *Z* and *N* stock mice and the ZNF_1 ($Z♀ \times N♂$) and NZF_1 ($N♀ \times Z♂$) generation hybrids are tabulated in table 1. The number of inoculations into representatives of each stock or hybrid generation is given with the percentage of negative observations.

TABLE 1.—*Summary of results from the inoculation of splenic tissue in mice*

Stock inoculated	Splenic tissue from *Z* stock		Splenic tissue from *N* stock		Splenic tissue from ZNF_1 mice		Splenic tissue from NZF_1 mice	
	Number inoculated	Percent negative	Number inoculated	Percent negative	Number inoculated	Percent negative	Number inoculated	Percent negative
Z	51	17.7	51	100.0	0	-------	32	100.0
N	39	100.0	57	7.5	52	100.0	34	100.0
F_1	83	16.9	83	7.2	54	10.2	54	0.0
F_2	156	94.9	193	88.1	255	98.0	104	97.1
ZBC	57	7.0	57	96.5	34	97.1	20	95.0
NBC	61	100.0	76	7.0	36	94.4	21	100.0
Total	447	-------	517	-------	431	-------	265	-------

The negative percent of 94.9 in the F_2 generation after inoculation of splenic tissue from Z stock donors would indicate that 10 or 11 factors (expected, 94.4 or 95.8 percent, respectively) are necessary for growth.

Grafts from the N line mice did not persist in 88.1 percent of the F_2 hybrid animals. The expectation for 7 factors was 86.7 percent and for 8 factors 90.0 percent.

Splenic tissue from the reciprocal F_1 hybrid mice gave negative observations after grafting into hosts representing the parental stocks. The combined observations for F_1 hosts were 103+:5−; for the F_2 generation, 8+:351−, or 97.8 percent negative; for the ZBC generation, 2+:52−, or 96.3 percent; and the NBC generation, 2+:55−, or 96.5 percent. The negative percentage in the F_2 hybrids showed that approximately 13 factors (97.6 percent) are required for susceptibility. The small number of animals observed in the back-cross generations was not sufficient to determine accurately the number of the susceptibility factors contributed by each inbred strain. A comparison of observation with expectation indicated about 8 factors (96.9 percent), some of which were evidently common to both stocks.

In the expected susceptible classes, 494 inoculations were made. Of this number, 446 grafts, or 90.3 percent were retained. The experimental error was thus about 10 percent in this group, due possibly to faulty technique, the failure of the grafts to establish a blood supply, infection, or the inability to locate the tissue.

SUMMARY

The numbers of susceptibility factors required for the retention of grafts of splenic tissue in hosts were as follows: Z stock, 10 or 11 factors; N stock, 7 or 8 factors; and tissues from reciprocal F_1 generation hybrids, approximately 13 factors. A small number of observations in the back-cross mice showed that about 8 factors were contributed by each parental strain to the F_1 genetic make-up, a few of which were probably common factors.

DISCUSSION

That the response of the host is similar to grafts of normal tissue as well as neoplastic tissue is evident from the work of Little and Johnson and Loeb and Wright on the former and Tyzzer, Little, Strong, and others on tumor implants. The great difference is in the method of determining the reaction of the host to the graft. Following tumor inoculation one may say quite definitely that, if a graft grows progressively and kills the host, the host is without doubt susceptible to that particular tissue. Individuals in expected susceptible classes which are resistant may be reinoculated with often positive results.

Following the inoculation of normal tissues there is, with few exceptions, no growth to indicate the reaction of the host. The time element and the factor of infection eliminate examination by operation, especially when multiple grafts have been inoculated. The most satisfactory method of observation would appear to be autopsy of the hosts after a period sufficient for the complete regression of grafts in resistant animals.

The transplantation of splenic tissue between strains of inbred mice and their first generation hybrids confirm the previously reported work of Little and Johnson (1922) and of Loeb and Wright (1927) on guinea pigs. By the use of F_2 and back-cross generation individuals it has been demonstrated that susceptibility to grafts of splenic tissue is dependent upon the simultaneous presence in the genetic constitution of the host of all the multiple growth factors of the transplant. The lack of one or more of the susceptibility factors would cause the regression of the grafts by the host.

Thus, it is possible to formulate a genetic theory for the transplantation of splenic and probably all normal tissue, similar to the theory for tumor tissue as contributed by Little and Tyzzer (1916) and confirmed by Little and Strong (1924).

CONCLUSION

Susceptibility or retention of implants of splenic tissue, and probably of all normal tissue, is dependent upon the simultaneous presence in the genetic make-up of the host of all the growth factors found in the genetic constitution of the graft.

REFERENCES

(1) Little, C. C., and B. W. Johnson: Proc. Soc. Exper. Biol. & Med., **19**: 163 (1922).
(2) Little, C. C., and L. C. Strong: Jour. Exp. Zool., **41**: 93 (1924).
(3) Little, C. C., and E. E. Tyzzer: Jour. Med. Res., **33**: 393 (1916).
(4) Loeb, L.: Physiol. Review, **10**: 547 (1930).
(5) Loeb, L., and H. D. King: Am. Jour. Path., **3**: 143 (1927).
(6) Loeb, L., and S. Wright: Am. Jour. Path., **3**: 251 (1927).

BIOLOGICAL PRODUCTS

ESTABLISHMENTS LICENSED FOR THE PROPAGATION AND SALE OF VIRUSES, SERUMS, TOXINS, AND ANALOGOUS PRODUCTS

There is presented herewith a list of the establishments holding licenses issued by the Treasury Department in accordance with the act of Congress approved July 1, 1902, entitled "An act to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles, and for other purposes."

The licenses granted to these establishments for the products mentioned do not imply an endorsement of the claims made by the manufacturers for their respective preparations. The granting of a license means that inspection of the establishment concerned and laboratory examinations of samples of its products are made regularly to insure the observance of safe methods of manufacture, to ascertain freedom from contamination, and to determine the potency or safety, or both, of botulinus antitoxin, diphtheria antitoxin, perfringens antitoxin, scarlet fever streptococcus antitoxin, staphylococcus antitoxin, tetanus antitoxin, vibrion septique antitoxin, antidysenteric serum, antimeningococcic serum, antipneumococcic serum, bacterial vaccines made from typhoid bacillus, paratyphoid bacillus A, and paratyphoid bacillus B, diphtheria toxin-antitoxin mixture, diphtheria toxoid, diphtheria toxin for Schick test, scarlet fever streptococcus toxin for Dick test, scarlet fever streptococcus toxin for immunization, and the arsphenamines, the only products for which potency standards or tests have been established.

The enumeration of the products is as follows: Serums are placed first, the antitoxins, being more important, heading the list. The other products are arranged generally in the order of their origin. The items in each class are arranged alphabetically.

Establishments Licensed and Products for Which Licenses Have Been Issued

AMERICAN ESTABLISHMENTS

Parke, Davis & Co., Detroit, Mich.—License no. 1:

Diphtheria antitoxin; meningococcus antitoxin; perfringens antitoxin; scarlet fever streptococcus antitoxin; tetanus antitoxin; vibrion septique antitoxin; antianthrax serum; antidysenteric serum; antigonococcic serum; anti-influenza bacillus serum; antimeningococcic serum; antipneumococcic serum; antistreptococcic serum; hemostatic serum (Lapenta); normal horse serum; thyroidectomized horse serum; smallpox vaccine; rabies vaccine (Cumming); tuberculin old; tuberculin T. R.; tuberculin B. E.; tuberculin B. F.; bacterial vaccines made from acne bacillus, acne diplococcus, Brucella melitensis, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, prodigiosus bacillus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus and typhoid bacillus, diphtheria toxin-antitoxin mixture; diphtheria toxoid-antitoxin mixture; diphtheria toxoid, diphtheria toxin for Schick test; scarlet fever streptococcus toxin for Dick test; scarlet fever streptococcus toxin for immunization; animal epidermal extracts; animal food extracts; vegetable food extracts; poison ivy extract; pollen extracts; modified bacterial derivatives made from colon bacillus, gonococcus, paratyphoid bacillus A, paratyphoid bacillus B, pneumococcus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; bacterial antigens made from colon bacillus, gonococcus, pertussis bacillus, pneumococcus, staphylococcus albus, staphylococcus aurens, and streptococcus.

Mulford Biological Laboratories, Sharp & Dohme, Broad and Wallace Streets, Philadelphia, Pa.—License no. 2:

Botulinus antitoxin; diphtheria antitoxin; erysipelas streptococcus antitoxin; B. histolyticus antitoxin; B. odematiens antitoxin; perfringens antitoxin; scarlet fever streptococcus antitoxin; B. sordelli antitoxin; staphylococcus antitoxin; tetanus antitoxin; vibrion septique antitoxin; antianthrax serum; antidysenteric serum; antierysipeloid serum; antigonococcic serum; anti-influenza bacillus serum; antimelitensis serum; antimeningococcic serum; antipneumococcic serum; antistreptococcic serum, antitularemic serum, antivenin (Nearctic crotalidae); antivenin Bothropic; antivenin (crotalus terrificus); antivenim (Latrodectus mactans): normal horse serum; smallpox vaccine; rabies vaccine (Pasteur); rabies vaccine (killed virus); tuberculin old; tuberculin T. R.; tuberculin B. E.; tuberculin B. F.; bacterial vaccines made from acne bacillus, cholera vibrio, colon bacillus, dysentery bacillus, Friedländer bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus

catarrhalis, micrococcus melitensis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, plague bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus, bacterium tularense, and typhoid bacillus; sensitized bacterial vaccines made from acne bacillus, cholera vibrio, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; diphtheria toxin-antitoxin mixture; diphtheria toxoid; staphylococcus toxoid; tetanus toxoid; diphtheria toxin for Schick test; scarlet fever streptococcus toxin for Dick test; scarlet fever streptococcus toxin for immunization; pollen extracts; animal epidermal extracts; animal food extracts; vegetable food extracts; poison ivy extract; poison oak extract; pneumococcus antibody solution; bacterial antigens made from acne bacillus, colon bacillus, dysentery bacillus, Friedländer bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, proteus bacillus, pyocyaneus bacillus, staphylococcus aureus, streptococcus, typhoid bacillus; bee venom; snake venom solution.

The Cutter Laboratory, Berkeley, Calif.—License no. 8:

Diphtheria antitoxin; B. odematiens antitoxin; perfringens antitoxin; scarlet fever streptococcus antitoxin; B. sordelli antitoxin; tetanus antitoxin; vibrion septique antitoxin; antianthrax serum; antistreptococcic serum; normal horse serum; smallpox vaccine; rabies vaccine (Pasteur); rabies vaccine (killed virus); tuberculin old; tuberculin B. F.; bacterial vaccines made from acne bacillus, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; bacterial antigens made from colon bacillus, staphylococcus aureus; diphtheria toxin-antitoxin mixture; diphtheria toxoid; diphtheria toxin for Schick test; pollen extracts; poison ivy extract; poison oak extract.

Bureau of Laboratories, Department of Health, Foot East Sixteenth Street, New York City.—License no. 14:

Smallpox vaccine.

Lederle Laboratories, Inc., Pearl River, N. Y.—License no. 17:

Diphtheria antitoxin; erysipelas streptococcus antitoxin; B. histolyticus antitoxin; B. odematiens antitoxin; perfringens antitoxin; scarlet fever streptococcus antitoxin; staphylococcus antitoxin; B. sordelli antitoxin; tetanus antitoxin; vibrion septique antitoxin; antianthrax serum; antidysenteric serum; antigonococcic serum; antimeningococcic serum; antipneumococcic serum; antistreptococcic serum; measles immune serum; immune globulin (human); normal horse serum; smallpox vaccine; rabies vaccine (killed virus); tuberculin old; tuberculin B. E.; tuberculin B. F.; bacterial vaccines made from acne bacillus, Brucella melitensis, cholera vibrio, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, plague bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, streptococcus, and typhoid bacillus; diphtheria toxin-antitoxin mixture; diphtheria toxoid; tetanus toxoid; staphylococcus toxoid; diphtheria toxin for Schick test; scarlet fever streptococcus toxin for Dick test; scarlet fever streptococcus toxin for immunization; pollen extracts; poison ivy extract; poison oak extract; animal epidermal extracts; animal food extracts; vegetable food extracts; animal oil extracts; vegetable oil extracts; fungus extracts; snake venom solution.

G. H. Sherman, M. D., Inc., 14600 East Jefferson Avenue, Detroit, Mich.—License no. 30:

Bacterial vaccines made from acne bacillus, Brucella melitensis, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; pollen extracts; bacterial antigens made from colon bacillus, gonococcus, micrococcus catarrhalis, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, and streptococcus.

The Abbott Laboratories, Fourteenth Street and C.-W. Interurban Railroad Tracks, North Chicago, Ill.—License no. 43:

Bacterial vaccines made from acne bacillus, Brucella melitensis, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, micrococcus tetragenus, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; bacterial antigens made from acne bacillus, colon bacillus, Friedländer bacillus, gonococcus, micrococcus catarrhalis, pneumococcus, staphylococcus albus, staphylococcus aureus, streptococcus; pollen extracts; animal epidermal extracts; animal food extracts; vegetable food extracts.

The Upjohn Co., Kalamazoo, Mich.—License no. 51:

Bacterial vaccines made from colon bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; bacterial antigens made from colon bacillus, staphylococcus aureus.

E. R. Squibb & Sons' Research and Biological Laboratories, New Brunswick, N. J.—License no. 52:
Diphtheria antitoxin, erysipelas streptococcus antitoxin, perfringens antitoxin, scarlet fever streptococcus antitoxin, staphylococcus antitoxin; tetanus antitoxin; antimeningococcic serum; antipneumococcic serum; antistreptococcic serum; immune globulin (human); normal horse serum; smallpox vaccine; rabies vaccine (Pasteur); rabies vaccine (killed virus); bacterial vaccines made from acne bacillus, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, streptococcus, and typhoid bacillus; bacterial antigen made from staphylococcus aureus; leucocytic extract from the horse; diphtheria toxin-antitoxin mixture; diphtheria toxoid; staphylococcus toxoid; tetanus toxoid; diphtheria toxin for Schick test; scarlet fever streptococcus toxin for Dick test; scarlet fever streptococcus toxin for immunization; pollen extracts; poison ivy extract; poison oak extract; arsphenamine, neoarsphenamine, sulpharsphenamine.

Eli Lilly & Co., Indianapolis, Ind.—License no. 56:
Diphtheria antitoxin; erysipelas streptococcus antitoxin; perfringens antitoxin; tetanus antitoxin; vibrion septique antitoxin; antimeningococcic serum; antipneumococcic serum; antistreptococcic serum; normal horse serum; hemostatic serum (Lilly); heterophile antibody; smallpox vaccine; rabies vaccine (Harris); tuberculin old; bacterial vaccines made from acne bacillus, cholera vibrio, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, plague bacillus, pneumococcus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; bacterial vaccines made from partially autolized pneumococci; diphtheria toxin-antitoxin mixture; diphtheria toxoid; tetanus toxoid; diphtheria toxin for Schick test; bacterial antigens made from acne bacillus, colon bacillus, gonococcus, pneumococcus, staphylococcus albus, staphylococcus aureus, and streptococcus.

Gilliland Laboratories, Marietta, Pa.—License no. 63:
Diphtheria antitoxin; scarlet fever streptococcus antitoxin; tetanus antitoxin; antimeningococcic serum; antipneumococcic serum; antistreptococcic serum; normal horse serum; smallpox vaccine; rabies vaccine (Pasteur); rabies vaccine (killed virus); tuberculin old; tuberculin B. E.; tuberculin, B. F.; bacterial vaccines made from acne bacillus, gonococcus, influenza bacillus, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; diphtheria toxin-antitoxin mixture; diphtheria toxoid; diphtheria toxin for Schick test; scarlet fever streptococcus toxin for Dick test; scarlet fever streptococcus toxin for immunization.

Antitoxin and Vaccine Laboratory, Department of Public Health, Commonwealth of Massachusetts, 375 South Street, Jamaica Plain, Boston 30, Mass.—License no. 64:
Diphtheria antitoxin; scarlet fever streptococcus antitoxin; antimeningococcic serum; antipneumococcic serum; smallpox vaccine; tuberculin old; bacterial vaccines made from paratyphoid bacillus A, paratyphoid bacillus B, and typhoid bacillus; diphtheria toxin-antitoxin mixture; diphtheria toxoid, diphtheria toxin for Schick test.

United States Standard Products Co., Woodworth, Wis.—License no. 65:
Diphtheria antitoxin; erysipelas streptococcus antitoxin; perfringens antitoxin; tetanus antitoxin; vibrion septique antitoxin; antimeningococcic serum; normal horse serum; smallpox vaccine; rabies vaccine (killed virus); bacterial vaccines made from acne bacillus, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; bacterial antigens made from staphylococcus albus, staphylococcus aureus; diphtheria toxin-antitoxin mixture; diphtheria toxoid; tetanus toxoid; diphtheria toxin for Schick test; scarlet fever streptococcus toxin for Dick test; scarlet fever streptococcus toxin for immunization; pollen extracts; poison ivy extract.

D. L. Harris Laboratories, Metropolitan Building, St. Louis, Mo.—License no. 66:
Rabies vaccine (Harris).

The Arlington Chemical Co., Yonkers, N. Y.—License no. 67:
Bacterial vaccines made from colon bacillus, micrococcus catarrhalis, micrococcus tetragenus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, and streptococcus; fungus extracts; pollen extracts; animal epidermal extracts; animal food extracts; vegetable food extracts.

Dermatological Research Laboratories, 1720 Lombard Street, Philadelphia, Pa.—License no. 68:
Arsphenamine; silver arsphenamine; neoarsphenamine; sulpharsphenamine; bismuth arsphenamine sulphonate; neosilver arsphenamine.

The Winthrop Chemical Co., Inc., 33 Riverside Avenue, Rensselaer, N. Y.—License no. 69:
Arsphenamine; arsphenamine diglucoside; neoarsphenamine; sodium arsphenamine; silver arsphenamine; neosilver arsphenamine; sulpharsphenamine.

Diarsenol Co. (Inc.), 771 Ellicott Square, Buffalo, N. Y.—License no. 70:
Arsphenamine; neoarsphenamine; sodium arsphenamine; sulpharsphenamine.

Mallinckrodt Chemical Works, St. Louis, Mo.—License no. 77:
Arsphenamine; neoarsphenamine; sulpharsphenamine.

Merck & Co. (Inc.), Rahway, N. J.—License no. 82:
Arsphenamine; neoarsphenamine; sulpharsphenamine; a compound of glucose with arsphenamine base.

Terrell Laboratories, Texas National Bank Building, Fort Worth, Tex.—License no. 84:
Rabies vaccine (killed virus).

Jensen-Salsbery Laboratories, Twenty-first and Penn Streets, Kansas City, Mo.—License no. 85:
Botulinus antitoxin; antianthrax serum; rabies vaccine (killed virus); bacterial vaccine made from Brucella melitensis; diphtheria toxin for Schick test; diphtheria toxoid.

Hollister-Stier Laboratories, Paulson Medical and Dental Building, Spokane, Wash.—License no. 91:
Acute anterior poliomyelitis serum (human); bacterial vaccines made from acne bacillus, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus, and xerosis bacillus; pollen extracts; poison ivy extract; poison oak extract.

Medical Arts Laboratory, Medical Arts Building, Oklahoma City, Okla.—License no. 98:
Rabies vaccine (killed virus).

Bureau of Laboratories, Michigan State Department of Health, Lansing, Mich.—License no. 99:
Diphtheria antitoxin; scarlet fever streptococcus antitoxin; tetanus antitoxin; antimeningococcic serum, smallpox vaccine; rabies vaccine (Cumming); tuberculin old; bacterial vaccines made from paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, and typhoid bacillus; diphtheria toxin-antitoxin mixture; diphtheria toxoid; diphtheria toxin for Schick test; scarlet fever streptococcus toxin for Dick test; scarlet fever streptococcus toxin for immunization.

National Drug Co., 5109 Germantown Avenue, Philadelphia, Pa.—License no. 101:
Diphtheria antitoxin, perfringens antitoxin; tetanus antitoxin; vibrion septique antitoxin; antimeningococcic serum; antipneumococcic serum; antistreptococcic serum; normal horse serum; tuberculin old; smallpox vaccine; rabies vaccine (killed virus); bacterial vaccines made from acne bacillus, Brucella melitensis, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, meningococcus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; diphtheria toxin-antitoxin mixture; diphtheria toxoid; tetanus toxoid; diphtheria toxin for Schick test; scarlet fever streptococcus toxin for Dick test; scarlet fever streptococcus toxin for immunization; pollen extracts.

Mulford Colloid Laboratories, Thirty-eighth and Ludlow Streets, Philadelphia, Pa.—License no. 102:
Poison ivy extract; poison oak extract.

Allergy Laboratories, 1200 North Walker Street, Oklahoma City, Okla.—License no. 103:
Pollen extracts; vegetable food extracts; animal epidermal extracts.

Hixson Laboratories (Inc.), Johnstown, Ohio.—License no. 104:
Diphtheria antitoxin; tetanus antitoxin; antimeningococcic serum; normal horse serum; rabies vaccine (killed virus); bacterial vaccines made from acne bacillus, colon bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus, staphylococcus aureus, streptococcus and typhoid bacillus; diphtheria toxin-antitoxin mixture; diphtheria toxoid; tetanus toxoid; diphtheria toxin for Schick test.

C. F. Kirk Co., Bloomfield, N. J.—License no. 105:
Bacterial vaccines made from acne bacillus, colon bacillus, Friedländer bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, staphylococcus albus, staphylococcus aureus, streptococcus and typhoid bacillus.

Knapp & Knapp, Independence, Mo.—License no. 106:
Pollen extracts.

The Porro Biological Laboratories, 718 Medical Arts Building, Tacoma, Wash.—License no. 107:
Bacterial vaccines made from micrococcus catarrhalis, pneumococcus, staphylococcus aureus, and streptococcus; pollen extracts.

Phagoid Laboratories (Inc.), Breslin Medical Arts Building, Louisville, Ky.—License no. 109.
Bacterial antigens made from colon bacillus, Friedländer bacillus, gonococcus, micrococcus catarrhalis, pertussis bacillus, pneumococcus, pyocyaneus bacillus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus.

Pitman-Moore Co., Zionsville, Ind.—License no. 110:
Tetanus antitoxin; antierysipeloid serum; rabies vaccine (killed virus); bacterial vaccines made from acne bacillus, colon bacillus, Brucella melitensis, Friedländer bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, micrococcus tetragenus, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, staphylococcus albus, staphylococcus aureus, streptococcus, and typhoid bacillus; bacterial antigens made from colon bacillus, gonococcus, staphylococcus albus, staphylococcus aureus, streptococcus; diphtheria toxoid; pollen extracts.

The Wm. S. Merrell Co., Cincinnati, Ohio.—License no. 111:
Bacterial vaccines made from Brucella melitensis, colon bacillus, dysentery bacillus, Friedländer bacillus, gonococcus, influenza bacillus, micrococcus catarrhalis, paratyphoid bacillus A, paratyphoid bacillus B, pertussis bacillus, pneumococcus, pseudodiphtheria bacillus, staphylococcus albus,

staphylococcus aureus, staphylococcus citreus, streptococcus, typhoid bacillus; bacterial antigens made from colon bacillus, staphylococcus albus, staphylococcus aureus, streptococcus, typhoid bacillus; diphtheria toxoid, diphtheria toxin for Schick test.

The Wyatt Clinic Research Laboratories, Tucson, Ariz.—License no. 112:
Bacterial antigen made from streptococcus.

Michael Reese Hospital, Twenty-ninth Street and Ellis Avenue, Chicago, Ill.—License no. 113:
Acute anterior poliomyelitis immune serum (human); measles immune serum (human); scarlet fever immune serum (human); normal human serum.

The Milwaukee Serum Center, Columbia Hospital, Milwaukee, Wis.—License no. 117:
Acute anterior poliomyelitis immune serum (human); measles immune serum (human); scarlet fever immune serum (human); normal human serum.

Lee Laboratories, 1457 Neil Avenue, Columbus, Ohio.—License no. 118:
Rabies vaccine (killed virus); diphtheria toxoid.

Barry Allergy Laboratory, Michigan Theater Building, Detroit, Mich.—License no. 119:
Pollen extracts.

Biological Laboratory, Illinois Department of Health, Springfield, Ill.—License no. 120:
Rabies vaccine (killed virus); bacterial vaccine made from typhoid bacillus; diphtheria toxoid.

State Department of Health, Austin, Tex.—License no. 121:
Rabies vaccine (killed virus); bacterial vaccines made from paratyphoid bacillus A, paratyphoid bacillus B, typhoid bacillus; diphtheria toxin for Schick test; diphtheria toxoid.

FOREIGN ESTABLISHMENTS

Institut Pasteur de Paris, Paris, France.—License no. 11. Selling agents for the United States, Mr. A. Charklian, Pasteur Vaccine Laboratories of France, 516 Fifth Avenue, New York, N. Y.:
Diphtheria antitoxin; tetanus antitoxin; antianthrax serum; antidysenteric serum; antiplague serum; antistreptococcic serum; bacterial vaccines made from cholera vibrio, plague bacillus, staphylococcus albus, and staphylococcus aureus.

Interessen Gesellschaft Farbenindustrie Aktiengesellschaft, Hoechst am Main, Germany.—License no. 24. Selling agents for the United States, The Winthrop Chemical Co., 170 Varick Street, New York City:
Tuberculin old; tuberculin T. R.; tuberculin B. E.; tuberculin B. F.; bacterial vaccines made from cholera vibrio, gonococcus, staphylococcus albus, staphylococcus aureus, and staphylococcus citreus; typhoid bacillus; sensitized bacterial vaccine made from typhoid bacillus; fungus extracts; arsphenamine; neoarsphenamine; sodium arsphenamine; silver arsphenamine; neosilver arsphenamine; sulpharsphenamine; sulphoxylarsphenamine.

Connaught Antitoxin Laboratory, University of Toronto, Toronto, Canada.—License no. 73:
Diphtheria antitoxin; staphylococcus antitoxin; tetanus antitoxin; diphtheria toxoid; staphylococcus toxoid.

Laboratoire de Biochimie Médicale, 19–21 rue Van-Loo, Paris, France.—License no. 83. Selling agents for the United States, Anglo-French Drug Co., 1270 Broadway, New York City; selling agents for Puerto Rico, Chas. Vere, box 216, San Juan, P. R.:
Sulpharsphenamine.

Instituto Sieroterapico Milanese, Via Darwin 20, Milan, Italy.—License no. 87. Selling agents for the United States, Italian Drugs Importing Co., 225 Lafayette Street, New York City, N. Y.; selling agent for Puerto Rico, Mr. Braulio Caballero, San Juan, P. R.
Antianthrax serum; bacterial vaccines made from colon bacillus, gonococcus, pneumococcus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, and streptococcus; neoarsphenamine.

Boots Pure Drug Co., Ltd., Nottingham, England.—License no. 92. Selling agents for the United States. The United Drug Co., 43 Leon Street, Boston, Mass.:
Arsphenamine diglucoside.

Sero-Bacteriological Department, Bayer-Meister-Lucius, Behringswerke, I. G. Farbenindustrie, A. G. Section, Marburg-Lahn, Germany.—License no. 97. Selling agents for the United States, The Winthrop Chemical Co., 170 Varick Street, New York City.
Diphtheria antitoxin; tetanus antitoxin; antistreptococcic serum; normal horse serum; bacterial vaccines made from colon bacillus, gonococcus, pneumococcus, pyocyaneus bacillus, staphylococcus albus, staphylococcus aureus, and streptococcus.

Laboratoire de Bacteriophage, 75 rue Olivier de Serres, Paris, France.—License no. 108. Selling agents for the United States, Anglo-French Drug Co., 1270 Broadway, New York City; selling agents for Puerto Rico, Mr. Joaquin Belendez, San Juan, P. R.
Bacterial antigens made from colon bacillus, dysentery bacillus, enterococcus, Friedländer bacillus, paratyphoid bacillus A, paratyphoid bacillus B, pneumococcus, proteus bacillus, pyocyaneous bacillus, staphylococcus albus, staphylococcus aureus, staphylococcus citreus, streptococcus, and typhoid bacillus.

Dr. Kade, Elisabeth Ufer 35, Berlin SO, 36, Germany.—License no. 114:
Bacterial vaccine made from colon bacillus.

La Biotherapie, 3 rue Maublanc, Paris, France.—License no. 115:
Bacterial vaccines made from cholera vibrio, dysentery bacillus, paratyphoid bacillus A, paratyphoid bacillus B, and typhoid bacillus; bacterial antigens made from pneumococcus, staphylococcus albus, staphylococcus aureus, and streptococcus.

Laboratorio Brasileiro de Chimiotherapia, Rua General Roca No. 28, Rio de Janeiro, Brazil.—License no. 116. Selling agents for the United States and Hawaii, Ernst Bischoff Co., Inc., 135 Hudson Street, New York, N. Y.; selling agents for Puerto Rico, Cesar A. Toro, Apartado 3854, Santurce, P. R.
Fungus extracts.

DEATHS DURING WEEK ENDED FEBRUARY 15, 1936

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

	Week ended Feb. 15, 1936	Corresponding week, 1935
Data from 86 large cities of the United States:		
Total deaths	9,930	9,018
Deaths per 1,000 population, annual basis	13.9	12.6
Deaths under 1 year of age	579	562
Deaths under 1 year of age per 1,000 estimated live births	52	52
Deaths per 1,000 population, annual basis, first 7 weeks of year	13.4	13.1
Data from industrial insurance companies:		
Policies in force	67,901,211	67,265,885
Number of death claims	11,894	12,696
Death claims per 1,000 policies in force, annual rate	9.2	9.8
Death claims per 1,000 policies, first 7 weeks of year, annual rate	10.4	10.8

PREVALENCE OF DISEASE

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

UNITED STATES

CURRENT WEEKLY STATE REPORTS

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

Reports for Weeks Ended Feb. 22, 1936, and Feb. 23, 1935

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Feb. 22, 1936, and Feb. 23, 1935

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935
New England States:								
Maine	4	----	1	3	272	386	1	0
New Hampshire	----	----	----	----	24	17	0	0
Vermont	----	----	----	----	370	4	0	0
Massachusetts	11	8	----	----	357	400	3	1
Rhode Island	----	2	----	----	32	55	2	1
Connecticut	----	3	4	12	78	689	4	1
Middle Atlantic States:								
New York	37	41	[1] 92	[1] 27	1,810	1,905	20	5
New Jersey	12	18	11	21	100	574	3	0
Pennsylvania	34	51	----	----	616	3,006	4	7
East North Central States:								
Ohio	29	74	70	53	108	760	8	17
Indiana	20	36	34	71	11	584	2	4
Illinois	31	54	64	46	29	2,341	13	13
Michigan	13	7	4	31	50	1,219	2	0
Wisconsin	1	4	58	134	137	1,598	3	3
West North Central States:								
Minnesota	1	4	1	----	168	2,272	0	1
Iowa	11	2	5	34	8	1,575	3	5
Missouri	23	46	402	393	25	607	3	4
North Dakota	----	10	10	75	----	61	1	0
South Dakota	2	0	----	4	1	36	0	0
Nebraska	6	9	----	----	40	538	3	9
Kansas	16	12	22	25	16	1,507	2	4
South Atlantic States:								
Delaware	----	----	----	7	78	----	0	0
Maryland [2]	5	10	34	69	136	46	14	7
District of Columbia	21	8	3	7	8	11	4	11
Virginia	14	17	----	----	70	1,253	33	6
West Virginia	9	13	131	211	11	678	5	0
North Carolina	23	17	311	216	89	765	5	5
South Carolina	2	6	1,272	580	17	27	10	0
Georgia [3]	9	9	1,058	356	----	----	4	0
Florida [3]	2	8	51	43	1	40	2	3
East South Central States:								
Kentucky	9	24	104	419	154	905	9	14
Tennessee	12	14	246	366	202	38	8	7
Alabama [3]	14	21	1,189	1,839	11	568	2	3
Mississippi [3]	1	7	----	----	----	----	1	4

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Feb. 22, 1936, and Feb. 23, 1935—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935
West South Central States:								
Arkansas	6	23	233	103	--	60	2	2
Louisiana	14	32	24	46	70	105	5	2
Oklahoma [4]	5	17	227	273	1	50	9	1
Texas [3]	56	44	751	661	174	267	17	7
Mountain States:								
Montana	--	3	57	455	30	237	1	0
Idaho	2	1	2	7	44	53	0	0
Wyoming	--	--	--	--	4	132	4	0
Colorado	5	8	--	--	14	593	1	4
New Mexico	3	8	6	45	9	23	0	2
Arizona	2	2	215	67	46	23	0	1
Utah [3]	--	--	--	--	10	15	0	0
Pacific States:								
Washington	3	4	--	18	236	130	2	1
Oregon	1	--	148	143	642	87	1	0
California	37	51	5,030	158	1,817	601	7	5
Total	506	728	11,870	7,018	8,126	26,841	223	160
First 8 weeks of year	5,370	6,259	38,450	69,801	47,669	146,324	1,468	833

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935
New England States:								
Maine	0	0	24	22	0	0	1	3
New Hampshire	0	0	16	5	0	0	0	0
Vermont	0	0	16	16	0	0	0	0
Massachusetts	1	0	241	190	0	0	1	0
Rhode Island	0	0	17	17	0	0	0	0
Connecticut	0	0	78	53	0	0	0	2
Middle Atlantic States:								
New York	0	1	858	793	0	0	5	5
New Jersey	1	1	296	149	0	0	3	1
Pennsylvania	1	0	511	508	0	0	3	13
East North Central States:								
Ohio	0	1	280	940	1	0	2	4
Indiana	0	0	358	223	1	0	1	1
Illinois	1	0	706	944	6	1	4	3
Michigan	0	0	313	371	0	0	3	3
Wisconsin	0	0	573	600	12	22	1	0
West North Central States:								
Minnesota	0	0	273	150	16	9	1	0
Iowa	0	1	178	101	5	2	5	2
Missouri	0	0	215	113	5	1	1	0
North Dakota	0	0	64	46	10	5	0	0
South Dakota	0	0	68	17	23	12	0	0
Nebraska	0	0	150	38	42	21	0	0
Kansas	0	0	325	108	7	6	0	0
South Atlantic States:								
Delaware	0	0	6	12	0	1	0	0
Maryland [3]	1	0	78	107	0	0	2	5
District of Columbia	0	1	20	44	0	0	0	2
Virginia	0	0	38	49	0	0	2	8
West Virginia	0	0	38	153	0	0	1	4
North Carolina	0	0	24	29	1	0	1	2
South Carolina	0	0	4	3	0	0	1	0
Georgia [3]	0	0	25	6	1	0	2	2
Florida [3]	0	0	4	2	0	0	1	0

See footnotes at end of table.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended Feb. 22, 1936, and Feb. 23, 1935—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935	Week ended Feb. 22, 1936	Week ended Feb. 23, 1935
East South Central States:								
Kentucky	1	0	63	87	0	0	6	8
Tennessee	0	0	27	42	0	0	2	2
Alabama [1]	0	1	27	18	1	2	0	7
Mississippi [2]	0	0	16	15	0	1	1	1
West South Central States:								
Arkansas	0	0	17	8	0	1	4	2
Louisiana	0	0	15	14	3	1	3	7
Oklahoma [4]	1	0	31	21	0	4	3	7
Texas [3]	0	2	133	86	2	0	4	11
Mountain States:								
Montana	0	0	124	24	11	0	1	1
Idaho	0	0	88	15	5	0	0	0
Wyoming	0	0	83	5	10	7	0	0
Colorado	0	0	130	317	5	2	1	0
New Mexico	0	0	43	21	0	8	0	2
Arizona	0	0	28	19	0	0	0	0
Utah [2]	0	0	111	96	0	0	0	0
Pacific States:								
Washington	0	0	91	-------	27	23	0	1
Oregon	0	0	59	62	1	4	4	0
California	1	10	368	242	1	9	9	4
Total	8	18	7,251	6,901	196	142	79	113
First 8 weeks of year	170	216	57,392	52,107	1,795	1,634	885	1,150

[1] New York City only.
[2] Week ended earlier than Saturday.
[3] Typhus fever, week ended Feb. 22, 1936, 15 cases, as follows: Georgia, 4; Florida, 2; Alabama, 1; Texas, 8.
[4] Exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
January 1936										
Alabama	10	80	1,180	61	79	13	4	56	-------	8
Georgia	16	68	1,130	95	20	9	1	109	5	10
Hawaii Territory	4	5	2,939	-------	1	-------	1	1	0	2
Idaho	1	5	20	-------	260	1	3	403	9	3
Illinois	49	266	173	8	208	-------	4	2,788	49	22
Iowa	19	55	21	-------	31	-------	2	817	57	9
Kansas	9	61	107	-------	110	-------	3	950	69	5
Louisiana	3	89	70	51	142	10	1	92	5	16
Maryland	42	42	135	-------	566	-------	1	376	0	15
Minnesota	12	21	2	-------	528	-------	1	1,678	71	15
Mississippi	11	30	7,928	1,192	379	122	0	51	6	5
Rhode Island	4	3	-------	-------	716	-------	0	121	0	3
South Dakota	2	17	4	-------	111	-------	0	370	107	1
Tennessee	44	100	534	9	41	-------	2	173	0	8
Texas	61	229	1,245	787	231	8	0	376	5	18
Wyoming	-------	5	-------	-------	6	-------	0	333	0	0

January 1936

	Cases
Actinomycosis:	
Minnesota	1
Chicken pox:	
Alabama	307
Georgia	132
Hawaii Territory	30
Idaho	79
Illinois	2,403
Iowa	392
Kansas	1,001
Louisiana	105
Maryland	423
Minnesota	1,009
Mississippi	762
Rhode Island	157
South Dakota	257
Tennessee	233
Texas	251
Wyoming	47
Conjunctivitis, infectious:	
Georgia	3
Dengue:	
Mississippi	1
Dysentery:	
Georgia (amoebic)	5
Georgia (bacillary)	3
Illinois (amoebic)	4
Illinois (bacillary)	3
Illinois (amoebic carcariers)	30
Louisiana (amoebic)	1
Maryland (bacillary)	2
Minnesota (amoebic)	7
Mississippi (amoebic)	29
Mississippi (bacillary)	179
Tennessee	2
Texas	11
Epidemic encephalitis:	
Alabama	2
Illinois	2
Iowa	2
Kansas	4
Minnesota	1
Texas	1
German measles:	
Illinois	35
Iowa	8
Kansas	18
Maryland	100
Rhode Island	15
Tennessee	4
Hookworm disease:	
Georgia	889
Louisiana	2
Mississippi	212
Tennessee	1
Impetigo contagiosa:	
Iowa	5
Maryland	30
Tennessee	5
Lead poisoning:	
Illinois	4
Leprosy:	
Hawaii Territory	4
Louisiana	4
Mumps:	
Aalabama	386
Georgia	190
Hawaii Territory	4
Idaho	193
Illinois	1,244
Iowa	1,008
Kansas	297
Louisiana	32
Maryland	193
Mississippi	1,233
Rhode Island	337
South Dakota	171
Tennessee	98
Texas	1,071
Wyoming	60
Ophthalmia neonatorum:	
Alabama	1
Illinois	4
Tennessee	5
Paratyphoid fever:	
Illinois	1
Kansas	2
Maryland	1
Puerperal septicemia:	
Mississippi	16
Tennessee	1
Rabies in animals:	
Alabama	68
Illinois	4
Louisiana	31
Maryland	2
Mississippi	24
Texas	21
Rocky Mountain spotted fever:	
Alabama	3
Scabies:	
Kansas	3
Maryland	1
Tennessee	2
Septic sore throat:	
Georgia	34
Illinois	5
Iowa	7
Kansas	10
Louisiana	3
Maryland	20
Minnesota	7
Rhode Island	6
Tennessee	12
Wyoming	10
Tetanus:	
Alabama	2
Illinois	2
Tetanus—Continued.	
Rhode Island	1
Tennessee	3
Trachoma:	
Idaho	1
Illinois	11
Mississippi	4
Trichinosis:	
Maryland	6
Tennessee	3
Tularaemia:	
Alabama	2
Georgia	2
Illinois	10
Iowa	1
Louisiana	2
Maryland	6
Tennessee	5
Typhus fever:	
Alabama	8
Georgia	28
Maryland	1
Mississippi	1
Texas	13
Undulant fever:	
Alabama	3
Georgia	1
Hawaii Territory	1
Illinois	8
Iowa	7
Kansas	7
Louisiana	1
Maryland	2
Minnesota	5
Mississippi	3
Tennessee	1
Wyoming	1
Vincent's infection:	
Illinois	26
Kansas	13
Maryland	17
Tennessee	7
Whooping cough:	
Alabama	70
Georgia	28
Hawaii Territory	19
Idaho	10
Illinois	1,097
Iowa	101
Kansas	116
Louisiana	80
Maryland	174
Minnesota	94
Mississippi	425
Rhode Island	34
South Dakota	5
Tennessee	48
Texas	73
Wyoming	6

WEEKLY REPORTS FROM CITIES

City reports for week ended Feb. 15, 1936

This table summarizes the reports received weekly from a selected list of 140 cities for the purpose of showing a cross section of the current urban incidence of the communicable diseases listed in the table. Weekly reports are received from about 700 cities, from which the data are tabulated and filed for reference.

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths all causes
		Cases	Deaths								
Maine:											
Portland	0	------	0	0	5	1	0	0	0	1	25
New Hampshire:											
Concord	0	------	0	0	0	0	0	0	0	0	11
Manchester	0	------	0	2	2	3	0	0	0	0	20
Nashua	0	------	--------	1	-------	0	0	2	0	0	--------
Vermont:											
Barre	-------	------	--------	-------	-------	-------	-------	-------	-------	-------	--------
Burlington	0	------	0	0	0	1	0	0	0	2	8
Rutland	0	------	0	8	1	19	0	0	0	0	9
Massachusetts:											
Boston	6	------	0	198	37	68	0	11	3	13	249
Fall River	1	------	0	0	5	4	0	2	0	1	42
Springfield	0	------	0	1	2	4	0	0	0	6	32
Worcester	1	------	0	2	11	10	0	3	0	10	57
Rhode Island:											
Pawtucket	0	------	0	0	0	1	0	0	0	0	15
Providence	1	7	0	19	12	12	0	4	0	3	65
Connecticut:											
Bridgeport	0	------	3	2	10	2	0	0	0	0	45
Hartford	-------	------	-------	-------	-------	-------	-------	-------	-------	-------	-------
New Haven	0	1	1	0	6	2	0	1	0	20	51
New York:											
Buffalo	0	------	1	19	16	55	0	7	0	16	151
New York	35	69	7	902	249	413	0	107	0	83	1,817
Rochester	0	------	0	2	2	3	0	5	0	1	85
Syracuse	0	------	0	55	10	7	0	3	0	30	58
New Jersey:											
Camden	2	------	2	1	4	6	0	1	0	4	36
Newark	0	7	0	2	12	119	0	15	0	14	114
Trenton	0	------	0	1	2	4	0	2	0	9	37
Pennsylvania:											
Philadelphia	3	------	7	360	50	61	0	24	0	62	582
Pittsburgh	2	3	3	17	35	73	0	4	0	21	200
Reading	0	------	0	0	0	8	0	1	0	0	24
Scranton	1	------	--------	17	-------	11	0	-------	0	0	--------
Ohio:											
Cincinnati	3	------	1	5	13	16	0	8	0	1	161
Cleveland	3	33	2	62	23	41	0	16	0	60	222
Columbus	1	3	3	1	7	13	0	1	0	4	118
Toledo	3	1	1	22	3	8	0	1	1	0	64
Indiana:											
Anderson	4	------	0	0	2	7	0	0	0	4	8
Fort Wayne	0	------	0	0	3	5	0	2	0	0	30
Indianapolis	2	------	0	2	21	64	0	3	0	8	108
Muncie	0	------	0	0	3	3	0	0	0	0	7
South Bend	0	------	0	1	2	3	0	0	0	2	17
Terre Haute	0	------	0	0	0	0	0	0	0	0	30
Illinois:											
Alton	1	------	0	0	1	1	0	0	0	0	9
Chicago	22	13	4	9	65	208	3	29	0	171	741
Elgin	0	------	0	0	3	2	0	0	0	0	15
Moline	0	------	0	0	3	9	0	0	0	2	6
Springfield	1	------	0	0	2	8	0	0	0	0	20
Michigan:											
Detroit	6	4	4	6	28	89	0	19	0	137	306
Flint	1	------	0	0	14	17	0	0	0	5	37
Grand Rapids	0	------	2	5	3	13	0	0	0	0	40
Wisconsin:											
Kenosha	0	------	0	1	0	2	0	0	0	9	9
Milwaukee	0	3	2	3	12	88	0	4	0	71	119
Racine	0	------	0	0	2	24	0	0	0	3	11
Superior	0	------	0	0	0	2	0	1	0	0	9
Minnesota:											
Duluth	0	------	0	0	0	0	0	0	0	4	16
Minneapolis	1	------	1	101	9	143	1	1	0	7	111
St. Paul	0	1	1	47	10	55	0	1	0	3	90
Iowa:											
Cedar Rapids	0	------	--------	0	-------	1	0	-------	0	0	--------
Davenport	0	------	--------	0	-------	16	0	-------	0	0	--------
Des Moines	3	------	--------	0	-------	2	0	-------	0	0	42
Sioux City	0	------	--------	0	-------	4	4	-------	0	0	--------
Waterloo	0	------	--------	0	-------	4	0	-------	0	0	--------

City reports for week ended Feb. 15, 1936—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths all causes
		Cases	Deaths								
Missouri:											
Kansas City	5	------	3	3	20	46	1	9	0	0	158
St. Joseph	1	1	0	0	7	12	0	1	0	0	31
St. Louis	15	------	1	2	16	61	0	14	1	6	263
North Dakota:											
Fargo	0	------	0	0	1	8	1	0	0	3	5
Grand Forks	0	------	--------	0	-------	0	0	-------	0	0	--------
Minot	0	------	0	0	0	9	0	0	0	0	6
South Dakota:											
Aberdeen	0	------	--------	0	-------	0	0	-------	0	0	--------
Sioux Falls	0	------	0	0	0	21	0	0	0	0	7
Nebraska:											
Omaha	1	------	0	1	17	99	4	1	0	0	71
Kansas:											
Lawrence	0	------	0	0	0	1	0	0	0	0	--------
Topeka	--------	------	--------	--------	--------	--------	--------	--------	--------	--------	--------
Wichita	1	------	0	0	7	21	0	3	0	0	40
Delaware:											
Wilmington	0	------	0	1	3	1	0	1	0	6	37
Maryland:											
Baltimore	7	5	0	17	36	29	0	12	0	20	261
Cumberland	0	------	0	0	0	1	0	1	0	0	11
Frederick	0	------	0	0	0	0	0	0	0	0	5
District of Columbia:											
Washington	18	------	4	21	23	21	0	21	1	9	181
Virginia:											
Lynchburg	1	------	0	3	8	1	0	1	0	6	21
Richmond	2	29	2	0	12	9	0	5	0	0	76
Roanoke	0	------	0	0	1	0	0	0	0	0	24
West Virginia:											
Charleston	0	------	0	1	2	0	0	1	0	0	5
Huntington	0	------	--------	0	-------	1	0	-------	0	0	--------
Wheeling	0	------	1	2	1	0	0	1	0	0	20
North Carolina:											
Gastonia	0	1	0	0	1	0	0	0	0	0	6
Raleigh	1	------	0	0	4	0	0	3	0	3	22
Wilmington	0	------	2	1	6	2	0	0	0	0	--------
Winston-Salem	0	1	0	89	4	3	0	2	0	0	23
South Carolina:											
Charleston	1	716	4	0	7	3	0	3	0	2	32
Columbia	0	------	0	0	3	0	0	0	0	0	7
Florence	0	------	1	0	6	0	0	0	0	0	16
Greenville	2	------	0	7	0	0	0	1	0	0	23
Georgia:											
Atlanta	6	197	5	0	11	11	0	3	0	0	124
Brunswick	0	1	1	0	4	0	0	0	0	0	11
Savannah	0	169	6	0	1	3	0	2	0	3	40
Florida:											
Miami	1	------	0	0	1	0	0	4	0	3	45
Tampa	1	2	2	0	2	1	0	1	0	0	26
Kentucky:											
Ashland	0	------	--------	0	-------	0	0	0	1	0	--------
Covington	2	------	0	0	2	5	0	0	0	2	14
Lexington	0	------	0	0	7	2	0	2	0	0	19
Louisville	1	7	1	2	17	12	0	2	0	3	83
Tennessee:											
Knoxville	1	7	1	63	6	0	0	0	0	0	33
Memphis	2	------	2	0	19	8	0	5	0	2	91
Nashville	1	------	2	0	4	5	0	0	0	0	41
Alabama:											
Birmingham	1	11	1	0	9	0	0	1	1	0	71
Mobile	2	16	0	0	1	1	0	1	0	0	24
Montgomery	1	10	--------	0	-------	1	0	-------	0	1	--------
Arkansas:											
Fort Smith	0	------	--------	0	-------	2	0	-------	0	2	--------
Little Rock	0	------	0	0	7	1	0	1	0	0	9
Louisiana:											
Lake Charles	0	2	0	0	1	0	0	0	0	0	9
New Orleans	18	10	2	12	12	16	0	10	0	40	178
Shreveport	0	------	1	17	13	1	0	3	0	0	42
Oklahoma:											
Oklahoma City	0	18	4	1	6	4	0	2	0	0	55
Texas:											
Dallas	2	3	3	28	12	8	0	5	0	0	81
Fort Worth	1	------	0	2	8	11	0	1	0	1	47
Galveston	6	------	0	0	1	1	0	0	0	0	8
Houston	9	------	2	22	17	6	0	7	1	0	93
San Antonio	3	------	4	0	8	10	0	4	0	0	70

City reports for week ended Feb. 15, 1936—Continued

State and city	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Tuberculosis deaths	Typhoid fever cases	Whooping cough cases	Deaths all causes
		Cases	Deaths								
Montana:											
Billings	0	------	0	0	2	8	0	1	0	0	6
Great Falls	0	------	0	1	4	2	1	0	0	7	9
Helena	0	------	0	0	1	1	0	0	0	0	2
Missoula	0	1	1	4	0	5	0	0	0	0	8
Idaho:											
Boise	0	------	0	0	1	8	0	0	0	0	8
Colorado:											
Denver	3	------	1	4	8	21	0	5	0	16	100
Pueblo	0	------	0	0	1	15	0	0	0	3	12
New Mexico:											
Albuquerque	1	------	0	1	4	19	0	3	0	0	16
Utah:											
Salt Lake City	0	------	0	4	3	49	0	0	0	16	42
Nevada:											
Reno	------	------	------	------	------	------	------	------	------	------	------
Washington:											
Seattle	0	------	4	47	10	27	0	3	0	3	128
Spokane	0	------	0	2	4	11	0	1	0	2	31
Tacoma	0	------	0	19	1	0	0	0	0	2	32
Oregon:											
Salem	0	7	------	1	------	1	0	------	0	0	------
California:											
Los Angeles	8	311	2	255	24	94	0	26	0	12	350
Sacramento	5	107	3	14	7	11	0	1	0	2	35
San Francisco	0	35	5	400	21	76	0	9	0	23	190

State and city	Meningococcus meningitis		Poliomyelitis cases
	Cases	Deaths	
Massachusetts:			
Boston	4	3	0
Worcester	1	0	0
New York:			
Buffalo	0	0	1
New York	18	8	0
New Jersey:			
Newark	1	1	0
Pennsylvania:			
Philadelphia	2	1	0
Ohio:			
Cincinnati	3	0	0
Columbus	1	2	0
Indiana:			
Indianapolis	0	1	0
Illinois:			
Chicago	5	2	1
Springfield	0	1	0
Michigan:			
Detroit	2	0	0
Minnesota:			
Minneapolis	7	4	0
Iowa:			
Des Moines	2	0	0
Missouri:			
Kansas City	1	4	0
St. Joseph	1	0	0
St. Louis	4	1	1
Nebraska:			
Omaha	2	2	0
Maryland:			
Baltimore	6	6	0
District of Columbia:			
Washington	4	1	0
West Virginia:			
Wheeling	1	0	0
North Carolina:			
Raleigh	1	0	0
South Carolina:			
Charleston	10	2	0
Greenville	0	1	1
Georgia:			
Atlanta	1	1	0
Kentucky:			
Louisville	3	0	0
Tennessee:			
Knoxville	3	1	0
Memphis	0	1	0
Alabama:			
Birmingham	1	0	0
Louisiana:			
New Orleans	2	0	1
Shreveport	0	1	0
Oklahoma:			
Oklahoma City	1	0	0
Texas:			
Dallas	1	1	0
Houston	4	1	0
San Antonio	2	0	0
Montana:			
Helena	0	1	0
Colorado:			
Denver	5	0	0
Utah:			
Salt Lake	1	0	0
Washington:			
Seattle	0	1	1
California:			
Los Angeles	2	2	3

Epidemic encephalitis.—Cases: Providence, 1; New York, 1.
Pellagra.—Cases: Gastonia, 1; Winston-Salem, 2; Charleston, S. C., 5; Atlanta, 2; Savannah, 2; New Orleans, 1.
Typhus fever.—Cases: Fort Worth, 2.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—2 weeks ended February 8, 1936.—During the 2 weeks ended February 8, 1936, cases of certain communicable diseases were reported by the Department of Pensions and National Health of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis				1	1	1				3
Chicken pox		19	1	399	474	40	52	19	112	1,116
Diphtheria		15		35	9	11	2	16	3	91
Dysentery					2		2			4
Erysipelas				18	4	4		2	4	32
Influenza		9			180	34	604		34	861
Lethargic encephalitis					1					1
Measles	12	44	52	482	3,592	752	1,200	133	527	6,794
Mumps		16			688	102	435	11	250	1,502
Pneumonia	3	3			39		2		24	71
Scarlet fever	3	15	3	304	489	89	48	84	79	1,114
Trachoma							4		1	5
Tuberculosis	3	69	10	97	86	8	4	5	26	308
Typhoid fever				23	2	3	2	2	1	33
Undulant fever					4					4
Whooping cough	10	95	188	152	550	58	38	12	66	1,169

CUBA

Habana—Communicable diseases—4 weeks ended February 15, 1936.—During the 4 weeks ended February 15, 1936, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria	23	1	Tuberculosis	26	8
Malaria	[1] 40		Typhoid fever	[1] 25	
Scarlet fever	1				

[1] Includes imported cases.

Provinces—Notifiable diseases—4 weeks ended February 8, 1936.—During the 4 weeks ended February 8, 1936, cases of certain notifiable diseases were reported in the Provinces of Cuba as follows:

Disease	Pinar del Rio	Habana	Matanzas	Santa Clara	Camaguey	Oriente	Total
Cancer	2			8	1		11
Chicken pox	1	18	2		1	10	32
Diphtheria		1	2	3	1	4	11
Hookworm disease		1				11	12
Leprosy		2		2	4	1	9
Malaria	78	37	22	585	277	1,131	2,130
Measles	2	4			2		8
Poliomyelitis				4		7	11
Tuberculosis	13	42	12	25	18	48	158
Typhoid fever	6	37	5	24	3	33	108

SPAIN

Communicable diseases—Year 1935.—During the year 1935, certain communicable diseases were reported in Spain as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Poliomyelitis	310	32	Typhoid fever	17,138	1,823
Rabies		28	Typhus fever	1	
Smallpox	26	2	Varioloid	257	

STRAITS SETTLEMENTS

Singapore—Malaria.—During the week ended November 30, 1935, 23 deaths from malaria were reported in Singapore, Straits Settlements, and for the week ended December 7, 1935, 38 deaths from the same disease were reported. The following table shows the numbers of deaths from malaria in Singapore for the first 11 months of 1934 and 1935:

	1934	1935		1934	1935
January	38	31	August	31	59
February	20	41	September	44	60
March	19	48	October	38	90
April	21	79	November	52	83
May	40	99			
June	25	57	Total	361	705
July	33	58			

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

NOTE.—A table giving current information of the world prevalence of quarantinable diseases appeared in the PUBLIC HEALTH REPORTS for February 28, 1936, pages 227-240. A similar cumulative table will appear in the PUBLIC HEALTH REPORTS to be issued March 27, 1936, and thereafter, at least for the time being, in the issue published on the last Friday of each month.

Yellow Fever

Brazil—Minas Geraes State—Passos.—On January 31, 1936, 1 case of yellow fever with 1 death was reported at Passos, Minas Geraes State, Brazil.

Colombia.—During the month of December 1935, yellow fever was reported in Colombia as follows: Acacias, Intendencia of Meta, 3 cases; Department of Boyaca, Muzo, 1 case.