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THE RÔLE OF THE VACCINATION DRESSING IN THE PRODUCTION OF POSTVACCINAL TETANUS [a]

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Among 116 investigated cases of tetanus following vaccination, it was found that all had developed following primary "takes" which had been covered for all or part of their active course by some type of dressing strapped to the vaccination site. The types of dressings employed on these 116 cases were as follows: Celluloid shields, 53; gauze, 40; bunion pads, 17; gauze and shield, 5; adhesive bandage, 1.

SOURCE OF THE INFECTION

With the exception of an outbreak of postvaccinal tetanus in 1917, traced by McCoy and Bengtson (1) to the use of infected bone point scarifiers,[1] and of 17 cases traced by Armstrong (2) to the use of infected bunion pads, the sources of the invading tetanus organism are unknown. Prolonged search by various workers at the Hygienic Laboratory, using various and proved methods, has failed to demonstrate *B. tetani* in commercial virus or in any of the various vaccination materials other than above noted.

Now, whatever may be the sources of the contamination, there is no apparent reason for assuming that tetanus germs gain entrance only to primary "takes" which are covered with dressings; yet postvaccinal tetanus has in our experience been confined to this type of vaccination. It seems, therefore, that other conditions, in addition to the presence of *B. tetani*, are essential before postvaccinal tetanus will supervene, and that these conditions are supplied when a dressing is strapped to a primary "take." Francis (3), Anderson (4), and Armstrong (5), demonstrated that animals are extremely resistant to attempts to produce postvaccinal tetanus by vigorously rubbing an intentionally tetanus-contaminated vaccine virus upon the abraided skin, when the lesions were left uncovered. Armstrong (5), however, showed that monkeys and rabbits when thus vaccinated become

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[1] The cases traced to the use of bone point scarifiers are not included in the 116 cases of this series.

quite susceptible to the complication, provided a shield or dressing is retained on the vaccination site. The deleterious influence of dressings is also indicated by the decrease in the number of cases of postvaccinal tetanus which has been noted in the United States since the Public Health Service instituted a campaign against dressings some 17 months ago, namely, a reduction from an average of 30 cases per year for the 10 years prior to 1928 to but 18 during the past 17 months.

It, therefore, becomes a matter of importance to determine, if possible, just how the dressing creates conditions at the vaccination site suitable for the development of tetanus.

EXCLUSION OF AIR

Anaerobiasis being a necessary condition for the multiplication of *B. tetani*, it is natural to assume that the dressing exerts its malign influence directly by excluding air. It is to be remembered, however, that most shields have some provision for ventilation, and a gauze dressing would seem to exclude no more air than the sleeve of an undershirt or coat. Moreover, the fact that 17 cases of postvaccination tetanus followed the use of bunion pads,[2] in the majority of which it was clear that the opening was not occluded, would certainly indicate that exclusion of air by the dressing was not the most important consideration.

OTHER EFFECTS OF DRESSINGS

Let us further consider the action of a gauze dressing, it being the simplest type of vaccination appliance, and one that was used in 40 of the 116 cases of postvaccinal tetanus in our series. Now, a few layers of gauze[3] such as were applied over these 40 vaccinations would seem to differ, as a covering, in no essential way from the sleeve of an undershirt such as is worn by many children, except that they were fixed at the vaccination site usually by bands of adhesive. The fact, however, that every one of our series of 116 cases of postvaccination tetanus occurred in individuals in whom some type of dressing was fixed to the vaccination site would indicate that this difference is significant and perhaps all important. Let us therefore consider the action of the fixed vaccination covering in comparison with the covering of clothing which is encountered by openly treated vaccinations.

In openly treated vaccinations the continued wiping and ventilating action occasioned when the arm is moved within the sleeve or under the bed clothes, tends to keep the lesion dry and cool, as compared

[2] A bunion pad consists of a felt pad with a circular hole in the center.

[3] The term *gauze* as used in this paper is meant to include any type of cloth dressing, many of which dressings were home applied.

with those covered by a dressing, thus favoring a firm vesicle, which is the best insurance against exudation as well as against secondary contamination. Experience has shown that the great majority of properly performed vaccinations will, under these conditions, go to scab formation and healing without becoming an open lesion at any time.

When a dressing is strapped to the vaccination site, however, the bands become tight when swelling occurs and thus tend to interfere with capillary and lymphatic drainage and so to produce a local passive congestion of the area. Fixed dressings also hinder ventilation, and thus tend to retain perspiration and to keep the vaccination warm and moist.[4]

This retained moisture tends to soften the vesicle and thus, aided by the above-mentioned capillary distention, to produce an exudation of serum or pus. The important consideration is not, however, the method by which the exudation is promoted, but the fact that, however produced, the exudate is retained at the vaccination site by the dressing. This accumulation of warm, moist exudate furnishes a medium favorable to the growth of proteolytic and other types of organisms which in turn produce further maceration of tissue and more exudation. Thus are produced the deep, foul, and undesirably severe "takes" which experience has shown follow so frequently the use of dressings and which have generally been found to have preceded the development of postvaccination tetanus (Armstrong (5)).

That the dressing will not produce tetanus in the absence of a certain amount of local tissue injury is indicated (Table 1) by the fact that four animals which received an intradermal injection of heated tetanus spores remained well, while two animals which received the same dose of heated spores plus vaccine virus, by the same route, developed tetanus and died on the seventh and ninth days, respectively. All the lesions were covered by commercial celluloid shields.

It is believed, therefore, that an *accumulation of broken-down material retained by the dressing at the vaccination site, wherein tetanus organisms may become buried and thus find anaerobic conditions, is the essential condition without which postvaccinal tetanus will not develop under natural conditions.*

This conception receives support from the fact that a foul odor was noted at the vaccination site, prior to the onset of tetanus in 75 per cent of the cases for which this information was sought. On the other hand, if sufficient necrotic material to produce such an odor is ever present in openly treated vaccinations, the writer has not encountered it.

[4] It was found that a drop of water upon the bared arm requires approximately twice as long to evaporate when covered with a celluloid shield as does a similar drop without a cover.

TABLE 1.—*The production of experimental tetanus in rabbits by the intradermal injection of vaccine virus plus heated tetanus spores, and of heated tetanus spores alone. (Injection sites covered by celluloid shields.)*

Rabbit No.	Vaccination date	Vaccination method	Vaccination material	Dilution of virus	Dilution of spore suspension	Amount injected	Type of dressing	Date of onset of tetanus	Date of death	Toxin demonstrated in "take"	Remarks
900	1929 May 16	Intradermal	Virus + tetanus spores	1 in 4	2 in 4	0.2	B & B shield	1929 May 25	1929 May 25	Yes	Autopsy consistent with tetanus.
901	do	do	do	do	do	.2	do	May 23	May 23	Yes	Do.
896	do	do	Tetanus spores		do	.2	do				Discharged well, June 11, 1929.
897	do	do	do		do	.2	do				Do.
898	do	do	do		do	.2	do				Do.
899	do	do	do		do	.2	do				Do.

The above conception also satisfactorily explains the fact that the complication is so strictly confined to primary, dressing-covered "takes," provided we assume that an accumulation of necrotic exudate sufficient to furnish *B. tetani* with conditions essential for its toxin production occurs only in the relatively more severe primary vaccinations which are covered by dressings.

The long period from vaccination to onset of symptoms in cases of postvaccination tetanus (usually about 21 days) also becomes intelligible in the light of this hypothesis.

Anderson (4) and Wilson (6) explained this long interval by assuming that the tetanus organisms gained entrance to the "take" about the tenth day, or later, following the vaccination. They based this conclusion largely upon the fact that ordinary traumatic tetanus with a mortality equal to that of postvaccination tetanus (75 per cent) is ordinarily encountered in cases with an incubation period of 10 days, or less. The contention of these authors can scarcely be true, however, in the light of those cases traced by McCoy and Bengtson (1) to the use of a single batch of infected bone-point scarifiers which were in no way exceptional as regards the intervals from vaccination to onset of symptoms. A more probable explanation for this long "incubation period" would be that tetanus organisms, when ever introduced into the vaccination, are incapable of developing before they become embedded in a mass of necrotic exudate such as might be expected to develop under suitable conditions from the 10th to 15th day following vaccination.

TABLE 2.—*Production of experimental postvaccinal tetanus by the cutaneous and intradermal vaccination routes.* (*No dressings employed.*)

Rabbit No.	Vaccination date	Method of vaccination	Vaccination material (testicular strain)	Dilution of virus	Amount vaccination material employed	Date of onset of tetanus	Date of death	Symptoms	P-V tetanus proved by demonstration of local toxin production	Remarks
					C. c.					
435	May 28, 1928	Cutaneous (1" x 1" area).	Virus+B. tetani	1 in 4	0.2			None		Discharged well June 19, 1928.
436	do	do	do	do	.2					Do.
437	do	do	do	do	.2					Do.
438	do	do	do	do	.2					Do.
500	June 18, 1928	do	do	1 in 2	.2					Discharged well July 12, 1928.
501	do	do	do	do	.2					Do.
502	do	do	do	do	.2					Do.
503	do	do	do	do	.2	June 28, 1928	June 28, 1928	None noted	+	Autopsy consistent with tetanus.
530	July 5, 1928	do	do	do	.2					Discharged well Aug. 2, 1928.
531	do	do	do	do	.2					Do.
532	do	do	do	do	.2					Do.
533	do	do	do	do	.2					Do.
827	Apr. 6, 1929	do	do	do	.1					Well May 15, 1929.
828	do	do	do	do	.1					Do.
829	do	do	do	do	.1					Do.
830	do	do	do	do	.1					Do.
443	May 28, 1928	Intracutaneous	do	1 in 4	.2	June 6, 1928	June 6, 1928	Typical	+	Autopsy consistent with tetanus
444	do	do	do	do	.2	do	June 7, 1928	do	+	Do.
445	do	do	do	do	.2	June 2, 1928	June 3, 1928	do	+	Do.
446	do	do	do	do	.2					Discharged well June 19, 1928.
508	June 18, 1928	do	do	do	.2	June 27, 1928	June 27, 1928	Typical	+	Autopsy consistent with tetanus.
509	do	do	do	do	.2	June 27, 1928	June 27, 1928	do	+	Do.
510	do	do	do	do	.2	June 23, 1928	June 24, 1928	do	+	Do.
511	do	do	do	do	.2	June 29, 1928	June 30, 1928	do	+	Do.
534	July 5, 1928	do	do	do	.1	July 12, 1928	July 12, 1928	None observed	+	Do.
535	do	do	do	do	.1					Discharged well Aug. 2, 1928.
536	do	do	do	do	.1					Do.
537	do	do	do	do	.1					Do.
823	Apr. 6, 1929	do	do	do	.1	Apr. 17, 1929	Apr. 17, 1929	Typical	+	Consolidation upper left lobe.
824	do	do	do	do	.1	Apr. 13, 1929	Apr. 13, 1929	do	+	Autopsy consistent with tetanus.
825	do	do	do	do	.1	Apr. 14, 1929	Apr. 15, 1929	do	+	Do.
826	do	do	do	do	.1	Apr. 12, 1929	Apr. 12, 1929	None observed	+	Do.

DEEP AND SUPERFICIAL ROUTES OF CONTAMINATION COMPARED

Assuming that a deep implantation of spores in a devitalized medium is the important factor for the development of postvaccination tetanus, it may be anticipated that the intradermal (injection) method of vaccination would offer an efficient experimental method for producing the complication, and this has been found to be the case. From Table 2 it may be noted that among 16 rabbits vaccinated intracutaneously (no dressings) with a 1:4[5] dilution of vaccine virus heavily contaminated with heated tetanus spores,[6] 12 cases (75 per cent)[7] of postvaccination tetanus developed in from 5 to 14 days. Among a similar number of animals vaccinated with the same volume of the virus-tetanus mixture [8] vigorously rubbed into an area one inch square (no dressings), 1 case developed on the 12th day (6.25 per cent). In this latter group of vaccinations the hair at the vaccination site was plucked instead of shaved, thus opening avenues for a deep inplantation of spores not encountered in human cutaneous vaccinations. The intradermal "takes" tended to be somewhat more severe than were the cutaneous ones; but the lesions produced by the two methods were so similar throughout their course as to suggest that the greater tendency to develop postvaccination tetanus following the intradermal technique was dependent not upon any difference in the character of the "takes" but upon the deeper inplantation of the tetanus spores.

In order to eliminate the influence of any possible difference in the character of the "takes" 4 rabbits (Table 3) were vaccinated cutaneously in an area 1 inch by 1 inch with a vaccine to which an equal volume of heated tetanus spore suspension was added. An equal number of rabbits were similarly vaccinated with the same virus to which was added an equal volume of saline but no spores. Four days later, when the "takes" were apparent, 3 of the latter group were given 0.6 c. c. of the heated spore suspension intravenously (the fourth animal having died of intercurrent infection). All vaccinations were without dressings. No tetanus developed among the 4 animals of the former group while among the latter 3, two died of tetanus, one on the sixth day and one on the seventh day. The third animal died on the thirteenth day, of unknown causes, but no toxin

[5] This dilution was selected since it is that advocated by Toomey and Hauver (11) for intradermal vaccinations in man.

[6] Spore suspensions were prepared by centrifuging cultures from Smith tubes, decanting, re-suspending the spores in saline, and heating to 85° C. for 30 minutes.

[7] The diagnosis was confirmed in all cases denoted as tetanus in this paper by excising the "take," extracting in saline, centrifuging, and injecting the supernatant fluid into mice. The criterion for the presence of toxin was death with typical symptoms, while controls receiving the same dosage plus antitoxin remained well.

[8] The mixtures were identical with those used in the intradermal tests except that the concentration of virus was usually twice that used in the intradermal tests. The amount of tetanus spores was identical in both.

could be demonstrated in the lesion and we failed in an attempt to recover *B. tetani* therefrom. Two unvaccinated animals which received 0.6 c.c. of the heated spore suspension intravenously remained well. The lesions in the two vaccinated groups developed similarly and thus confirmed the view that the depth of implantation of the spores is the essential condition. Postvaccination tetanus was also produced in a monkey (Table 3) which had been vaccinated intradermally six days prior to receiving 0.5 c.c. of heated spore suspension intravenously. Five days later typical symptoms of tetanus appeared and the animal died on the same day. An unvaccinated animal which received a double dose of the same spore suspension (1 c. c.) intravenously remained well.

TABLE 3.—*Production of experimental postvaccinal tetanus following cutaneous vaccinations according to the route of administration of heated tetanus spores. (No dressings employed.)*

Rabbit No.	Vaccination date	Method of vaccination	Vaccination material	Dilution of virus	Date of tetanus inoculation and route		Date of onset of tetanus	Date of death	Symptoms	Toxin demonstrated in "take"	Remarks
					With virus	Intravenous					
435	May 28, 1928	Cutaneous (1" x 1" area).	Virus+tetanus spores.	1 in 4	May 28, 1928						Discharged, healed, June 19, 1928.
436	do	do	do	do	do						Do.
437	do	do	do	do	do						Do.
438	do	do	do	do	do						Dry scab, June 19, 1928.
439	do	do	Virus+saline	do		June 1, 1928	June 4, 1928	June 6, 1928	Typical	+	Autopsy consistent with tetanus.
440	do	do	do	do		do	June 6, 1928	June 7, 1928	do	+	Do.
441	do	do	do	do							Died before receiving spores, June 1, 1928.
442	do	do	do	do		June 1, 1928		June 8, 1928	Not typical	0	B. tetani not recovered from "take."
Control						do					Discharged, well, June 25, 1928.
Control						do					Do.
258 [1]	Mar. 19, 1929	Intradermal	Virus+saline	1 in 4		Mar. 25, 1929 (0.5 cc.)	Mar. 30, 1929	Mar. 30, 1929	Typical	+	Autopsy consistent with tetanus.
260 [1]						Mar. 25, 1929 (1 cc.)					Well, June 10, 1929.

[1] Monkey.

These results naturally raise the question of the possibility of a blood-stream infection in postvaccination tetanus, since Tulloch (7), Tenbroeck and Bauer (8), Fildes (9), Bauer and Myers (10), and others have shown that many persons harbor tetanus organisms in their intestines. Such a conception is, however, contrary to the general experience with tetanus in ordinary wounds. Moreover, the fact that openly treated cutaneous vaccinations in animals are so readily infected by way of the blood stream, while in man, as far as is known to us, no case has developed in this type of vaccination, would seem to point to other avenues of infection than the circulation, i. e., either to the local introduction of organisms from outside the body or possibly via the lymphatics.

In order to test this latter possibility a monkey was vaccinated intradermally in two spots on the arm, near the left axilla (Table 4). Three days later when the "takes" were apparent, 0.25 c. c. of a suspension of heated tetanus spores was injected subcutaneously into the palmar aspect of the left wrist, in a region where the lymphatic drainage was through the vaccination site. Seven days later the animal showed typical symptoms of tetanus and died the same day. An unvaccinated monkey which received the same dose of spore, via the same route, remained well.

TABLE 4.—*Production of experimental postvaccinal tetanus with heated tetanus spores introduced by way of the subcutaneous lymphatics*

Monkey No.	Vaccination date	Method of vaccination	Site of vaccination	Dilution of virus	Date and amount of heated tetanus spore suspension administered	Route of administration of tetanus spores	Date of onset of tetanus	Toxin and B. tetani demonstrated at "take"	Remarks
136	June 21, 1928	Intradermal	Inner aspect left arm near axilla.	1 in 4	June 24, 1928 (0.25 c. c.).	Palmar aspect left wrist (subcutaneous).	July 1, 1928	+	Death, July 1, 1928. Autopsy consistent with tetanus.
137					do	do			Remained well.
263	Feb. 12, 1929	Intradermal	Inner aspect left arm near axilla.	1 in 4	Feb. 16, 1929 (0.5 c. c.).	do	Mar. 2, 1929	+	Death, Mar. 4, 1929. Autopsy consistent with tetanus.
256	do	do	do	do	Feb. 16, 1929 (1.0 c. c.)	Palmar aspect right wrist (subcutaneous).			Remained free from tetanus.

The same experiment was repeated on a second monkey (Table 4) with similar results, the animal developing symptoms on the 14th day, with death on the 16th day following the spore injection. The control in this case was similarly vaccinated but received the spores in the wrist of the unvaccinated arm—therefore not in the lymphatic drainage area of the "take." He did not develop tetanus. In both the animals which died, toxin was demonstrated in the excised "takes," and tetanus organisms were recovered therefrom.

Infection by way of the lymphatics would seem, however, to be improbable in man provided the vaccination is at the usual site on the arm, since this area is at the terminals of the lymphatics which, therefore, lead from and not toward the lesion. When vaccinations are performed on the leg, however, they may be implanted on the course of lymphatics leading from the foot where abrasions, which might act as a portal of entry for organisms, are common, and under these conditions infection of various types might conceivably occur. This conception is, however, open to the same objections that were noted with reference to the blood stream infections.

Moreover, in our series of 116 cases of post-vaccinal tetanus there were but two which followed leg vaccinations. This fact is probably explained by the relative infrequency with which primary leg vaccinations are now performed, owing to well-founded objections to the procedure other than the one here mentioned.

It seems, therefore, that we are, through elimination, forced to the conclusion that infection in post vaccinal tetanus is usually due to the accidental introduction of the causative organism into the vaccination site from extraneous sources, as was demonstrated for the outbreaks traced to infected scarifiers and bunion pads.

While we may be unable to prevent such occasional accidental contaminations, the evidence is practically complete that by observing a proper vaccination technique the development of tetanus as a vaccination complication can be eliminated. A proper vaccination is defined as one in which the insertion is not over one-eighth inch in its greatest diameter, made by some method which does not remove or destroy the epidermis and which gives a superficial implantation of the virus. The multiple pressure method as advocated by Surgeon J. P. Leake (12), admirably meets these requirements and is recommended. Dressings fixed to the vaccination site are to be avoided. Should a dressing be deemed advisable for any reason, a large square of gauze pinned to the inside of a loose fitting sleeve may be employed.

CONCLUSIONS

1. Tetanus as a complication of vaccination against smallpox is confined, as far as we are aware, to primary "takes" in which some type of dressing was strapped to the vaccination site.

2. Evidence is produced which indicates that in postvaccinal tetanus the specific organism gains entrance to the vaccination through an accidental infection from extraneous sources.

3. Evidence is produced which indicates that a deep implantation of *B. tetani* in the devitalized components of the "take" is necessary before postvaccinal tetanus will develop.

4. A dressing strapped to a cutaneous vaccination permits this deep implantation of organisms by producing severe "takes," and by retaining exudate therefrom at the vaccination site.

5. Injection methods of vaccination such as the intracutaneous technique are suitable methods for the experimental production of postvaccinal tetanus and would seem to be, from the standpoint of this complication, a potentially dangerous method for human use.

6. The freedom of openly treated cutaneous vaccinations from the complication is explained by the continued wiping and ventilating action occasioned when the arm is moved within the sleeve or under the bed clothes. This light friction keeps the vesicle dry and firm, and thus either prevents or promptly wipes away any exudate which may appear.

7. A small, superficial implantation of the virus, as recommended in the multiple pressure technic advocated by Surgeon J. P. Leake, and the abandonment of dressings fixed to the vaccination site will eliminate tetanus as a complication of vaccination. If a dressing is deemed advisable for any reason, the objectionable feature of the *fixed* covering can be avoided by pinning a few layers of gauze to the inside of a loose fitting sleeve.

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CURRENT WORLD PREVALENCE OF COMMUNICABLE DISEASES [1]

The United States, June 2–29, 1929

The prevalence of certain important communicable diseases as indicated by weekly telegraphic reports from State health departments [2] to the Public Health Service is summarized below. This summary is prepared from the data published weekly in the Public Health Reports under the section entitled "Prevalence of Disease."

Meningococcus meningitis.—Although the epidemiclike wave of meningococcus meningitis continued its downward course during the month of June, the attack rate was still double that for the previous record for the month (June 1918).

In Michigan, where the disease has been most prevalent during the past epidemic, it still showed a strong resistance to a decline. Of the 731 cases reported during the period June 2–29, 281 occurred in Michigan; 60 in New York; 57 in Illinois; 46 each in Missouri and Pennsylvania; 38 in California; and 21 in New Jersey. The remaining cases were widely scattered over the various sections of the country.

Poliomyelitis.—The 94 cases of poliomyelitis reported during the month of June probably marked the beginning of the usual seasonal increase in the prevalence of this disease. Cases appeared in practically all of the geographical regions; the highest numbers occurring in California (14); New York (13); North Carolina (11); and Alabama (8).

Typhoid fever.—A normal seasonal increase in typhoid fever occurred during the month of June. Reports indicated that the disease still continued most prevalent in the South Atlantic and East and West South Central States. The total number of cases (1,463) was approximately 300 more than occurred during the same month in 1928. It was, however, considerably below the average for the three preceding years.

[1] From the Office of Statistical Investigations, United States Public Health Service.

[2] The numbers of States reporting for the various diseases are as follows: Typhoid fever, 41; poliomyelitis, 43; meningococcus meningitis, 42; smallpox, 42; measles, 38; diphtheria, 42; scarlet fever, 41; influenza, 31.

Smallpox.—The number of cases of smallpox reported during the month of June was approximately 550 more than the average for the same month in the three preceding years. The disease was, however, tending toward the usual seasonal decline. No further cases were reported in Connecticut and only 2 cases each were reported in Massachusetts and Vermont. The presence of smallpox in these States had been most unusual. Considerable decreases were also noted in many States where the disease is usually prevalent.

Diphtheria.—The incidence of diphtheria continued to decrease during the month of June, and dropped to a level slightly below that for any of the three preceding years. Forty-two States reported approximately 4,500 cases. A gradual decrease in the prevalence of diphtheria may be expected through the summer months.

Influenza.—Influenza was less prevalent during the month of June than in any of the three preceding years. Several of the geographic regions of the country were almost entirely free from the disease. The South Atlantic and East South Central States reported the majority of the 617 cases which were recorded.

Measles.—The measles incidence, after showing a slight resistance to the usual seasonal decline, resumed its downward trend during the month of June. The number of cases (31,510) reported during the month was considerably below the average for recent years.

Scarlet fever.—A normal decline in the prevalence of scarlet fever occurred during the month of June. The incidence rate, although slightly higher than during the corresponding month in 1928, was below the average for recent years. Reports indicate that scarlet fever is usually most prevalent in the Great Lakes region of the country. The cases for the month totaled 9,532.

Mortality from all causes.—The mortality rate from all causes in large cities as shown by the Bureau of the Census remained at about 12 per 1,000 until the last week in June. During that week it dropped to 11 which was a normal rate for this season of the year and was slightly lower than the corresponding rate for any of the three preceding years.

Foreign Countries [1]

Influenza.—The epidemic appears to have reached its peak in most European countries in February, one to two months later than in most of the United States. The first outbreaks were reported in Europe from Ireland, in September, coming to a peak in November; but Ireland suffered a secondary wave in February, when the disease was at its height in the remainder of Europe.

The latest report published by the Health Section of the League of Nations indicates that influenza had not, by the middle of February,

[1] Data from the Monthly Epidemiological Report of the Health Section of the League of Nations' Secretariat, Mar. 15, 1929, supplemented by information published in the Public Health Reports.

exceeded the normal winter prevalence in Eastern Europe, notably the Soviet States, Poland, and Lithuania.

The attack rates varied widely from one region to another. In some places the general death rate (all causes) was scarcely affected; in others the maximum weekly rates (annual basis) were very heavy, as in Leeds, England (66 per 1,000), Namur, Belgium (65), and Lille, France (55). These rates exceeded somewhat the highest rates in American cities.

In some countries—e. g., England and Wales—the death rates were the highest since the 1918 pandemic, but in others—Soviet States, Austria, Hungary, Switzerland—the recent peak rates were considerably below those of the epidemic which visited certain European areas in 1927. It is pointed out that Basel, Berne, and Geneva, which suffered heavily in 1927, escaped with practically normal death rates in 1929, whereas Zurich, which suffered lightly in 1927, attained a peak weekly mortality of 26.9 early in March, 1929. Whether this interesting contrast pertains to other European regions can not be determined from the article in question.

Tables are shown indicating that in London and in Rhine cities, the increase in the general death rate during the height of the epidemic was greatest in the older age groups. Thus, for ages over 60 the 1929 death rate was about double that for 1928. This condition was not uniform, however; for, in Berlin, the mortality increase at ages 1 to 5 was more than double the increase in any other age group; in fact, in all these groups the mortality increase curve shows a pronounced hump at ages 1 to 5.

The experience of the Faroe Islands, off the coast of Denmark, is of interest as regards quarantine against the disease. Due, no doubt, to experience with the explosive effect of epidemics among the relatively susceptible populations of these isolated islands, the Health Service issued, on January 9, a warning against unnecessary intercourse with ships coming from infected localities. Passengers were permitted to land at Thorshavn, the principal seaport, but were held in isolation for five days before being permitted to proceed to their destination. On January 21 the disease appeared on the Island Suderey, where it is believed to have been introduced by a steamer on January 17. About 300 cases occurred. An outbreak of 200 cases also occurred at Ejde. Both of these localities were quarantined. The account is not thoroughly specific, but apparently no other outbreaks appeared in the neighboring islands.

It is stated that similar precautions were taken in 1927 with success.

Yellow fever.—In Rio de Janeiro, Brazil, the highest incidence of yellow fever since 1903 occurred during the month of March, 241 cases and 135 deaths being reported during that month. [1]

[1] See PUBLIC HEALTH REPORTS, July 12, 1929, p. 1657.

The month of highest prevalence of yellow fever in Rio de Janeiro, has varied in the past, but mortality statistics since 1850 show the maximum incidence in March and the minimum in September and October.

Plague.—The plague situation in nearly all parts of the world was more favorable during the first quarter of 1929 than in previous years.

Plague was practically absent in the Mediterranean area, and was not much in evidence in Asiatic ports. There was no unusual prevalence in the plague centers of East Africa or South America.

In Egypt it was significant that apart from a few cases reported in the ports, plague was present only in the Bela district of Beni Suef, a Province along the Nile River.

An outbreak of plague occurred in the Province of Marrakech, Morocco, in the northwest part of Africa, during the last half of March. Up to April 20, there had been 159 cases, with 103 deaths, reported. The disease was then disappearing.

Iraq was the only other country of the Near East where plague was present during the first four months of the year. There were 45 cases, with 23 deaths, reported at Baghdad up to April 27. Only 16 cases were reported during the corresponding period in 1928.

In India, exclusive of the years 1922 and 1927, plague was less prevalent than in previous years. The following table gives the number of deaths from plague in each Province of India during the first three 4-week periods of 1929, with comparative data for 1928:

Deaths from plague in the Provinces of India during the first three 4-week periods of 1928 and 1929

Province	1928			1929		
	Jan. 1–28	Jan. 29–Feb. 25	Feb. 26–Mar. 24	Dec. 30–Jan. 26	Jan. 27–Feb. 23	Feb. 24–Mar. 23
North-West Frontier Province	0	0	0	0	0	0
Punjab, Delhi, and Punjab States	290	682	1,649	133	260	890
United Provinces	2,960	8,082	14,875	3,283	6,210	7,451
Bihar and Orissa	272	715	991	704	1,248	1,243
Bengal and Assam	1	0	0	0	0	0
Central Provinces	550	842	612	181	422	691
Madras Presidency	261	341	95	246	217	141
Hyderabad	2,512	1,870	262	511	504	259
Mysore	87	64	52	271	266	155
Bombay Presidency	432	615	603	1,588	1,219	989
Burma	1,223	1,504	995	216	334	216
Other Indian States	48	89	130	149	112	114
Total	8,636	14,774	20,264	7,282	10,792	12,149

The high incidence of plague in the Bombay Presidency was due to the persistence of the outbreak in the Satara, Darwar, and Nasik, districts, which had reached their maximum in November and December of the preceding year.

The disease was somewhat more prevalent in Bihar this year than last, but compared very favorably with earlier years, when parts of the Province suffered severely from plague.

Only four Indian ports reported the presence of plague. Up to April 27, Bombay reported 18 deaths, Rangoon 30, and Bassein 15 deaths, as compared with 152, 122, and 54, respectively, for the corresponding period in 1928.

In Java, returns for the first two months of 1929 indicated a much lower incidence of plague than during the same period in preceding years. During the 8-week period ended February 23 the number of deaths reported was 733, as compared with 3,675 during the corresponding period in 1925. The incidence of plague on the island was the highest on record in that year.

Plague cases were more numerous in the Union of South Africa during the early part of the year than they had been for several years. The number of cases, however, was much lower than in 1924, when an outbreak occurred.

At Guayaquil, Ecuador, the maximum plague incidence usually occurs in December and January, but the increase seemed to be later this year, the highest number of cases being reported during the first 15 days of February.

BRITISH MINISTRY OF HEALTH ISSUES CIRCULAR REGARDING SMALLPOX CONTACTS PROCEEDING ABROAD

Under date of July 8, 1929, the British Ministry of Health issued a circular relating to the giving of information to foreign public health authorities of smallpox contacts proceeding to destinations abroad. The following is taken from the circular issued by the Assistant Secretary of the Ministry of Health:

I am directed by the Minister of Health to state that, with a view to avoiding any risk of the spread of smallpox from this country to other countries abroad, he has had under consideration the procedure which should be followed in the case of persons who have been in direct contact with cases of smallpox, and who intend to proceed to destinations abroad before the incubation period of the disease has elapsed. It is desirable, in all such cases, that the appropriate public health authorities of the country to which such persons are proceeding should be notified, in order that they may be in a position to keep them under medical supervision for the necessary period.

I am, therefore, to request that in all cases in which it is ascertained that a smallpox contact intends to proceed to a destination abroad (including the Irish Free State and the Channel Islands) during the

period within which he may develop the disease, the minister may be furnished with the following particulars:

(*a*) Full name and address of the contact.
(*b*) Last probable date of exposure to infection.
(*c*) Address of destination abroad.
(*d*) Date on which the contact intends to arrive at that address.
(*e*) Probable duration of stay abroad.
(*f*) Vaccinal condition of the contact.

Similar information should be furnished in any case in which a person who has been in contact with smallpox proceeds abroad before he has been placed under medical supervision.

On receipt of the necessary particulars, suitable steps will be taken by this department to notify the appropriate public health authority abroad.

CHANGE IN THE AGE DISTRIBUTION OF DEATHS FROM HEART DISEASE

For many years organic heart disease has held first rank among the causes of death, and the crude death rate for this cause has been slowly but persistently increasing. On analysis of the crude death rate, however, it is seen that the increase applies only to the higher age groups and that, in recent years, distinct improvement has taken place in childhood, adolescence, and early adult life. The accompanying table, taken from the Statistical Bulletin for June, 1929, issued by the Metropolitan Life Insurance Co., based on the records of the company from 1911 to 1928, inclusive, indicate that this improvement has occurred up to age 45 in males and probably to a higher age in females.

The decline in the death rate for this condition among children is generally credited largely to control measures against infectious diseases, to increasingly better care of children who contract these diseases, to improved habits of living, and to better personal hygiene.

As a great many of the deaths from heart disease in the higher age groups are no doubt the result of heart impairment which is the accompaniment of other organic degeneration, many of these deaths could have been charged, with equal propriety, to other diseases or conditions. Therefore, much of the increase in deaths from heart disease in the older ages is undoubtedly fictitious.

In spite of the fact that the crude death rate for heart disease has shown an increase, it can scarcely be concluded that public health and other efforts directed against cardiac diseases have been ineffective. Besides, these efforts are still young, and more time must elapse before their full influence will be felt.

Death rates per 100,000 from heart disease (International List Title No. 90), for males and females, by age groups

[Metropolitan Life Insurance Co., industrial insurance department, 1911 to 1923]

MALES

Age period	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928*
1 to 4	8.5	7.7	9.3	6.6	8.0	5.6	7.3	8.5	7.7	6.7	10.1	6.1	7.1	5.5	5.1	7.1	4.6	4.4
5 to 9	16.0	14.5	14.0	14.1	13.8	15.5	14.6	14.3	12.0	11.5	13.1	11.2	10.8	12.3	10.4	10.1	9.5	10.2
10 to 14	24.8	18.8	22.7	24.4	22.4	21.5	22.7	23.9	16.6	20.3	24.9	20.7	20.6	19.6	17.9	16.2	16.7	14.4
15 to 19	29.7	26.9	25.6	30.2	29.5	30.7	31.4	33.6	22.5	28.6	23.9	29.0	27.7	25.2	26.8	22.6	27.9	22.0
20 to 24	33.4	27.8	27.3	29.4	27.5	28.9	28.6	31.4	25.3	24.5	26.6	25.1	24.4	24.4	20.7	24.5	21.8	24.4
25 to 34	58.1	60.3	59.3	60.7	56.4	55.1	53.7	59.3	44.1	37.8	35.7	37.8	44.5	45.3	38.3	42.1	43.1	40.3
35 to 44	137.1	150.2	144.1	129.2	124.7	135.8	137.8	134.3	107.4	90.7	91.1	92.0	105.6	111.1	112.3	113.3	111.8	116.1
45 to 54	288.6	287.1	296.2	296.4	258.2	290.3	319.0	298.0	212.3	215.6	214.0	273.3	286.1	302.4	312.1	325.4	323.4	354.7
55 to 64	665.0	717.0	674.1	656.9	640.6	696.9	765.8	712.0	563.7	536.6	540.8	628.6	703.6	703.9	785.9	806.3	784.5	851.7
65 to 74	1,649.5	1,677.7	1,675.1	1,656.8	1,555.1	1,596.5	1,685.8	1,754.0	1,401.8	1,413.5	1,407.2	1,586.7	1,705.2	1,626.0	1,703.6	1,891.4	1,806.5	1,986.2
75 and over	2,917.4	2,974.0	2,832.7	2,914.0	3,030.3	3,225.8	3,269.9	3,269.8	3,053.2	3,370.9	3,615.4	3,051.1	3,809.4	3,447.0	3,305.8	4,218.7	4,105.8	4,347.8

FEMALES

1 to 4	11.2	4.8	7.3	4.7	6.2	8.2	6.2	6.9	6.2	6.3	9.8	6.3	6.5	6.0	7.6	6.4	5.2	6.1
5 to 9	21.0	17.3	19.7	17.6	16.6	16.0	17.0	17.0	12.4	15.5	15.7	13.0	10.8	14.1	13.5	11.8	12.9	12.2
10 to 14	33.1	30.4	29.2	34.4	31.3	28.4	28.4	33.8	24.4	21.7	25.5	29.6	22.6	24.6	22.9	20.5	20.5	20.1
15 to 19	27.0	33.9	27.2	36.5	32.0	32.3	31.3	36.4	25.4	26.2	27.1	26.2	23.4	27.2	22.8	22.0	23.2	20.8
20 to 24	38.9	37.6	31.6	31.9	29.4	25.4	31.9	42.4	27.9	26.3	27.3	23.2	26.8	23.8	24.5	25.2	25.9	26.8
25 to 34	53.0	52.4	54.6	46.1	47.3	48.8	50.3	65.4	45.0	41.8	38.1	37.3	36.2	36.8	39.1	38.7	38.1	37.7
35 to 44	121.2	119.1	112.6	109.6	107.4	105.9	107.0	124.3	90.7	90.1	87.9	82.7	88.8	89.5	93.1	94.5	86.2	89.3
45 to 54	236.0	234.5	234.4	236.0	221.2	236.2	241.8	233.0	199.4	197.0	192.5	213.6	224.3	219.2	231.4	227.7	233.1	252.4
55 to 64	595.2	589.0	580.1	519.6	558.5	525.2	585.6	573.4	478.4	517.7	492.0	518.1	584.0	544.3	566.2	608.6	584.3	624.5
65 to 74	1,422.8	1,446.9	1,405.3	1,442.9	1,428.9	1,552.5	1,558.6	1,536.4	1,366.5	1,423.4	1,385.3	1,539.4	1,555.9	1,449.3	1,459.7	1,590.1	1,499.5	1,711.4
75 and over	2,480.7	2,532.5	2,581.5	2,700.6	2,913.0	2,795.1	3,145.6	3,105.7	2,872.1	3,320.1	3,142.7	3,153.7	3,451.0	3,238.3	3,594.5	3,985.0	3,794.7	3,940.1

* Rates for 1928 are provisional.

BIRTH, DEATH, AND INFANT MORTALITY RATES FOR 1928

Summary of Provisional Figures for the Birth Registration Area

The Department of Commerce announces that for the birth registration area, exclusive of Massachusetts and Utah, the birth rate for 1928 was 19.7, as compared with 20.7 for 1927. In 33 of the 38 States for which figures for the two years are shown in the accompanying table, the birth rates were lower in 1928 than in 1927. The highest birth rate in 1928 (27.5 per 1,000 population) is shown for North Carolina and the lowest (14.4) for Washington.

The same States shown in the birth registration area have for 1928 a death rate of 12.3, as compared with 11.4 for 1927; increases were reported in 36 of the 38 States. The highest 1928 death rate (14.5 per 1,000 population) is shown for California and Mississippi and the lowest rate (7.4) for Idaho.

The infant mortality rate for 1928 represents an increase as compared with 1927, the rates being 68 for 1928 and 64.6 for 1927. The highest infant mortality rate (142.2) is for Arizona and the lowest (46.9) for Oregon.

For 39 of the 54 cities of 100,000 population or more in 1920 for which rates were computed for both years, the 1928 infant mortality rates were higher than those of the preceding year, the highest 1928 rate (99.3) being for Nashville, Tenn., and the lowest (42.7) for Seattle, Wash.

Births and deaths (exclusive of stillbirths), with rates per 1,000 estimated population, and infant mortality, in the birth registration area in continental United States, 1928

Area	Number, 1928			Rate per 1,000 estimated population				Infant mortality (deaths under 1 year per 1,000 births)	
	Births	Deaths		Births		Deaths			
		All ages	Under 1 year	1928	1927	1928	1927	1928	1927
Birth registration area [1]	1,970,772	1,209,415	133,719	19.7	20.7	12.1	11.4	67.9	64.6
Alabama	63,555	31,854	4,765	24.7	26.5	12.4	10.6	75.0	64.4
Arizona	8,903	6,453	1,266	18.8	18.6	13.6	12.8	142.2	130.1
Arkansas	38,183	20,012	2,557	19.6	21.0	10.3	9.5	67.0	60.9
California	83,387	65,947	5,178	18.3	19.0	14.5	13.9	62.1	62.3
Colorado	19,022	14,063	1,708	17.5	(2)	12.9	12.2	89.8	(2)
Connecticut	28,017	17,929	1,653	16.8	17.7	10.8	10.2	59.0	58.8
Delaware	4,311	3,196	338	17.7	17.5	13.1	12.4	78.4	70.6
Florida	29,828	18,953	2,002	21.1	25.0	13.4	13.3	67.1	67.4
Georgia	59,143	36,011	4,822	18.5	(2)	11.2	(2)	81.5	(2)
Idaho	9,081	4,040	504	16.6	17.2	7.4	7.1	55.5	50.0
Illinois	129,668	90,192	8,321	17.5	18.3	12.2	11.4	64.2	64.4
Indiana	60,289	40,494	3,767	19.0	19.8	12.8	12.0	62.5	58.8
Iowa	42,774	25,313	2,302	17.6	18.4	10.4	10.1	53.8	55.5
Kansas	33,691	20,922	1,993	18.4	19.0	11.4	10.2	59.2	55.3
Kentucky	57,954	30,226	4,109	22.7	24.6	11.8	10.7	70.9	61.0

[1] Exclusive of Colorado, Georgia, Oklahoma, South Carolina, Massachusetts, and Utah for both years. The first 4 of these States were not in the registration area in 1927. The 1928 data for Massachusetts and Utah are incomplete.

[2] Not in the registration area in 1927.

Births and deaths (exclusive of stillbirths), with rates per 1,000 estimated population, and infant mortality, in the birth registration area in continental United States, 1928—Continued.

Area	Number, 1928			Rate per 1,000 estimated population				Infant mortality (deaths under 1 year per 1,000 births)	
	Births	Deaths		Births		Deaths			
		All ages	Under 1 year	1928	1927	1928	1927	1928	1927
Louisiana	41,400	24,984	3,292	21.2	23.9	12.8	12.3	79.5	77.4
Maine	16,404	11,005	1,194	20.6	20.6	13.8	13.8	72.8	80.0
Maryland	31,724	21,653	2,533	19.6	20.3	13.4	13.2	79.8	81.5
Michigan	97,500	54,751	6,789	21.2	22.3	11.9	11.3	69.6	67.7
Minnesota	49,413	25,979	2,658	18.2	19.0	9.5	9.2	53.8	51.9
Mississippi	48,034	25,900	3,569	26.8	27.5	14.5	13.0	74.3	66.8
Missouri	63,239	45,280	4,164	18.0	18.9	12.9	11.6	65.8	59.7
Montana	9,936	5,781	613	18.1	13.7	10.5	7.5	61.7	66.4
Nebraska	28,029	13,489	1,448	19.9	20.0	9.6	8.9	51.7	51.2
New Hampshire	8,665	6,442	602	19.0	19.3	14.1	13.9	69.5	69.2
New Jersey	70,080	44,960	4,568	18.3	19.4	11.8	11.2	65.2	61.3
New York	223,084	151,637	14,394	19.3	19.9	13.1	12.3	64.5	59.4
North Carolina	80,893	36,165	6,903	27.5	28.8	12.3	11.4	85.3	79.1
North Dakota	14,176	5,264	839	22.1	22.9	8.2	8.1	59.2	63.4
Ohio	119,845	80,209	7,956	17.6	18.4	11.8	11.0	66.4	61.8
Oklahoma	42,991	21,075	2,964	17.7	(1)	8.7	(1)	68.9	(1)
Oregon	14,035	10,488	658	15.6	16.4	11.6	11.5	46.9	47.5
Pennsylvania	200,769	119,616	14,507	20.4	21.6	12.1	11.4	72.3	69.0
Rhode Island	13,021	8,398	878	18.2	19.5	11.7	11.2	67.4	66.5
South Carolina	43,285	24,427	4,178	23.2	(1)	13.1	11.8	96.5	(1)
Tennessee	50,363	31,391	4,070	20.1	22.0	12.5	11.7	80.8	71.1
Vermont	7,042	4,886	457	20.0	19.9	13.9	13.9	64.9	69.8
Virginia	56,518	30,203	4,298	21.9	22.9	11.7	11.3	76.0	75.5
Washington	22,863	16,714	1,113	14.4	14.9	10.5	10.2	48.7	49.8
West Virginia	43,387	17,511	3,045	25.2	26.4	10.2	10.0	70.2	71.9
Wisconsin	57,398	31,788	3,526	19.4	19.7	10.8	10.1	61.4	59.1
Wyoming	4,496	2,151	307	18.2	18.6	8.7	8.2	68.3	68.9

[1] Not in the registration area in 1927.

DEATH RATES IN A GROUP OF INSURED PERSONS

Rates for Principal Causes of Death for May, 1929

The accompanying table, taken from the Statistical Bulletin for June, 1929, issued by the Metropolitan Life Insurance Co., presents the mortality record of the industrial insurance department of the company for May and the cumulative death rates for January to May, inclusive, for the principal causes of death. The rates are based on a strength of approximately 19,000,000 insured persons in the United States and Canada.

Health conditions in this group of persons were very good during May, as reflected in the low death rate of 9.0 per 1,000. It is stated that only twice during the current decade has there been recorded a lower rate for May—8.6 per 1,000 in 1921, and 8.9 in 1927. The cumulative death rate for the five months' period, January–May, was 10.7 per 1,000—7 per cent higher than that for the corresponding period of 1928. At the close of February, when the death toll of the influenza outbreak had just begun to subside, the cumulative death rate for 1929 was 31.9 per cent above that for last year.

All the principal epidemic diseases of childhood except scarlet fever registered lower death rates this year than for May of last year, as did also most of the diseases of greatest numerical importance. Influenza mortality dropped 47.4 per cent; tuberculosis, 12.8; cerebral hemorrhage, 10.3; heart disease, 9.0; peneumonia, 38.7; respiratory conditions other than pneumonia, 44.2; Bright's disease, 7.3; puerperal conditions, 13.8; and homicides, 26.3 per cent. There was a small increase for cancer and a considerable rise for automobile fatalities.

The low mortality rate for tuberculosis for May brought the year-to-date figure for this disease well below last year's rate for the corresponding period. Up to the end of April, tuberculosis mortality had been showing an increase, the effect, no doubt, of the influenza outbreak. It is stated that the prospect is now excellent for a new low point in the death rate for tuberculosis in this group of persons during 1929.

Death rates (annual basis) per 100,000 for principal causes of death

[Industrial department, Metropolitan Life Insurance Co.]

Cause of Death	Death rate per 100,000 Lives Exposed [1]				
	May, 1929	Apr., 1929	May, 1928	Cumulative January to May	
				1929	1928
Total, all causes	900.1	994.4	1,038.1	1,069.5	997.1
Typhoid fever	1.5	1.5	2.0	1.5	1.7
Measles	5.0	5.4	12.1	4.3	7.8
Scarlet fever	3.5	4.1	3.1	3.6	3.8
Whooping cough	5.0	5.7	6.9	6.5	5.7
Diphtheria	8.1	9.2	9.1	9.8	11.5
Influenza	20.3	33.1	38.6	83.4	33.3
Tuberculosis (all forms)	91.6	95.5	105.0	93.8	96.0
Tuberculosis of respiratory system	81.0	85.9	92.5	83.6	84.5
Cancer	76.9	76.0	76.6	76.4	76.0
Diabetes mellitus	18.5	19.4	19.8	21.8	19.4
Cerebral hemorrhage	55.8	60.5	62.2	62.3	60.9
Organic diseases of heart	145.0	161.7	159.3	168.9	155.5
Pneumonia (all forms)	81.2	111.2	132.5	136.7	128.5
Other respiratory diseases	11.6	13.3	20.8	15.1	17.1
Diarrhea and enteritis	13.9	12.1	15.4	13.4	14.9
Bright's disease (chronic nephritis)	70.3	74.5	75.8	76.5	78.1
Puerperal state	12.5	14.0	14.5	14.3	14.4
Suicides	8.9	9.7	9.1	8.7	8.2
Homicides	5.6	6.5	7.6	6.2	6.4
Other external causes (excluding suicides and homicides)	56.8	57.9	56.9	56.8	55.8
Traumatism by automobiles	16.9	17.2	15.8	15.9	14.8
All other causes	208.0	222.9	210.8	209.3	202.1

[1] All figures include infants insured under one year of age.

COURT DECISIONS RELATING TO PUBLIC HEALTH

Provisions of ordinance concerning removal of garbage upheld.—(Oregon Supreme Court; Spencer et al. *v.* City of Medford et al., 276 P. 1114; decided April 23, 1929.) The city of Medford, by ordinance, declared it to be unlawful and punishable by fine or imprisonment for any person, firm, or corporation, other than a certain named corporation, to collect, gather, or haul over the streets of the city any garbage. The plaintiffs, in a suit to restrain the enforcement of the said ordinance, alleged that they were under contract with cer-

tain hotels, cafés, and restaurants to purchase and remove the garbage of such establishments; that they removed such garbage in a sanitary manner to places outside the city; and that such garbage was there used by them as feed for hogs. The plaintiffs claimed that the ordinance created a monopoly and was class legislation. The conclusion reached by the supreme court was that the city had authority to pass the ordinance in question and that the provisions thereof relative to garbage were reasonable.

City board of education held to have power to provide medical inspection and health instruction in schools.—(Texas Commission of Appeals; Moseley et al. *v.* City of Dallas et al., 17 S. W. (2d) 36; decided May 29, 1929). The board of education of the city of Dallas established and maintained a health department in the schools of the city. This school health work embraced the periodical examination of pupils for physical defects and instruction in health matters. No examinations were made of children whose parents objected thereto. An action was brought by plaintiffs, suing as taxpayers and complaining of the alleged illegal use of the school funds of the city, to restrain the defendants from maintaining and operating the said school health department. The trial court granted a temporary restraining order, but, on appeal by defendants to the court of civil appeals, the judgment of the trial court was reversed and judgment rendered for the defendants. On further appeal by the plaintiffs, the judgment of the court of civil appeals was affirmed, as recommended by the commission of appeals.

In passing on the matter, the said commission of appeals stated that "the board of education of said city must derive all of its lawful powers from the constitution and laws of this State and the charter of said city" and, after examining the pertinent constitutional, statutory, and charter provisions, went on to say that it was "of the opinion that the board of education has the right and power, under the constitution and laws of this State and the charter of said city, to exercise sound judgment and discretion to perform and carry out the duties and powers delegated to them by law, and that in exercising such powers, they have not violated any law of this State, or any provision of the charter of said city, in instituting and maintaining the system of medical inspection and health work shown by the record in this case." The commission further stated that, since the city board of education had the power and authority to exercise sound judgment and discretion in executing the powers and duties required by law, "the courts will not interfere with them in the exercise of such powers, unless there is a clear abuse of their discretion, or a violation of law, for to do so where there is no abuse of discretion or violation of law would be to substitute the discretion of the courts for that of the board."

DEATHS DURING WEEK ENDED JULY 20, 1929

Summary of information received by telegraph from industrial insurance companies for the week ended July 20, 1929, and corresponding week of 1928. (From the Weekly Health Index, July 24, 1929, issued by the Bureau of the Census, Department of Commerce)

	Week ended July 20, 1929	Corresponding week, 1928
Policies in force	75, 201, 376	71, 538, 686
Number of death claims	13, 050	11, 356
Death claims per 1,000 policies in force, annual rate	9. 0	8. 3

Deaths from all causes in certain large cities of the United States during the week ended July 20, 1929, infant mortality, annual death rate, and comparison with corresponding week of 1928. (From the Weekly Health Index, July 24, 1929, issued by the Bureau of the Census, Department of Commerce)

City	Week ended July 20, 1929		Annual death rate per 1,000, corresponding week, 1928	Deaths under 1 year		Infant mortality rate week ended July 20, 1929 [2]
	Total deaths	Death rate [1]		Week ended July 20, 1929	Corresponding week, 1928	
Total (64 cities)	5, 940	10. 4	11. 1	576	652	[3] 50
Akron	47			10	4	103
Albany [4]	40	17. 4	13. 0	1	0	20
Atlanta	70	14. 3	15. 2	10	10	104
White	28			4	6	
Colored	42	(5)	(5)	6	4	
Baltimore [4]	153	9. 6	12. 5	13	23	42
White	113			9	19	36
Colored	40	(5)	(5)	4	4	63
Birmingham	61	14. 3	14. 8	8	9	72
White	33			5	9	75
Colored	28	(5)	(5)	3	0	69
Boston	183	12. 0	11. 2	25	22	69
Bridgeport	28			2	2	35
Buffalo	138	13. 0	11. 5	11	16	47
Cambridge	18	7. 5	8. 3	1	3	18
Camden	23	8. 9	11. 6	4	3	69
Canton	15	6. 7	5. 8	2	3	47
Chicago [4]	605	10. 0	11. 4	45	58	40
Cincinnati	130			12	9	70
Cleveland	160	8. 3	10. 2	19	15	56
Columbus	76	13. 3	10. 3	5	8	47
Dallas	58	13. 9	10. 8	6	3	
White	44			5	3	
Colored	14	(5)	(5)	1	0	
Dayton	39	11. 1	10. 5	2	6	32
Denver	68	12. 1	11. 0	9	5	87
Des Moines	27	9. 3	7. 2	0	1	0
Detroit	268	10. 2	9. 5	40	35	64
Duluth	27	12. 1	6. 7	0	2	0
El Paso	31	13. 8	10. 7	6	3	
Erie	10			1	4	20
Fall River [4]	17	6. 6	6. 2	2	1	38
Flint	19	6. 7	8. 4	3	6	36
Forth Worth	43	13. 2	10. 7	7	7	
White	35			7	7	
Colored	8	(5)	(5)	0	0	
Grand Rapids	28	8. 9	7. 0	2	4	30
Houston	61			5	4	
White	35			3	4	
Colored	26	(5)	(5)	2	0	
Indianapolis	65	8. 9	10. 9	2	11	16
White	54			1	9	9
Colored	11	(5)	(5)	1	2	60
Jersey City	46	7. 4	10. 1	4	14	31
Kansas City, Kans	30	13. 3	11. 0	4	5	88
White	20			2	3	50
Colored	10	(5)	(5)	2	2	358
Kansas City, Mo	92	12. 3	14. 2	6	13	51
Knoxville	26	12. 9	13. 9	4	8	87
White	22			3	6	73
Colored	4	(5)	(5)	1	2	211

See footnotes at end of table.

Deaths from all causes in certain large cities of the United States during the week ended July 20, 1929, infant mortality, annual death rate, and comparison with corresponding week of 1928. (From the Weekly Health Index, July 24, 1929, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended July 20, 1929		Annual death rate per 1,000, corresponding week, 1928	Deaths under 1 year		Infant mortality rate week ended July 20, 1929
	Total deaths	Death rate		Week ended July 20, 1929	Corresponding week, 1928	
Los Angeles	249			28	16	82
Louisville	66	10.5	12.1	8	7	65
White	46			5	4	47
Colored	20	(5)	(5)	3	3	189
Lowell	27			1	3	23
Lynn	25	12.4	5.9	3	2	82
Memphis	63	17.3	23.9	4	11	47
White	33			3	5	57
Colored	30	(5)	(5)	1	6	31
Milwaukee	95	9.1	9.0	21	9	92
Minneapolis	72	8.3	8.9	3	10	19
Nashville	49	18.4	19.5	6	3	97
White	26			4	2	87
Colored	23	(5)	(5)	2	1	126
New Bedford	18			1	5	21
New Haven	27	7.5	8.1	2	2	31
New Orleans	145	17.7	15.8	7	15	35
White	82			4	7	28
Colored	63	(5)	(5)	3	8	50
New York	1,139	9.9	11.0	106	112	43
Bronx Borough	161	8.8	8.6	21	17	62
Brooklyn Borough	367	8.3	10.3	31	39	31
Manhattan Borough	439	13.1	14.8	41	40	50
Queens Borough	129	7.9	7.4	10	15	41
Richmond Borough	43	14.9	11.4	3	1	54
Newark, N. J	83	9.2	8.3	8	6	42
Oakland	51	9.7	10.5	4	7	44
Oklahoma City	25			4	2	80
Omaha	46	10.8	10.3	3	4	35
Paterson	23	8.3	8.3	2	1	35
Philadelphia	386	9.8	10.6	31	36	44
Pittsburgh	150	11.6	11.3	16	19	55
Portland, Oreg	72			2	4	28
Providence	58	10.6	13.7	10	9	88
Richmond	54	14.5	15.1	5	7	70
White	30			1	3	21
Colored	24	(5)	(5)	4	4	164
Rochester	57	9.1	10.3	7	7	59
St. Louis	187	11.5	12.5	12	12	40
St. Paul	45			2	4	21
Salt Lake City [4]	33	12.5	11.4	2	5	31
San Antonio	66	15.8	16.1	14	15	
San Diego	39			1	1	19
San Francisco	136	12.1	13.0	7	10	45
Schenectady	18	10.1	7.3	4	2	127
Seattle	57	7.8	8.7	3	4	32
Somerville	10	5.1	9.2	1	4	36
Spokane	30	14.4	11.5	2	1	52
Springfield, Mass	23	8.0	15.0	1	6	17
Syracuse	29	7.6	10.5	6	1	72
Toledo	61	10.2	10.7	3	5	28
Trenton	38	14.3	12.8	3	2	54
Utica	26	13.0	13.5	6	1	153
Washington, D. C	99	9.4	10.9	9	10	53
White	60			3	5	25
Colored	39	(5)	(5)	6	5	114
Waterbury	13			2	1	51
Wilmington, Del	19	7.7	9.0	3	2	78
Worcester	44	11.6	12.2	5	4	63
Yonkers	21	9.1	5.2	1	2	23
Youngstown	28	8.4	7.2	7	5	101

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births. Cities left blank are not in the registration area for births.
[3] Data for 72 cities.
[4] Deaths for week ended Friday.
[5] In the cities for which deaths are shown by color, the colored population in 1920 constituted the following percentages of the total population: Atlanta, 31; Baltimore, 15; Birmingham, 39; Dallas, 15; Fort Worth, 14; Houston, 25; Indianapolis, 11; Kansas City, Kans., 14; Knoxville, 15; Louisville, 17; Memphis, 38; Nashville, 30; New Orleans, 26; Richmond, 32; and Washington, D. C., 25.

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what condition 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 July 20, 1929, and July 21, 1928

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 20, 1929, and July 21, 1928

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928
New England States:								
Maine	----	3	----	1	50	64	1	0
New Hampshire	----	2	----	7	25	17	0	1
Vermont	1	----	----	----	16	18	0	0
Massachusetts	51	25	----	11	165	270	3	3
Rhode Island	3	2	----	----	13	110	0	0
Connecticut	10	13	1	1	22	148	2	0
Middle Atlantic States:								
New York	123	170	[1] 7	----	875	787	16	30
New Jersey	83	78	2	----	58	226	6	0
Pennsylvania	74	132	----	----	311	841	8	5
East North Central States:								
Ohio	20	20	3	3	131	223	5	5
Indiana	9	8	----	4	37	41	0	0
Illinois	137	65	37	44	347	81	14	7
Michigan	99	57	2	1	176	227	34	4
Wisconsin	21	17	1	9	333	23	2	2
West North Central States:								
Minnesota	16	16	1	2	39	7	1	2
Iowa	5	1	----	----	16	3	0	2
Missouri	24	22	----	10	15	43	3	3
North Dakota	7	2	----	1	47	10	0	0
South Dakota	3	----	----	----	5	8	0	0
Nebraska	2	3	----	----	49	4	0	0
Kansas	11	1	----	1	112	18	2	0
South Atlantic States:								
Delaware	3	----	----	----	2	----	0	0
Maryland [2]	11	11	2	1	12	38	1	2
District of Columbia	2	11	----	----	5	28	1	0
Virginia	----	----	----	----	----	----	----	----
West Virginia	3	6	5	16	23	18	0	0
North Carolina	17	10	----	----	4	56	2	0
South Carolina	21	4	129	220	7	7	0	0
Georgia	3	5	8	21	4	16	0	1
Florida	9	8	1	30	4	9	0	0

[1] New York City only.

[2] Week ended Friday.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 20, 1929, and July 21, 1928—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928
East South Central States:								
Kentucky					6	19	0	0
Tennessee	5	6		5	5	7	3	0
Alabama	22	7	3	21	18	34	1	3
Mississippi	4	10					0	
West South Central States:								
Arkansas	6	2		22	2	39	2	0
Louisiana	7	12	4	4	11	16	1	1
Oklahoma [3]	4	5	20	40	5	6	0	0
Texas	20	9	7	22	12	23	0	0
Mountain States:								
Montana		3			7	12	0	2
Idaho		3	2		2		2	0
Wyoming		5			5		1	0
Colorado	5	5			3	36	1	0
New Mexico	4	3		1	1	1	0	0
Arizona	1					4	3	1
Utah [2]	1		1	2	3		0	0
Pacific States:								
Washington	5	2			41	7	0	1
Oregon	5	2	1	11	24	8	1	0
California	37	48	5	6	39	22	15	4

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928
New England States:								
Maine	1	0	5	6	0	0	4	4
New Hampshire	0	0	2	5	0	0	0	0
Vermont	1	0	2	5	1	0	0	0
Massachusetts	2	1	67	50	0	0	7	4
Rhode Island	1	0	2	5	0	0	0	0
Connecticut	0	3	9	14	0	0	1	2
Middle Atlantic States:								
New York	13	20	81	84	1	1	21	29
New Jersey	2	0	37	29	0	0	15	9
Pennsylvania	0	3	114	112	0	0	15	42
East North Central States:								
Ohio	0	4	66	59	31	26	8	11
Indiana	0	1	36	20	54	19	6	3
Illinois	1	3	127	97	58	27	20	21
Michigan	1	0	201	100	41	23	2	5
Wisconsin	1	1	64	60	8	21	2	1
West North Central States:								
Minnesota	3	2	30	27	1	1	7	1
Iowa	0	0	31	11	27	27	1	3
Missouri	0	2	10	29	11	19	18	8
North Dakota	0	1		15	6	0	2	0
South Dakota	0	0	3	11	8	1	0	2
Nebraska	0	0	23	9	11	15	1	2
Kansas	1	2		17	22	31	8	9
South Atlantic States:								
Delaware	0	1	1	1	0	0	1	4
Maryland [3]	2	4	17	10	0	0	12	15
District of Colombia	0	0	17	4	0	0	3	0
Virginia	1							
West Virginia	0	0	10	14	2	8	13	9
North Carolina	14	2	25	5	2	10	39	51
South Carolina	4	4	14	1	1	3	161	87
Georgia	0	1	7	10	0	0	48	82
Florida	0	1	4	2	0	16	1	6

[2] Week ended Friday.
[3] Figures for 1929 are exclusive of Oklahoma City and Tulsa and for 1928 are exclusive of Tulsa only.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended July 20, 1929, and July 21, 1928—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928	Week ended July 20, 1929	Week ended July 21, 1928
East South Central States:								
Kentucky	0	2	----	6	5	13	7	17
Tennessee	10	0	10	3	4	13	72	63
Alabama	2	1	9	5	0	18	54	77
Mississippi	1	6	1	3	1	1	43	20
West South Central States:								
Arkansas	0	0	2	0	6	6	12	18
Louisiana	0	0	13	5	0	0	38	30
Oklahoma [3]	0	0	8	7	14	20	42	47
Texas	0	2	12	8	5	12	20	16
Mountain States:								
Montana	1	0	9	3	7	5	3	5
Idaho	0	0	1	0	4	2	2	0
Wyoming	0	0	10	5	1	0	0	3
Colorado	0	0	8	30	6	2	3	0
New Mexico	0	0	3	4	1	1	4	10
Arizona	0	0	----	0	0	0	8	1
Utah [1]	0	0	3	2	3	2	9	0
Pacific States:								
Washington	0	2	6	14	18	17	2	4
Oregon	0	0	4	2	16	29	4	2
California	5	2	96	58	16	21	10	12

[3] Figures for 1929 are exclusive of Oklahoma City and Tulsa and for 1928 are exclusive of Tulsa only.

SUMMARY OF MONTHLY REPORTS FROM 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	Meningococcus meningitis	Diphtheria	Influenza	Malaria	Measles	Pellagra	Poliomyelitis	Scarlet fever	Smallpox	Typhoid fever
March, 1929										
Delaware	----	4	4	----	167	----	1	23	0	0
April, 1929										
Delaware	----	6	1	----	134	----	0	13	0	0
May, 1929										
Delaware	----	8	----	----	63	----	0	15	0	1
Massachusetts	19	315	32	4	2,589	2	8	1,005	238	35
New Hampshire	----	3	----	----	----	----	----	59	0	3
June, 1929										
Alabama	2	58	71	841	178	260	8	49	1	129
California	41	209	87	14	557	4	15	1,276	122	50
Illinois	54	696	68	1	6,270	1	5	1,059	305	47
Iowa	3	13	----	----	233	----	4	186	129	10
Louisiana	7	41	43	139	150	112	0	63	15	76
Maine	3	1	9	----	353	2	1	100	1	14
Maryland	3	87	37	4	155	----	0	327	0	28
Michigan	287	403	9	6	2,738	----	4	1,339	258	13
Minnesota	6	70	8	2	941	----	1	258	18	14
New York	85	1,027	----	7	3,072	----	8	1,015	3	58
Rhode Island	----	34	----	2	200	----	1	29	0	4
West Virginia	3	34	43	----	614	----	4	59	73	119

March, 1929	Cases
Delaware:	
Chicken pox	4
Mumps	6
Ophthalmia neonatorum	1
Whooping cough	10

April, 1929	Cases
Delaware:	
Chicken pox	13
Mumps	2
Whooping cough	7

May, 1929	Cases
Anthrax:	
Massachusetts	1
Chicken pox:	
Delaware	8
Massachusetts	918
German measles:	
Massachusetts	196
Lead poisoning:	
Massachusetts	3
Lethargic encephalitis:	
Massachusetts	7
Mumps:	
Delaware	2
Massachusetts	519
Ophthalmia neonatorum:	
Massachusetts	129
Septic sore throat:	
Massachusetts	23
Tetanus:	
Massachusetts	2
Trachoma:	
Massachusetts	8
Trichinosis:	
Massachusetts	2
Whooping cough:	
Delaware	4
Massachusetts	748

June, 1929	Cases
Actinomycosis:	
Minnesota	1
Anthrax:	
Maine	1
New York	2
Chicken pox:	
Alabama	79
California	1,308
Illinois	1,233
Iowa	108
Louisiana	14
Maine	141
Maryland	234
Michigan	1,004
Minnesota	369
New York	2,491
Rhode Island	26
West Virginia	105
Conjunctivitis:	
Illinois	1
Maine	1
Dengue:	
Alabama	1
Louisiana	1
Dysentery:	
California (amebic)	3
California (bacillary)	13
Illinois	13
Louisiana	4
Maryland	13
Minnesota (amebic)	5
New York	3
German measles:	
California	66
Illinois	293
Iowa	4
Maryland	14
New York	405
Rhode Island	6
Granuloma, coccidioidal:	
California	2
Hookworm disease:	
California	1
Louisiana	14
Impetigo contagiosa:	
Maryland	2
Lead poisoning:	
Illinois	8
Lethargic encephalitis:	
Alabama	6
California	5
Illinois	1
Louisiana	3
Maryland	1
Michigan	4
Minnesota	2
New York	20
Mumps:	
Alabama	42
California	1,338
Illinois	390
Iowa	119
Louisiana	1
Maine	120
Maryland	557
Michigan	633
New York	1,852
Rhode Island	4
Ophthalmia neonatorum:	
California	3
Illinois	62
Maryland	2
New York	12
Rhode Island	1
Paratyphoid fever:	
California	1
Illinois	1
Maine	6
New York	3
Puerperal septicemia:	
Illinois	16
New York	8
Rabies in animals:	
California	51
Illinois	12
Iowa	10
Maryland	6
New York	12
Rhode Island	11

Rabies in man:	Cases
Illinois	1
New York	2
Rocky Mountain spotted or tick fever:	
California	4
Septic sore throat:	
Illinois	2
Louisiana	2
Maryland	8
Michigan	7
New York	11
Rhode Island	2
Tetanus:	
California	3
Illinois	3
Louisiana	3
Maine	2
Maryland	2
Minnesota	1
New York	9
Trachoma:	
California	4
Illinois	3
Maryland	2
Minnesota	2
New York	2
Tularaemia:	
California	1
Louisiana	1

Typhus fever:	Cases
Alabama	7
Maryland	3
Undulant fever:	
Alabama	2
California	6
Illinois	3
Iowa	17
Louisiana	4
Maryland	2
Minnesota	5
New York	4
Vincent's angina:	
Maine	9
Maryland	5
New York	55
Whooping cough:	
Alabama	240
California	807
Illinois	884
Iowa	142
Louisiana	36
Maine	89
Maryland	543
Michigan	783
Minnesota	197
New York	1,312
Rhode Island	71
West Virginia	333

Number of Cases of Certain Communicable Diseases Reported for the Month of May, 1929, by State Health Officers

State	Chicken pox	Diphtheria	Measles	Mumps	Scarlet fever	Smallpox	Tuberculosis	Typhoid fever	Whooping cough
Maine	122	10	427	155	111	1	43	12	93
New Hampshire		3			59			3	
Vermont	74	2	48	95	63	26	21	4	81
Massachusetts	918	315	2,589	519	1,005	238	542	35	748
Rhode Island	53	49	445	3	90	0	50	4	36
Connecticut	321	85	1,397	344	248	23	173	7	127
New York	2,961	1,404	4,914	2,565	2,109	11	1,941	69	1,567
New Jersey	1,291	560	1,277		628	0	492	19	837
Pennsylvania	2,171	636	8,531	1,419	1,685	0	814	92	1,795
Ohio	1,286	205	7,357	394	967	311	740	38	1,698
Indiana	303	50	2,375	17	1,090	322	306	21	212
Illinois	1,437	810	8,745	633	1,707	437	1,075	38	829
Michigan	1,138	398	4,266	815	2,037	215	688	20	1,165
Wisconsin	1,463	120	7,756	489	745	80	214	21	966
Minnesota	436	63	2,305		436	19	264	13	412
Iowa	217	28	319	265	499	182	63	1	116
Missouri	243	185	870	135	290	136	203	114	362
North Dakota	65	47	455	14	109	39	36	6	21
South Dakota	21	11	209	39	79	164	8	3	13
Nebraska	154	61	1,281	172	551	0	[1]25	15	137
Kansas	287	20	3,005	472	442	266	190	12	255
Delaware	8	8	63	2	15	0	[1]8	1	4
Maryland	314	62	211	929	546	0	315	23	583
District of Columbia	103	36	141		66	0	131	1	110
Virginia	467	52	851		119	2	[1]181	48	858
West Virginia	105	33	1,188		56	61	24	38	230
North Carolina	490	78	110		115	44		36	1,672
South Carolina	275	130	64	152	31	17	189	64	
Georgia	80	31	116	92	49	11	50	49	305
Florida	68	29	389	12	26	4	186	16	244

[1] Pulmonary.

Number of Cases of Certain Communicable Diseases Reported for the Month of May, 1929, by State Health Officers—Continued

State	Chicken pox	Diphtheria	Measles	Mumps	Scarlet fever	Smallpox	Tuberculosis	Typhoid fever	Whooping cough
Kentucky [2]									
Tennessee	129	23	276	142	150	86	386	48	142
Alabama	219	34	479	49	38	7	286	44	156
Mississippi	588	25	1,211	381	22	7	342	95	1,687
Arkansas	63	12	60	107	59	8	[1] 71	28	44
Louisiana	34	69	238	3	167	44	[1] 162	57	18
Oklahoma [3]	24	17	163	21	87	194	50	15	74
Texas [2]									
Montana	101	5	449	40	66	40	20	2	7
Idaho	16	6	103	18	40	48	9	4	6
Wyoming	54	8	257	65	28	61		3	5
Colorado	269	30	172	168	96	75	21	5	77
New Mexico [3]									
Arizona	15	9	64	7	23	31	57	23	18
Utah [3]									
Nevada [4]									
Washington	539	33	1,060	349	133	214	198	16	405
Oregon	175	17	921	113	73	114	45	5	56
California	2,826	268	651	2,905	2,116	303	1,093	48	1,535

[1] Pulmonary.
[2] Reports received weekly.
[3] Exclusive of Oklahoma City and Tulsa.
[4] Reports received annually.

Case Rates per 1,000 Population (Annual Basis) for the Month of May, 1929

State	Chicken pox	Diphtheria	Measles	Mumps	Scarlet fever	Smallpox	Tuberculosis	Typhoid fever	Whooping cough
Maine	1.80	0.15	6.31	2.29	1.64	0.01	0.64	0.18	1.37
New Hampshire		.08			1.52			.08	
Vermont	2.47	.07	1.60	3.17	2.10	.87	.70	.13	2.71
Massachusetts	2.49	.85	7.03	1.41	2.73	.65	1.47	.09	2.03
Rhode Island	.86	.79	7.20	.05	1.46	0	.81	.06	.58
Connecticut	2.23	.59	9.69	2.39	1.72	.16	1.20	.05	.88
New York	2.98	1.42	4.95	2.59	2.13	.01	1.96	.07	1.58
New Jersey	3.90	1.69	3.86		1.90	0	1.49	.06	2.53
Pennsylvania	2.56	.75	10.07	1.67	1.99	0	.96	.11	2.12
Ohio	2.18	.35	12.48	.67	1.64	.53	1.26	.06	2.88
Indiana	1.11	.18	8.73	.06	4.01	1.18	1.13	.08	.78
Illinois	2.26	1.27	13.74	.99	2.68	.69	1.69	.06	1.30
Michigan	2.86	1.00	10.70	2.04	5.11	.54	1.73	.05	2.92
Wisconsin	5.76	.47	30.56	1.93	2.94	.32	.84	.08	3.81
Minnesota	1.86	.27	9.84		1.86	.08	1.13	.06	1.76
Iowa	1.05	.14	1.54	1.28	2.42	.88	.31	0	.56
Missouri	.81	.62	2.90	.45	.97	.45	.68	.38	1.21
North Dakota	1.19	.86	8.36	.26	2.00	.72	.66	.11	.39
South Dakota	.35	.18	3.46	.64	1.31	2.71	.13	.05	.21
Nebraska	1.28	.51	10.62	1.43	4.57	0	[1] .21	.12	1.14
Kansas	1.83	.13	19.21	3.02	2.83	1.70	1.21	.08	1.63
Delaware	.38	.38	3.03	.10	.72	0	[1] .38	.05	.19
Maryland	2.26	.45	1.52	6.69	3.93	0	2.27	.17	4.20
District of Columbia	2.15	.75	2.94		1.38	0	2.73	.02	2.30
Virginia	2.11	.24	3.85		.54	.01	[1] .82	.22	3.88
West Virginia	.71	.22	7.98		.38	.41	.16	.26	1.55
North Carolina	1.94	.31	.43		.45	.17		.14	6.61
South Carolina	1.72	.81	.40	.95	.19	.11	1.18	.40	
Georgia	.29	.11	.42	.33	.18	.04	.18	.18	1.11
Florida	.55	.23	3.14	.10	.21	.03	1.50	.13	1.97
Kentucky [2]									
Tennessee	.60	.11	1.29	.66	.70	.40	1.80	.22	.66
Alabama	.99	.15	2.17	.22	.17	.03	1.30	.20	.71
Mississippi	3.87	.16	7.96	2.51	.14	.05	2.25	.62	11.09

[1] Pulmonary.
[2] Reports received weekly.

Case Rates per 1,000 Population (Annual Basis) for the Month of May, 1929—Continued

State	Chicken pox	Diphtheria	Measles	Mumps	Scarlet fever	Smallpox	Tuberculosis	Typhoid fever	Whooping cough
Arkansas	.38	.07	.36	.64	.35	.05	[1].43	.17	.26
Louisiana	.20	.41	1.43	.02	1.00	.26	[1].97	.34	.11
Oklahoma [3]	.13	.09	.88	.11	.47	1.05	.27	.08	.40
Texas [2]									
Montana	2.17	.11	9.63	.86	1.42	.86	.43	.04	.15
Idaho	.34	.13	2.17	.38	.84	1.01	.19	.08	.13
Wyoming	2.51	.37	11.96	3.02	1.30	2.84		.14	.23
Colorado	2.86	.32	1.83	1.79	1.02	.80	.22	.05	.82
New Mexico [3]									
Arizona	.36	.22	1.54	.17	.55	.75	1.37	.55	.43
Utah [3]									
Nevada [4]									
Washington	3.94	.24	7.74	2.55	.97	1.56	1.45	.12	2.96
Oregon	2.25	.22	11.86	1.46	.94	1.47	.58	.06	.72
California	7.11	.67	1.64	7.31	5.32	.76	2.75	.12	3.86

[1] Pulmonary.
[2] Reports received weekly.
[3] Exclusive of Oklahoma City and Tulsa.
[4] Reports received annually.

ADMISSIONS TO HOSPITALS FOR THE INSANE, SEPTEMBER, 1928

Reports for the month of September, 1928, showing new admissions to hospitals for the care and treatment of the insane, have been received by the Public Health Service from 102 institutions located in 36 States, the District of Columbia, and the Territory of Hawaii. These hospitals reported a total of 154,202 patients on September 30, 1928, including those on parole.

The following table shows the number of new admissions for the month of September, 1928, by psychoses:

Psychoses	Number of first admissions		
	Male	Female	Total
1. Traumatic psychoses	7	1	8
2. Senile psychoses	96	105	201
3. Psychoses with cerebral arteriosclerosis	136	57	193
4. General paralysis	186	49	235
5. Psychoses with cerebral syphilis	20	9	29
6. Psychoses with Huntington's chorea	1	1	2
7. Psychoses with brain tumor	0	2	2
8. Psychoses with other brain or nervous disease	21	11	32
9. Alcoholic psychoses	147	15	162
10. Psychoses due to drugs and other exogenous toxins	17	4	21
11. Psychoses with pellagra	9	14	23
12. Psychoses with other somatic diseases	22	46	68
13. Manic-depressive psychoses	138	174	312
14. Involution melancholia	16	25	41
15. Dementia praecox (schizophrenia)	237	215	452
16. Paranoia and paranoid conditions	30	26	56
17. Epileptic psychoses	41	23	64
18. Psychoneuroses and neuroses	23	20	43
19. Psychoses with psychopathic personality	17	10	27
20. Psychoses with mental deficiency	37	38	75
21. Undiagnosed psychoses	79	75	154
22. Without psychoses	141	51	192
Total	1,421	971	2,392

Fifty-nine and four-tenths per cent of the new admissions were males and 40.6 per cent were females, giving a ratio of 146 males per 100 females. The 102 institutions on September, 1928, had 82,024 male patients and 72,178 female patients, the ratio being 114 males per 100 females.

At the end of the month 9 per cent of the total patients were on parole—9.3 per cent of the male patients, and 8.6 per cent of the female patients.

Cases of dementia praecox constituted 18.9 per cent of the first admissions; manic-depressive psychoses, 13 per cent; general paralysis, 9.8 per cent; senile psychoses, 8.4 per cent; psychoses with cerebral arteriosclerosis, 8.1 per cent; 6.4 per cent of the cases were undiagnosed, and 8 per cent were without psychosis.

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 95 cities reporting cases used in the following table are situated in all parts of the country and have an estimated aggregate population of more than 31,270,000. The estimated population of the 88 cities reporting deaths is more than 29,695,000. The estimated expectancy is based on the experience of the last 9 years, excluding epidemics.

Weeks ended July 13, 1929, and July 14, 1928

	1929	1928	Estimated expectancy
Cases reported			
Diphtheria:			
46 States	990	949	----
95 cities	533	501	550
Measles:			
45 States	3,815	5,112	----
95 cities	905	1,553	----
Meningococcus meningitis:			
45 States	123	56	----
95 cities	82	38	----
Poliomyelitis:			
46 States	43	45	----
Scarlet fever:			
46 States	1,339	1,157	----
95 cities	498	308	386
Smallpox:			
46 States	409	405	----
95 cities	51	35	40
Typhoid fever:			
46 States	596	749	----
95 cities	84	103	107
Deaths reported			
Influenza and pneumonia:			
88 cities	331	375	----
Smallpox:			
88 cities	0	0	----

City reports for week ended July 13, 1929

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence the number of cases of the disease under consideration that may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding weeks of the preceding years. When the reports include several epidemics, or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during nonepidemic years.

If the reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1920 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviation from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city	Population, July 1, 1928, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
NEW ENGLAND									
Maine:									
Portland	78,600	0	1	0		0	0	1	1
New Hampshire:									
Concord	(1)	0	0	1		0	8	0	0
Nashua	(1)	0	0	0		0	0	0	1
Vermont:									
Barre	(1)	0	0	0		0	0	0	0
Massachusetts:									
Boston	799,200	40	31	22	2	0	41	12	9
Fall River	134,300	1	2	3	1	1	0	1	0
Springfield	149,800	10	1	3		0	1	0	0
Worcester	197,600	5	1	0		0	12	0	0
Rhode Island:									
Pawtucket	73,100	0	1	0		0	1	0	0
Providence	286,300	0	3	3		0	13	0	0
Connecticut:									
Bridgeport	(1)	0	4	1		0	1	0	1
Hartford	172,300		2						
New Haven	187,900	4	1	1		0	2	1	2
MIDDLE ATLANTIC									
New York:									
Buffalo	555,800	8	7	15		0	17	3	13
New York	6,017,500	48	160	141	5	3	31	87	63
Rochester	328,200	2	5	3		0	8	5	6
Syracuse	199,300	16	3	0		0	0	5	1
New Jersey:									
Camden	135,400	1	3	2		0	1	2	1
Newark	473,600	9	9	24		0	6	12	4
Trenton	139,000	2	1	0		0	3	0	5
Pennsylvania:									
Philadelphia	2,064,200	13	40	10		1	19	3	19
Pittsburgh	673,800	10	13	9	1	0	19	2	16
Reading	115,400	4	1	1		0	1	0	0
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	413,700	1	4	4		1	1	1	8
Cleveland	1,010,300	47	18	15	1	0	38	2	9
Columbus	299,000	4	2	1		0	41	0	1
Toledo	313,200	19	3	1		0	56	7	2
Indiana:									
Fort Wayne	105,300	0	1	2		0	1	0	2
Indianapolis	382,100	0	2	0		0	26	0	7
South Bend	86,100		1						
Terre Haute	73,500	2	0	1		0	0	1	0
Illinois:									
Chicago	3,157,400	50	52	119	1	2	236	3	37
Springfield	67,200	2	0	0		0	10	0	0
Michigan:									
Detroit	1,378,900	25	29	36	2	1	115	8	6
Flint	148,800	12	2	3		0	14	0	1
Grand Rapids	164,200	5	2	0		0	2	1	0

[1] No estimate of population made.

City reports for week ended July 13, 1929—Continued

Division, State, and city	Population, July 1, 1928, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST NORTH CENTRAL—continued									
Wisconsin:									
Kenosha	56,500	10	1	0	----	0	13	0	1
Milwaukee	544,200	33	9	6	----	0	49	1	7
Racine	74,400	4	1	0	----	0	1	0	0
Superior	(1)	3	0	0	----	0	3	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	116,800	4	0	3	----	0	8	2	0
Minneapolis	455,900	29	9	3	----	0	1	2	4
St. Paul	(1)	4	6	0	----	0	7	2	4
Iowa:									
Davenport	(1)	0	0	1	----	----	1	1	----
Des Moines	151,900	0	1	0	----	----	0	0	----
Sioux City	80,000	0	1	0	----	----	1	0	----
Waterloo	37,100	2	0	0	----	----	1	6	----
Missouri:									
Kansas City	391,000	0	2	4	----	0	1	0	6
St. Joseph	78,500	0	0	0	----	0	2	0	1
St. Louis	848,100	10	20	24	----	----	4	8	----
North Dakota:									
Fargo	(1)	6	0	0	----	0	1	1	0
Grand Forks	(1)	0	0	0	----	----	0	0	----
South Dakota:									
Sioux Falls	(1)	0	0	0	----	----	0	0	----
Nebraska:									
Omaha	222,800	5	2	0	----	0	6	0	1
Kansas:									
Topeka	62,800	5	0	1	----	0	13	5	0
Wichita	99,300	1	0	1	----	0	9	6	1
SOUTH ATLANTIC									
Delaware:									
Wilmington	128,500	1	0	2	----	0	2	0	0
Maryland:									
Baltimore	830,400	4	11	6	5	0	2	40	11
Cumberland	(1)	0	0	0	----	0	0	0	0
Frederick	(1)	0	0	0	----	0	0	0	0
District of Columbia:									
Washington	552,000	0	3	3	1	0	7	0	8
Virginia:									
Lynchburg	38,600	2	0	1	----	0	0	14	0
Norfolk	184,200	0	0	1	----	0	1	0	6
Richmond	194,400	0	1	2	----	0	6	5	2
Roanoke	64,600	0	0	3	----	0	0	0	0
West Virginia:									
Charleston	55,200	0	0	1	----	0	1	0	0
Wheeling	(1)	2	0	1	----	0	2	0	2
North Carolina:									
Raleigh	(1)	0	0	0	----	0	0	0	1
Wilmington	39,100	2	0	0	----	0	0	0	0
Winston-Salem	80,000	0	0	0	----	0	0	1	1
South Carolina:									
Charleston	75,900	0	0	0	----	1	0	0	4
Columbia	50,600	0	0	0	----	0	0	3	0
Georgia:									
Atlanta	255,100	0	1	0	5	1	5	0	2
Brunswick	(1)	0	0	0	----	0	0	0	0
Savannah	99,900	0	0	3	----	0	0	0	0
Florida:									
Miami	156,700	0	1	1	----	0	5	0	13
St. Petersburg	53,300	----	0	----	----	0	----	----	0
Tampa	113,400	0	0	1	----	0	1	0	0

[1] No estimate of population made.

City reports for week ended July 13, 1929—Continued

Division, State, and city	Population, July 1, 1928, estimated	Chicken pox, cases reported	Diphtheria		Influenza		Measles, cases reported	Mumps, cases reported	Pneumonia, deaths reported
			Cases, estimated expectancy	Cases reported	Cases reported	Deaths reported			
EAST SOUTH CENTRAL									
Kentucky:									
Covington	59,000	0	0	0	----	0	0	0	2
Tennessee:									
Memphis	190,200	0	1	3	----	0	0	0	0
Nashville	139,600	0	0	0	----	1	0	0	0
Alabama:									
Birmingham	222,400	0	1	1	----	0	0	0	2
Mobile	69,600	0	0	0	----	0	2	0	0
Montgomery	63,100	0	0	2	----	----	0	0	----
WEST SOUTH CENTRAL									
Arkansas:									
Fort Smith	(1)	1	0	0	----	----	0	0	----
Little Rock	79,200	0	0	1	----	0	0	1	0
Louisiana:									
New Orleans	429,400	0	0	7	----	0	4	0	8
Shreveport	81,300	0	0	1	----	0	1	0	4
Oklahoma:									
Oklahoma City	(1)	0	0	2	----	0	0	0	1
Tulsa	170,500	0	1	0	----	----	5	0	----
Texas:									
Dallas	217,800	0	2	6	----	0	8	0	1
Fort Worth	170,600	0	1	1	----	0	3	1	2
Galveston	50,600	0	1	0	----	0	1	0	0
Houston	(1)	0	2	2	----	1	2	0	4
San Antonio	218,100	0	1	5	----	0	0	0	4
MOUNTAIN									
Montana:									
Billings	(1)	0	0	0	----	0	2	0	0
Great Falls	(1)	----	0	----	----	----	----	----	----
Helena	(1)	0	0	0	----	0	0	0	0
Missoula	(1)	0	0	0	----	0	0	0	0
Idaho:									
Boise	(1)	1	0	0	----	0	2	0	0
Colorado:									
Denver	294,200	20	8	3	----	1	2	4	2
Pueblo	44,200	6	1	0	----	0	0	0	0
New Mexico:									
Albuquerque	(1)	0	0	0	----	0	1	0	0
Utah:									
Salt Lake City	138,000	16	2	0	----	2	4	51	3
Nevada:									
Reno	(1)	0	0	0	----	0	0	0	0
PACIFIC									
Washington:									
Seattle	383,200	14	3	2	----	----	8	4	----
Spokane	109,100	4	1	1	----	----	26	0	----
Tacoma	110,500	8	2	1	----	0	2	0	0
Oregon:									
Salem	(1)	2	0	0	----	0	1	6	0
California:									
Los Angeles	(1)	23	34	10	4	0	22	11	12
Sacramento	75,700	0	1	0	----	0	2	0	3
San Francisco	585,300	12	9	3	----	0	3	6	2

[1] No estimate of population made.

City reports for week ended July 13, 1929—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
NEW ENGLAND											
Maine:											
Portland	0	3	0	0	0	1	0	0	0	0	15
New Hampshire:											
Concord	0	0	0	0	0	0	0	0	0	0	7
Nashua	0	0	0	0	0	0	0	0	0	0	14
Vermont:											
Barre	0	0	0	0	0	0	0	0	0	0	1
Massachusetts:											
Boston	25	22	0	0	0	15	2	0	0	46	169
Fall River	1	1	0	0	0	1	1	0	0	0	17
Springfield	2	1	0	0	0	3	0	0	0	0	31
Worcester	4	0	0	0	0	3	0	0	0	11	
Rhode Island:											
Pawtucket	0	0	0	0	0	1	0	0	0	0	10
Providence	3	2	0	0	0	2	0	0	0	5	66
Connecticut:											
Bridgeport	3	2	0	0	0	3	0	0	0	0	32
Hartford	2		0				0				
New Haven	1	1	0	0	0	2	0	2	0	2	35
MIDDLE ATLANTIC											
New York:											
Buffalo	9	12	0	0	0	4	0	0	1	30	112
New York	60	32	1	0	0	77	20	12	3	78	1,269
Rochester	4	7	0	0	0	3	1	0	0	3	63
Syracuse	3	5	0	0	0	1	0	0	0	35	38
New Jersey:											
Camden	1	0	0	0	0	1	0	0	0	2	27
Newark	8	1	0	0	0	7	1	0	0	62	98
Trenton	0	1	0	0	0	3	1	1	0	2	49
Pennsylvania:											
Philadelphia	31	12	0	0	0	37	5	2	1	91	462
Pittsburgh	13	13	0	0	0	7	3	0	0	37	139
Reading	0	1	0	0	0	0	0	0	0	7	19
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	5	21	0	0	0	15	1	1	0	7	133
Cleveland	14	28	1	0	0	10	2	4	0	68	155
Columbus	3	3	1	2	0	4	0	2	0	55	72
Toledo	4	4	0	0	0	6	0	1	0	39	78
Indiana:											
Fort Wayne	0	1	1	0	0	1	0	0	0	0	31
Indianapolis	3	18	2	0	0	7	1	0	0	0	99
South Bend	0		0				1				
Terre Haute	1	1	0	0	0	1	0	0	0	1	22
Illinois:											
Chicago	44	87	1	2	0	59	4	1	1	77	661
Springfield	1	2	0	0	0	1	1	2	0	4	21
Michigan:											
Detroit	33	48	2	1	0	30	3	0	0	88	252
Flint	3	17	0	24	0	0	0	0	0	8	27
Grand Rapids	4	3	0	0	0	0	0	0	0	12	27
Wisconsin:											
Kenosha	1	0	1	0	0	0	0	0	0	11	10
Milwaukee	9	13	0	0	0	8	0	0	0	129	85
Racine	2	6	0	0	0	1	0	0	0	2	11
Superior	1	3	1	0	0	0	0	1	0	6	10
WEST NORTH CENTRAL											
Minnesota:											
Duluth	4	2	0	0	0	0	0	0	0	3	19
Minneapolis	13	12	0	0	0	4	0	0	0	3	81
St. Paul	7	9	1	0	0	2	0	2	0	45	47
Iowa:											
Davenport	0	0	0	2			0	0		0	
Des Moines	1	5	1	0			0				32
Sioux City	1	0	1	0			0	0		5	
Waterloo	0	2	0	7			0	0		4	
Missouri:											
Kansas City	2	4	1	0	0	8	2	1	0	15	104
St. Joseph	0	0	1	0	0	0	0	0	0	0	20
St. Louis	8	6	0	0	0	16	3	2	0	73	206

City reports for week ended July 13, 1929—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST NORTH CENTRAL—continued											
North Dakota:											
Fargo	0	0	0	0	0	0	0	0	0	9	7
Grand Forks	1	0	0	0	----	----	0	0	----	0	----
South Dakota:											
Sioux Falls	0	0	0	4	----	----	0	0	----	0	10
Nebraska:											
Omaha	1	1	1	1	0	1	0	0	0	0	60
Kansas:											
Topeka	1	1	1	0	0	0	0	0	0	16	9
Wichita	0	4	1	0	0	1	0	0	0	9	35
SOUTH ATLANTIC											
Delaware:											
Wilmington	1	1	0	0	0	0	0	0	0	0	32
Maryland:											
Baltimore	7	18	0	0	0	16	4	0	2	86	209
Cumberland	0	0	0	0	0	0	0	0	0	0	12
Frederick	0	0	0	0	0	0	0	0	0	0	3
District of Columbia:											
Washington	6	7	0	0	0	8	2	0	1	16	129
Virginia:											
Lynchburg	1	0	0	0	0	0	0	0	0	28	8
Norfolk	1	0	0	0	0	2	1	0	0	14	----
Richmond	1	2	0	0	0	2	2	0	0	70	54
Roanoke	0	0	0	0	0	0	1	0	0	9	15
West Virginia:											
Charleston	0	0	0	0	0	1	1	[1]2	1	6	26
Wheeling	1	1	0	0	0	2	0	0	0	1	18
North Carolina:											
Raleigh	0	0	0	0	0	0	0	0	2	17	13
Wilmington	0	0	0	0	0	0	0	0	0	0	4
Winston-Salem	0	0	0	0	0	1	1	0	0	0	17
South Carolina:											
Charleston	0	0	0	0	0	3	0	1	1	5	26
Columbia	0	0	0	1	0	1	1	0	0	18	13
Georgia:											
Atlanta	2	5	1	0	0	8	2	1	1	26	71
Brunswick	0	0	0	0	0	0	0	0	0	0	5
Savannah	0	0	0	0	0	2	1	0	1	4	31
Florida:											
Miami	0	0	0	0	0	0	1	0	0	3	13
St. Petersburg	0	----	0	----	0	0	0	----	0	----	7
Tampa	0	0	0	0	0	2	0	0	0	0	19
EAST SOUTH CENTRAL											
Kentucky:											
Covington	0	0	0	0	0	0	0	0	0	0	21
Tennessee:											
Memphis	2	4	1	0	0	4	7	2	0	13	56
Nashville	0	0	0	1	0	2	5	11	3	2	61
Alabama:											
Birmingham	1	3	2	0	0	4	4	10	1	6	69
Mobile	0	0	1	0	0	0	0	0	0	0	20
Montgomery	0	0	1	0	----	----	1	0	----	0	----
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith	1	0	0	0	----	----	2	0	----	1	----
Little Rock	1	0	1	0	0	1	2	0	0	1	----
Louisiana:											
New Orleans	2	5	1	0	0	9	3	3	0	6	127
Shreveport	0	0	1	0	0	0	1	9	0	1	34
Oklahoma:											
Oklahoma City	1	0	1	0	0	5	2	2	0	0	42
Tulsa	1	0	0	1	----	----	3	1	----	7	----

[1] Includes 1 nonresident.

City reports for week ended July 13, 1929—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuberculosis, deaths reported	Typhoid fever			Whooping cough, cases reported	Deaths, all causes
	Cases, estimated expectancy	Cases reported	Cases, estimated expectancy	Cases reported	Deaths reported		Cases, estimated expectancy	Cases reported	Deaths reported		
WEST SOUTH CENTRAL—con.											
Texas:											
Dallas	2	2	0	0	0	5	5	10	3	5	51
Fort Worth	0	8	0	2	0	1	1	0	0	0	36
Galveston	0	1	0	0	0	0	0	0	0	0	17
Houston	1	2	1	2	0	4	2	0	0	0	55
San Antonio	1	1	0	2	0	5	1	0	0	0	52
MOUNTAIN											
Montana:											
Billings	0	0	0	0	0	0	0	0	0	0	6
Great Falls	0		0				0				
Helena	0	0	0	0	0	0	0	0	0	0	8
Missoula	0	0	0	0	0	0	0	0	0	0	5
Idaho:											
Boise	0	0	0	0	0	1	0	0	0	0	8
Colorado:											
Denver	5	0	1	0	0	7	1	1	1	17	59
Pueblo	0	0	0	0	0	1	0	0	0	0	9
New Mexico:											
Albuquerque	0	1	0	0	0	2	0	0	0	0	14
Utah:											
Salt Lake City	1	1	1	4	0	1	1	0	0	16	34
Nevada:											
Reno	0	0	0	0	0	0	1	0	0	0	5
PACIFIC											
Washington:											
Seattle	3	1	2	0			1	1		36	
Spokane	1	1	2	0			0	0		9	
Tacoma	1	5	2	2	0	4	0	0	0	3	17
Oregon:											
Salem	0	1	0	0	0	0	0	0	0	0	
California:											
Los Angeles	10	12	4	2	0	17	3	0	1	32	240
Sacramento	1	5	0	0	0	1	0	0	0	3	31
San Francisco	5	13	0	0	0	12	1	0	0	6	119

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
NEW ENGLAND									
Massachusetts:									
Boston	1	0	0	0	0	0	0	1	1
Worcester	1	1	0	0	0	0	0	0	0
MIDDLE ATLANTIC									
New York:									
Buffalo	0	1	0	0	0	0	0	0	0
New York City	20	10	2	0	0	0	5	4	0
Syracuse	2	0	0	0	0	0	1	0	0
New Jersey:									
Newark	1	0	0	0	0	0	0	0	0
Pennsylvania:									
Philadelphia	5	3	0	0	1	0	0	0	0
Pittsburgh	2	1	1	1	0	0	0	0	0
EAST NORTH CENTRAL									
Ohio:									
Cincinnati	2	1	0	0	0	0	0	0	0
Cleveland	1	0	0	0	0	0	0	0	0
Indiana:									
Indianapolis	1	0	0	0	0	0	0	0	0

City reports for week ended July 13, 1929—Continued

Division, State, and city	Meningococcus meningitis		Lethargic encephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, estimated expectancy	Cases	Deaths
EAST NORTH CENTRAL—contd.									
Illinois:									
Chicago	8	4	1	0	0	0	2	0	0
Michigan:									
Detroit	13	6	1	0	0	0	1	1	1
Flint	2	0	0	0	0	0	0	0	0
Wisconsin:									
Milwaukee	1	0	0	0	0	0	0	0	0
WEST NORTH CENTRAL									
Minnesota:									
Duluth	2	1	0	0	0	0	0	0	0
Missouri:									
Kansas City	2	0	1	1	0	0	0	0	0
St. Louis	2	0	0	0	0	0	0	0	0
SOUTH ATLANTIC									
Maryland:									
Baltimore	0	0	0	1	3	1	1	0	0
District of Columbia:									
Washington	1	1	0	0	0	0	0	0	0
Virginia:									
Richmond	0	0	0	0	0	0	0	1	0
Roanoke	0	0	0	0	0	0	0	1	0
North Carolina:									
Raleigh	0	0	0	0	0	1	0	0	0
Wilmington	0	0	0	0	1	0	0	0	0
Winston-Salem	0	0	0	0	0	0	0	1	0
South Carolina:									
Charleston	0	0	0	0	1	0	0	0	0
Columbia	0	0	0	0	0	1	0	0	0
Georgia:									
Atlanta	3	0	0	0	3	0	0	0	0
Savannah	0	0	0	0	5	3	0	0	0
Florida:									
Miami	1	0	0	0	0	0	0	0	0
Tampa [1]	1	0	0	0	0	0	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis	1	0	0	0	0	0	0	0	0
Nashville	1	1	0	0	0	0	0	0	0
Alabama:									
Birmingham	0	0	0	0	0	1	0	0	0
Mobile [1]	0	0	0	0	0	1	0	1	0
Montgomery	0	0	0	0	1	0	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Little Rock	0	0	0	0	0	1	0	0	0
Louisiana:									
New Orleans	1	0	0	0	2	2	0	0	0
Shreveport	0	0	0	0	0	3	0	0	0
Oklahoma:									
Oklahoma City	0	0	0	1	1	1	0	0	0
Texas:									
Houston	0	0	0	0	0	1	0	0	0
San Antonio	0	0	0	0	0	1	0	0	0
MOUNTAIN									
Idaho:									
Boise	1	1	0	0	0	0	0	0	0
Colorado:									
Denver	0	1	0	0	0	0	0	0	0
Utah:									
Salt Lake City	5	3	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Spokane	1	0	0	0	0	0	0	0	0
California:									
Los Angeles	1	1	0	0	0	0	1	0	0
Sacramento	0	1	0	0	0	0	0	0	0
San Francisco	0	1	0	0	0	1	1	0	0

[1] Typhus fever: 2 cases; 1 case at Tampa, Fla., and 1 case at Mobile, Ala.

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended July 13, 1929, compared with those for a like period ended July 14, 1928. The population figures used in computing the rates are approximate estimates, authoritative figures for many of the cities not being available. The 98 cities reporting cases have estimated aggregate populations of more than 31,000,000. The 91 cities reporting deaths have nearly 30,000,000 estimated population. The number of cities included in each group and the estimated aggregate populations are shown in a separate table below.

Summary of weekly reports from cities, June 9 to July 13, 1929—Annual rates per 100,000 population, compared with rates for the corresponding period of 1928 [1]

DIPHTHERIA CASE RATES

	Week ended—									
	June 15, 1929	June 16, 1928	June 22, 1929	June 23, 1928	June 29, 1929	June 30, 1928	July 6, 1929	July 7, 1928	July 13, 1929	July 14, 1928
98 cities	107	146	112	119	110	115	90	88	[2] 89	85
New England	79	115	72	78	95	64	70	62	[3] 83	80
Middle Atlantic	131	242	125	185	144	187	101	148	99	116
East North Central	145	123	164	118	131	116	127	79	[4] 120	82
West North Central	65	68	87	63	85	53	77	29	69	53
South Atlantic	64	67	64	61	34	40	34	55	43	63
East South Central	41	28	34	14	34	7	27	21	41	7
West South Central	87	53	67	53	71	49	75	16	87	41
Mountain	35	44	26	35	26	35	26	27	[5] 28	71
Pacific	35	110	60	72	87	74	45	49	42	72

MEASLES CASE RATES

98 cities	484	866	424	663	268	500	196	327	[2] 151	267
New England	339	996	391	934	213	911	210	722	[3] 194	777
Middle Atlantic	143	1,403	123	1,106	99	655	76	456	51	350
East North Central	1,151	677	1,009	423	619	473	474	266	[4] 354	214
West North Central	581	534	504	342	256	383	113	172	104	117
South Atlantic	241	606	129	513	137	375	73	256	49	134
East South Central	41	442	41	512	7	175	27	56	14	224
West South Central	217	113	190	45	162	32	71	20	63	24
Mountain	261	682	218	337	148	399	148	354	[5] 92	239
Pacific	397	110	364	143	214	95	142	38	157	26

SCARLET FEVER CASE RATES

98 cities	189	167	149	144	113	104	88	74	[2] 83	52
New England	206	223	158	170	120	189	90	122	[3] 78	87
Middle Atlantic	129	162	100	146	72	100	46	59	41	37
East North Central	321	220	260	181	191	116	173	95	[4] 162	71
West North Central	110	155	77	139	104	113	38	90	79	35
South Atlantic	133	109	78	98	62	73	60	65	64	34
East South Central	75	77	88	49	34	21	54	35	48	49
West South Central	111	45	91	45	43	41	24	36	43	28
Mountain	70	71	96	27	70	71	44	27	[5] 9	62
Pacific	259	156	217	161	170	87	140	61	92	74

[1] The figures given in this table are rates per 100,000 population, annual basis, and not the number of cases reported. Populations used are estimated as of July 1, 1929 and 1928, respectively.
[2] Hartford, Conn., South Bend, Ind., and Great Falls, Mont., not included.
[3] Hartford, Conn., not included.
[4] South Bend, Ind., not included.
[5] Great Falls, Mont., not included.

Summary of weekly reports from cities, June 9 to July 13, 1929—Annual rates per 100,000 population, compared with rates for the corresponding period of 1928—Continued

SMALLPOX CASE RATES

	Week ended—									
	June 15, 1929	June 16, 1928	June 22, 1929	June 23, 1928	June 29, 1929	June 30, 1928	July 6, 1929	July 7, 1928	July 13, 1929	July 14, 1928
98 cities	16	10	9	7	15	10	15	6	[2] 9	7
New England	0	0	0	0	0	0	0	0	[3] 0	0
Middle Atlantic	0	0	0	0	0	0	0	0	0	0
East North Central	28	11	18	8	38	8	41	6	[4] 19	7
West North Central	12	23	6	23	19	31	13	16	15	12
South Atlantic	4	13	6	4	2	2	2	8	2	0
East South Central	54	56	0	28	7	14	20	7	7	7
West South Central	43	20	4	24	4	8	12	4	16	4
Mountain	44	44	61	9	113	142	35	44	[5] 37	89
Pacific	47	18	32	15	15	20	25	15	10	31

TYPHOID FEVER CASE RATES

98 cities	9	7	8	7	12	16	10	14	[2] 14	17
New England	11	2	5	9	9	23	5	9	[3] 5	14
Middle Atlantic	3	2	2	1	7	8	6	9	7	9
East North Central	4	3	4	2	3	6	4	4	[4] 7	11
West North Central	17	4	19	4	15	12	13	8	10	16
South Atlantic	11	17	13	13	30	34	32	21	7	33
East South Central	34	42	54	49	34	140	48	91	156	70
West South Central	20	36	36	28	36	41	8	65	87	65
Mountain	9	9	9	0	52	27	17	9	[5] 9	9
Pacific	20	20	5	15	20	8	7	26	2	23

INFLUENZA DEATH RATES

91 cities	6	12	6	6	5	7	2	9	[2] 3	6
New England	7	14	2	5	2	5	0	9	[3] 2	5
Middle Atlantic	4	11	3	9	4	6	3	10	2	3
East North Central	8	14	8	6	4	5	1	3	[4] 3	4
West North Central	9	6	6	0	0	12	0	12	0	6
South Atlantic	2	8	6	8	4	6	2	6	4	8
East South Central	7	31	15	0	15	54	15	31	7	8
West South Central	12	17	16	4	4	12	4	25	4	25
Mountain	0	9	0	0	44	18	0	18	[5] 28	18
Pacific	7	7	7	3	3	3	0	0	0	10

PNEUMONIA DEATH RATES

91 cities	86	115	82	87	64	77	63	73	[2] 55	61
New England	86	136	54	90	59	71	50	51	[3] 32	67
Middle Atlantic	98	132	89	110	65	89	67	89	62	72
East North Central	82	111	76	59	69	63	56	67	[4] 51	54
West North Central	54	129	48	64	48	70	63	55	51	40
South Atlantic	88	80	84	94	62	71	69	61	58	52
East South Central	104	115	118	46	74	123	74	69	30	54
West South Central	65	75	85	87	69	71	114	58	85	71
Mountain	113	53	78	115	104	71	61	53	[5] 46	62
Pacific	62	88	108	84	39	81	33	78	56	54

[2] Hartford, Conn., South Bend, Ind., and Great Falls, Mont., not included.
[3] Hartford, Conn., not included.
[4] South Bend, Ind., not included.
[5] Great Falls, Mont., not included.

Number of cities included in summary of weekly reports and aggregate population of cities of each group, approximated as of July 1, 1929 and 1928, respectively

Group of cities	Number of cities reporting cases	Number of cities reporting deaths	Aggregate population of cities reporting cases		Aggregate population of cities reporting deaths	
			1929	1928	1929	1928
Total	98	91	31,568,400	31,052,700	29,995,100	29,498,600
New England	12	12	2,305,100	2,273,900	2,305,100	2,273,900
Middle Atlantic	10	10	10,809,700	10,702,200	10,809,700	10,702,200
East North Central	16	16	8,181,900	8,001,300	8,181,900	8,001,300
West North Central	12	9	2,712,100	2,673,300	1,736,900	1,708,100
South Atlantic	19	19	2,783,200	2,732,900	2,783,200	2,732,900
East South Central	6	5	767,900	745,500	704,200	682,400
West South Central	8	7	1,319,100	1,289,900	1,285,000	1,256,400
Mountain	9	9	598,800	590,200	598,800	590,200
Pacific	6	4	2,090,600	2,043,500	1,590,300	1,551,200

FOREIGN AND INSULAR

BRAZIL

Quarantine against Brazilian ports removed—Yellow fever.—On July 21, 1929, the Argentine Government removed all yellow-fever quarantine measures against vessels which have called at Brazilian ports.

CANADA

Provinces—Communicable diseases—Week ended July 6, 1929.—The Department of Pensions and National Health reports cases of certain communicable diseases from seven provinces of Canada for the week ended July 6, 1929, as follows:

Disease	Nova Scotia	New Brunswick	Quebec	Ontario	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal fever	4					2		6
Influenza			1					1
Poliomyelitis						1		1
Tmallpox			2	25			4	31
Syphoid fever		5	6	7	1	2	7	28

Quebec Province—Communicable diseases—Week ended July 13, 1929.—The Bureau of Health of the Province of Quebec reports cases of certain communicable diseases for the week ended July 13, 1929, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	2	Mumps	3
Chicken pox	5	Scarlet fever	77
Diphtheria	40	Tuberculosis	67
German measles	1	Typhoid fever	11
Measles	40	Whooping cough	13

CHINA

Meningitis.—During the week ended July 13, 1929, 6 cases of meningitis with 6 deaths, were reported at Canton, China; 1 case with 1 death at Hong Kong; and 3 cases, with 5 deaths, at Shanghai.

DENMARK

Communicable diseases—February, 1929.—During the month of February, 1929, communicable diseases were reported in Denmark as follows.

February, 1929

Disease	Cases	Disease	Cases
Bronchopneumonia	3,251	Paratyphoid fever	3
Cerebrospinal meningitis	11	Pneumonia	445
Chicken pox	24	Poliomyelitis	3
Diphtheria	320	Puerperal fever	23
Erysipelas	235	Recurrent fever	1
German measles	5	Scabies	889
Influenza	57,447	Scarlet fever	140
Jaundice	108	Tuberculosis	226
Lethargic encephalitis	13	Undulant fever [1]	26
Measles	389	Whooping cough	1,104
Mumps	1,956		

[1] Reported from the State Serum Institute.

Population, 3,537,805.

GERMANY

Leipzig—Vital statistics—January, February, and March, 1929.—The following statistics for the months of January, February, and March, 1929, are taken from the monthly statistical reports of the city of Leipzig:

	January	February	March		January	February	March
Births	875	783	899	Deaths from—Continued:			
Deaths	1,126	921	909	Puerperal fever	4	7	7
Deaths under 1 year	117	98	99	Scarlet fever	2	2	1
Deaths from—				Tuberculosis (pulmonary)	71	72	69
Diabetes	12	14	18	Tuberculosis (other forms)	10	13	8
Diphtheria	5	1	1	Venereal diseases	1	5	4
Erysipelas	6	10	4	Whooping cough	10	4	1
Influenza	118	56	20				
Pneumonia	149	85	82				

VIRGIN ISLANDS

Communicable diseases—June, 1929.—During the month of June, 1929, cases of certain communicable diseases were reported in the islands of St. Thomas and St. John, Virgin Islands, as follows:

	Cases		Cases
Dengue	1	Syphilis	7
Gonorrhea	4	Tuberculosis	1
Leprosy	1	Whooping cough	1
Sprue	1		

YUGOSLAVIA

Communicable diseases—June, 1929.—During the month of June, 1929, certain communicable diseases were reported in Yugoslavia, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax	64	6	Scarlet fever	949	128
Cerebrospinal meningitis	17	5	Tetanus	36	17
Diphtheria	180	27	Typhoid fever	160	19
Dysentery	34	2	Typhus fever	12	1
Measles	971	12			

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

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

CHOLERA

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

Place		Dec. 16, 1928–Jan. 12, 1929	Jan. 13–Feb. 9, 1929	Feb. 10–Mar. 9, 1929	Mar. 10–Apr. 6, 1929	Apr. 7–May 4, 1929	Week ended— May, 1929			June, 1929					July, 1929	
							11	18	25	1	8	15	22	29	6	13
Ceylon	C	7		4			2	1								
	D	4		4			2	1								
Colombo	C	3	2			1				3						
	D	1					1			2						
China:																
Amoy	C												3			
Canton	C	3			3	3	1			1	1		5	4	3	1
	D	1				3	1						3	2	3	
Swatow	C												P			
	D												4			
India	C	17,038	12,566	7,627	9,046	18,521	6,979	7,973	7,379	8,285						
	D	10,507	7,912	4,425	4,997	11,069	4,469	4,996	4,935	5,911						
Bassein	D		6	6	45	118	23	13	1	1	1	1				
Bombay	C		1		6	3					1	1				
	D			1	2		1	1				1				
Calcutta	C	103	129	261	552	788	274	245	244	161	98	83				
	D	61	85	144	307	461	175	156	171	103	65	53	7	51	41	
Madras	C	16	4	9			1									
	D	17	5	4												
Moulmein	D			1	7	6		6	11	14	5					
Negapatam	C	6	18	3												
Rangoon	C	6	15	13	15	8	4	4								
	D	5	9	6	37	10	2	3	1	1	2	2	3	1		
Tuticorin	C	115	85	6								15		4	4	
	D	61	52	4								12	10	8		
India (French):																
Chandernagor	C	4			3	3	1		1	1	1	1		1		
	D	4			3	1	1		1	1	1	1		1		
Karikal	C	54	150	88	20	3										
	D	41	128	71	15	3										
Pondicherry Province	C	92	129	86	46			1	1	1	1	1		1		
	D	55	104	74	38			1	1	1	1	1		1		

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

CHOLERA—Continued

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

Place		Dec. 16, 1928–Jan. 12, 1929	Jan. 13–Feb. 9, 1929	Feb. 10–Mar. 9, 1929	Mar. 10–Apr. 6, 1929	Apr. 7–May 4, 1929	Week ended— May, 1929			June, 1929					July, 1929	
							11	18	25	1	8	15	22	29	6	13
Indo-China (see also table below):																
Pnompenh	C	6	2	42	13	15	5	3	-------	6	2	2	2	5	2	------
	D	1	1	36	10	9	5	1	-------	4	1	1	-------	2	1	------
Saigon	C	6	6	-------	12	13	17	15	20	19	43	73	55	17	9	------
	D	4	3	-------	2	8	15	9	9	4	29	53	49	8	8	------
Siam	C	224	195	165	397	619	310	196	-------	113	121	67	122	159	214	------
	D	150	138	117	269	404	193	136	-------	107	78	53	59	95	112	------
Anthoang	C	4	1	3	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
	D	1	1	2	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
Ayudhaya	C	16	4	4	1	29	2	-------	-------	-------	14	-------	11	-------	-------	------
	D	14	4	4	1	19	-------	-------	-------	-------	8	-------	3	-------	-------	------
Bangkok	C	22	50	61	38	111	66	36	20	9	7	8	9	6	-------	------
	D	6	43	36	21	74	34	22	17	4	2	4	5	2	-------	------
Chaxoengsao	C	-------	9	1	-------	-------	-------	1	-------	-------	-------	-------	-------	-------	-------	------
	D	-------	9	1	-------	-------	-------	1	-------	-------	-------	-------	-------	-------	-------	------
Dhannapuri	C	16	3	3	-------	17	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
	D	10	2	1	-------	7	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
Lobpuri	C	74	-------	3	-------	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
	D	61	-------	1	-------	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
Nagara Pathom	C	-------	-------	2	-------	36	-------	13	-------	-------	-------	-------	-------	-------	-------	------
	D	-------	-------	2	-------	20	-------	10	-------	-------	-------	-------	-------	-------	-------	------
Nondpuri	C	4	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
	D	2	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
Pradhumdham	C	-------	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
	D	-------	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
Singhapuri	C	17	6	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
	D	12	7	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
Smud Prakar	C	30	10	1	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
	D	10	8	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
On vessel:																
S. S. Angby, at Saigon-Cholon	C	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	1	-------	-------	-------	------
	D	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	1	-------	-------	-------	------
S. S. Cap. St. Jacques, at Singapore from Saigon-Cholon	C	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	P	------
S. S. Ekma, at Penang from Singapore	C	-------	-------	P	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
S. S. Elephanta, at Penang from Calcutta	C	-------	-------	-------	P	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	------
S. S. Erinpura, at Madras	C	-------	-------	-------	-------	-------	-------	-------	2	-------	-------	-------	-------	-------	-------	------

S. S. Media, at Colombo from Calcutta	C							1									
S. S. Saka Maru, at Calcutta	C							6									
S. S. Tilawa, at Penang from Singapore	C				P												
S. S. Tokushima, at Hong Kong	C												2				
	D												2				

Place		December, 1928	January, 1929	February, 1929			March, 1929			April, 1929			May, 1929	
				1-10	11-20	21-28	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20
Indo-China (French) (see also table above):														
Annam	C							3	3		13	7	15	5
Cambodia	C	25	79	29	40			26	8		40	44	27	188
Cochin-China	C	697	660	107	115			13	170		51	37	81	42
Tonkin	C												3	2

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

PLAGUE

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

Place		Jan. 13–Feb. 9, 1929	Feb. 10–Mar. 9, 1929	Mar. 10–Apr. 6, 1929	Apr. 7–May 4, 1929	Week ended— May, 1929			June, 1929					July, 1929		
						11	18	25	1	8	15	22	29	6	13	20
Argentina:																
Buenos Aires	C			2	1											
	D			2												
Jujuy Province—Perico	C	3														
Rosario	C	1		31	5											
Azores: St. Michaels Island	C	1		1												
Belgian Congo: Djugu	C	1	4			2						3				
	D	1	1			3						3				
Brazil:																
Para	C	1														
Porto Alegre	C				1											
British East Africa (see also table below):																
Uganda	C	152	112	130	231	87	86	117	160							
	D	149	108	124	219	81	86	100	142							
Canary Islands: Laguna	C	1							1							
Ceylon: Colombo	C	6	4	4	5	2	1	1	3			1	1			
	D	5	3	1	4	2	1	1	2		1	1	1			
Plague-infected rats		2	2		1									1		
China:																
Hainan	C	P	1													
Suyuan Province	C	P	1													
Dutch East Indies:																
Celebes—Makassar—Plague-infected rats		1														
Java—																
Batavia and West Java	C	74	70	64	63		16	20	22							
	D	73	69	65	63		16	19	21							
Plague-infected rats			4	5	8											
East Java and Madura	C			3												
	D			3												
Surabaya	C	6														
	D	6														
Kediri Residency	C	P														
Ecuador (see table below).																

Egypt:																
Alexandria	C	3				1							1	2		3
	D	1									1			1		
Asuan	C														1	
	D														1	
Beni Suef	C	3	4	2	7					3			3	1	1	1
	D	3	1	2	2					1			1			
Daqahliya	C						3	4	2	1						
	D								1							
Gharbia	C													1	5	1
	D														1	
Girga	C													2	1	
Kena	C													1		
	D													1		
Miniah	C															4
Port Said	C				2	1		1	1		1	1		1	1	
	D				1	1		1		1				1		
Suez	C		1	2												
Greece (see table below).																
Hawaii: Hamakua—Kukuihaele—Plague-infected rats											1					
India	C	12,600	16,570	16,011	6,884	620	378	203	193							
	D	9,815	12,064	12,592	5,623	522	344	155	184							
Bassein	C	4	3	6	3		2					1	3	1		
Bombay	C	2	4	8	8		1									
	D	4	4	6	6			1			1	3				
Plague-infected rats		38	38	57	81		23	9	12	10	9	7	9	6		
Madras Presidency	C	434	333	132	38	4	21	19	20							
	D	235	189	80	14		8	25	7							
Rangoon	C	4	4	12	11	1	1									
	D	5	4	9	15	1	2		2	1	3	2	3	3		
Plague-infected rats		5	11	15	10		2	2	1	1		3	2	4		
Indo-China (see also table below):																
Pnompenh	C	10	5	10	8	1	4			1	1		2	5		
	D	9	3	10	8	1	2			1	1		1	5		
Saigon	C		1									1		5		
Tourane	C		5											3		
Iraq:																
Baghdad	C	6	10	11	8	5	4	1	4	2	1	7	2		1	
	D	3	3	3	7	2	3					2				
Plague-infected rats		6	22	14	2		1									
Diyalah Liwa	C				7				12	P	1			1		
	D				7				7							
Naudham	C	2								1					1	
	D	1														
Plague-infected rats		1														
Japan: Osaka—Plague-infected rats							2									
Madagascar (see also table below):																
Tamatave	C	1							P	]	1					
	D		2	1	1						1	1		2	2	
Plague-infected rats											2	2				

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

PLAGUE—Continued

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

Place		Jan. 13–Feb. 9, 1929	Feb. 10–Mar. 9, 1929	Mar. 10–Apr. 6, 1929	Apr. 7–May 4, 1929	Week ended— May, 1929			June, 1929					July, 1929		
						11	18	25	1	8	15	22	29	6	13	20
Morocco	C			106	31	4	6	29	3	4		5	7	3		P
	D			73	16	1	3			4		1				
Nigeria: Lagos	C	14	11	4	8	1	2	1	1							
	D	12	11	4	8	1	2		1							
Plague-infected rats		48	50	18	6		3	1	4							
Peru (see table below).																
Senegal (see table below).																
Siam	C	45	9	9	10	4	1		4	1						
	D	17	9	8	8	3			2	1						
Bangkok	C	1	1			1	1									
	D	2	1			1										
Nagara Pathom	C		3	4	2	3										
	D		2	4	2	2										
Straits Settlements: Singapore	C		1		1											
	D		1		1											
Turkey: Constantinople	C											P				
Union of Socialist Soviet Republics:																
Caucasia	C												1			
	D												1			
Ural–Kirghiz	C									P	2					
	D										2					
Union of South Africa:																
Cape Province	C			1	2											
	D			1	1											
Orange Free State	C	6	2	3	4											
	D	1		2	1											
Transvaal	C			8												
	D			8												
Uruguay:																
Montevideo	C			4												

On vessel:																		
S. S. Chenonceaux, at Singapore, from Colombo	C				1													
	D				1													
S. S. Ganzanmaru, at Osaka, from Haipong	C						1											
S. S. Seigo Maru, at Osaka, from Bombay—Plague-infected rats							1											
S. S. Soudades, at Hamburg from Rosario, Argentina—Plague-infected rats					2													
S. S. Sjomand, at Alexandria, from Batoum	C	1																
S. S. Sumatra, at Osaka, from Bombay	C				1	1												

Place		January, 1929	February, 1929	March, 1929	April, 1929	May, 1929	June, 1929
British East Africa (see also table above):							
Kenya	C	7	4	10	4	22	20
Uganda	C			121			
	D			113			
Ecuador: Guayaquil	C	25	54	26	19	2	
	D	12	22	4	5	1	
Plague-infected rats		29	27	14	13	3	1
Greece	C	3	1		1		
	D	1					
Indo-China (see also table above)	C	11		3	13		
Madagascar (see also table above)	C	233	348	196			
	D	224	335	194			
Ambositra Province	C	160	164	90			
	D	159	164	90			
Antisirabe Province	C	15	21	13			
	D	15	21	13			
Itasy Province	C	3	10	8			
	D	3	10	7			

Place		January, 1929	February, 1929	March, 1929	April, 1929	May, 1929	June, 1929
Madagascar (see also table above).—Con.							
Moramanga Province	C	22	7	5			
	D	21	4	5			
Tamatave	C	4					
	D	4					
Tananarive Province	C	208	146	120			
	D	192	136	119			
Peru	C	37	16	35			
	D	9	13	13			
Senegal:							
Baol [1]	C			6	1	21	32
	D			3	1	6	17
Dakar [1]	C				6	17	33
	D				4	11	23
Thies [1]	C		8	4	20	6	10
	D		7	3	20	3	6
Tivaouane [1]	C		12			22	93
	D		2			10	50

[1] Incomplete reports.

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

SMALLPOX

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

Place		Jan. 13–Feb. 9, 1929	Feb. 10–Mar. 9, 1929	Mar. 10–Apr. 6, 1929	Apr. 7–May 4, 1929	Week ended— May, 1929			June, 1929					July, 1929		
						11	18	25	1	8	15	22	29	6	13	20
Algeria:																
Algiers	C			3	5	4			1	1	2	2				
Cherchell	C		21	42	1							1				
Oran	C		1	1	2		5			1						
Arabia: Aden	C	2		30	69	3	10	20	7	20	25	10	55	18		
	D			8	20	3	1	9	7	2	6	6	6	18		
Bermuda: Hamilton	C									1						
Brazil: Rio de Janeiro	C						1		2							
British East Africa (see also table below):																
Tanganyika	C	13	3		3	3	1									
British South Africa: Southern Rhodesia	C	1	17	69	13		12									
Canada:																
Alberta	C	3	5	7	8					8	3	1				
Calgary	C		1		2											
Edmonton	C	2	2	12	5						3	1				
British Columbia—Vancouver	C	66	70	64	46	3	6	7	2	1	2	4	6	4		
Manitoba	C	21	15	3	2		2		4	6						
Winnipeg and vicinity	C										2					
New Brunswick	C			3												
Nova Scotia	C	2			1											
Ontario	C	83	83	57	113		30	7	3	15	39	21	9	25		
Niagara Falls	C			1					3							
North Bay	C		4		3	1		7			2			2	2	2
Ottawa	C		1									1				
Toronto	C	1		2	1						1	4	2	5		
Windsor	C				3	3				1		1	3	1		
Prince Edward Island	C	2	2													
Quebec	C	24	28	14	34	3	3	3	3	5	3	2	1	2		
Montreal	C	10	16	4	4			1				1				
Quebec	C	8		3	1		1			2						
Riviere du Loup	C				1											
Saskatchewan	C	85	70	13	13		7		7							
Moose Jaw	C			1												
Regina	C	6														
Saskatoon	C	4		1												

China:																
Amoy	C	P	5	3	4	1	1									
Canton	C	87	86	135	85	25		13	8	5	2	6	3	5		
	D	2	15	15	12	2		1	1	1				1		
Chefoo	C				P		P									
Foochow	C	P	P	P	P											
Hong Kong	C	307	189	92	53	8	10	5	6	2	2	4	2			
	D	286	246	137	97	6	8	4	7	2	2	1	1	3		
Manchuria—																
Changshun	C	3	2		1											
Fushun	C	5														
Harbin	C	5		1	4											
Kwantung—																
Dairen	C	2	9	1	11	8	4	4	5	2		4				
	D	2	3		4		1	3	4	2		1				
Port Arthur	C							3								
Mukden	C	3		1												
	D	1														
Shanghai—																
Foreigners only	C	23	11	4	1	2	2		2		2		5	1	1	P
Including natives	D	60	41	25	16	8	6	2		1		2	2			
Swatow	D		9	33	93	23	14	13	12	9	9					
Tientsin	C	3	2	8	6	8	4									
Tsingtao	C		P	P	P	P	P	P	P		P	P				
Yunnanfu	C			P	P											
Colombia: Cartagena	D		7													
Curacao (alastrim)	C				1											
Dominican Republic	C	1														
Dutch East Indies:																
Balikpapan	C		1	5	3		1	2	1		1					
Belawan Deli	C	26	9	7	4								1			
	D	6	6	2												
Borneo	C	30	26													
Samarinda	C	4	47	2	1								3	9		
	D		4	3									1			
Celebes—Makassar	C			6	39	16	11	9	7	5	4	5	6	6		
	D			2	25	9	10	8	6	4	2	4	5	3		
Java—Batavia and West Java	C								1							
Sumatra—																
Baros	C	106	36	16												
	D	26	5	2												
Medan	C	11	9	7	2	1										
	D	5	6	3		1										
Palembang	C		9													
	D		2													
Ecuador (see table below).																
Egypt:																
Gharbieh	C		1													
Port Said	C	1			1							1				
Suez	C				5											
France (see table below).																

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

SMALLPOX—Continued

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

Place		Jan. 13–Feb. 9, 1929	Feb. 10–Mar. 9, 1929	Mar. 10–Apr. 6, 1929	Apr. 7–May 4, 1929	Week ended— May, 1929			June, 1929					July, 1929		
						11	18	25	1	8	15	22	29	6	13	20
Great Britain:																
England and Wales	C	890	1,083	1,156	1,423	277	362	298	242	272	191	166	160	153	.....	.....
Birmingham	C	.....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Bradford	C	1	2	3	1	.....	2	2	.....	2	2	.....	.....	.....	.....	.....
Bristol	C	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cardiff	C	4	.....	1	1	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....
Castleford	C	48	85	56	31	.....	5	5	2	2	.....	.....	1	.....	.....	.....
Hull	C	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leeds	C	3	6	8	3	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Liverpool	C	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
London	C	40	54	58	201	50	52	53	38	69	41	40	17	43	.....	.....
London and Great Towns	C	433	425	598	888	159	198	171	128	166	120	113	.....	.....	.....	.....
	D	.....	.....	3	6	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....
Newcastle-on-Tyne	C	6	6	16	3	1	10	14	12	.....	11	.....	9	9	.....	.....
Nottingham	C	1	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stoke-on-Trent	C	14	18	72	133	12	41	18	15	24	9	13	16	5	.....	.....
Scotland—																
Aberdeen	C	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glasgow	C	.....	.....	1	19	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Greece (see table below).																
Hedjaz	C	153	108	84	77	23	.....	7	10	23	19	22	19	27	.....	.....
	D	56	40	52	52	13	.....	4	7	11	12	16	14	21	.....	.....
Honduras: Puerto Castilla	C	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
India	C	12,531	14,890	19,120	22,556	5,105	4,653	3,809	3,444	.....	.....	.....	.....	.....	.....	.....
	D	3,045	3,285	3,983	5,060	1,354	1,173	838	820	.....	.....	.....	.....	.....	.....	.....
Bombay	C	158	397	441	315	54	70	34	50	38	42	36	31	28	.....	.....
	D	78	188	206	175	30	46	22	33	22	27	27	23	13	.....	.....
Calcutta	C	32	104	127	101	5	16	5	13	7	4	8	8	6	.....	.....
	D	16	29	77	74	5	16	5	10	7	4	7	6	4	.....	.....
Karachi	C	5	147	206	144	23	22	17	22	8	13	10	4	6	.....	.....
	D	223	14	70	59	15	11	12	21	6	8	7	4	6	.....	.....
Madras	C	35	260	392	327	60	58	37	24	21	17	28	22	25	.....	.....
	D	6	61	83	84	14	23	11	13	2	6	8	4	6	.....	.....
Moulmein	C	2	14	18	7	.....	3	2	3	3	.....	.....	3	1	.....	.....
	D	.....	4	4	6	.....	2	2	2	2	.....	.....	3	1	.....	.....

Negapatam	C	26	5	9	7		1		1		2	1	3	1		
	D	6	4	1												
Rangoon	C	8	17	13	7	1								1		
	D	1	6	6	3		1							1		
Tuticorin	C	2	1		1						1					
Vizagapatam	C	8	52	26	28		1	1				2	2	2		
	D		9	5	8							1	1			
India (French):																
Karikal	C			2	2	2		1			1	3			1	
	D			2	2	2		1			1	3				
Pondicherry Province	C	59	79	70	60	15	8	6	8	4		7				
	D	51	61	60	51	13	6	4	7	3		7				
India (Portuguese)	C								3	8						
Indo-China (see also table below):																
Pnompenh	C	77	62	68	40	6	8	7	1	1	3	2	2	5		
	D	42	36	33	24	4	4	4		1	1			1		
Saigon	C	5	2	2	2		1									
	D	1					1							1		
Iraq:																
Baghdad	C	17	7	6	6			1	2		1					
	D	3	5	1												
Basra	C	18	7	9	8	2	1	3	2	8		1				
	D	10	5	2	6	1		4	3	1						
Diyalah Liwa	C					48								8		
	D					13								2		
Hillah Liwa	C	20														
	D	9														
Kirkuk Liwa	C		18													
	D		4													
Mossoul	C	30	28								12	6	2	12		
	D	17	4													
Sinjar	C	61														
	D	15														
Italy:																
Rome and vicinity	C	2														
Turin	C		1													
Ivory Coast (see table below).																
Jamaica (outside Kingston) (alastrim)	C				1	1									7	
Japan:																
Kobe	C		1													
Nagasaki	C	3														
	D	2														
Niigata	C						12				2					
Osaka	C		1				1									
Shimane Province	C			16	3											
Tokyo	C					1		1			1					
Macao	D	24	75	32	20	2	2		1			2				
Mexico:																
Acapulco	C				1		1									
	D				1		1									
Aguascalientes	D	3	3	5	9		2	1	3	5	4	3	5	3	5	
Chiapas Province	C			P												

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

SMALLPOX—Continued

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

Place		Jan. 13–Feb. 9, 1929	Feb. 10–Mar. 9, 1929	Mar. 10–Apr. 6, 1929	Apr. 7–May 4, 1929	Week ended— May, 1929			June, 1929					July, 1929		
						11	18	25	1	8	15	22	29	6	13	20
Mexico—Continued.																
Chihuahua	D	1														
Coahuila	D											1				
Jalisco (State): Guadalajara	D	8	8	13	12	3	3	3	6	3	3	1	4	5		
Juarez	D	1	1	3												
Mexico City and surrounding territory	C	2	2	1					1	3	1	2	3			
Oaxaca—Zacatepec	C				P						1	1	6			
Palomas	C		1													
Tampico	C		1	2												
Vera Cruz	D			2												
Morocco (see table below).																
Nicaragua: Managua	C				P											
Nigeria:																
Lagos	C			1	1	2										
Southern Provinces	C	162														
	D	31														
Norway: Stavanger	C				2											
Palestine	C								1					7		
Panama Canal Zone	C			P												
Poland	C	41			6		1		1							
	D	3														
Portugal:																
Lisbon	C	4		3	4				1	1	2	2	1	3		
Oporto	C			1	2							1	1			
Senegal (see table below).																
Siam	C	2	4		55	10	7	10	5	21						
	D				8	5	2	2		5						
Somaliland, British: Boales	C										5		6			
	D												4			
Somaliland, French: Jibuti	C							1	2	2	5	3	6		7	
	D								1	2	2		4		1	
Spain: Valencia	C		2	5									1			
Straits Settlements: Singapore	C	5	3	1							1					
Sudan (Anglo-Egyptian)	C	265	188	215	377	162	263	309	835	228	243	113	568	322	25	724
	D	34	54	29	26	5	48	28	51	40	60	47	48	28	9	115

Sudan (French) (see table below).																	
Syria (see table below).																	
Tunisia: Tunis	C			5		2						1		1			
Union of Socialist Soviet Republics: Vladivostok	C									2							
Union of South Africa:																	
Cape Province	C					P	P	P	P								
Transvaal	C				P	P	P	P									
Upper Volta	C		3	4	4	15	2				2		5	3			
On vessel:																	
S. S. Aorangi, at Sydney	C													1			
S. S. Assyria, at Suez, from Bombay	C							1									
S. S. City of Venice, at Suez, from Calcutta	C								1								
S. S. Fern, at Port Said, from Abadan	C									P							
S. S. British Birch, at Suez, from Abadan	C													1			
S. S. Kenèh, at Suakim, from Jeddah	C												4				
S. S. Le Panto, at Suez, Egypt	C						4										
S. S. Lopez-Lopez, at Suez	C					1											
S. S. Malwa, at Suez	C					1											
S. S. Mancar, at Suez, from Calcutta	C					1											
Tantalus (motor ship), at Amsterdam	C				3												
S. S. Tuscania, at Glasgow, from Bombay	C					P											

Place		January, 1929	February, 1929			March, 1929			April, 1929			May, 1929			June, 1929		
			1-10	11-20	21-28	1-10	11-20	21-31	1-10	11-20	21-30	1-10	11-20	21-31	1-10	11-20	21-30
Indo-China (see also table above)	C	311	128	236			200	361	500	100	155	343	67				
Ivory Coast	C							4									
Senegal	C		80			17	8	45	50	7			1				
	D		8			1	3	7	15								
Sudan (French)	C						26		10	9	64	2					57
	D						3										15
Syria: Beirut	C	1	21	24	3		10	2	2	16		4		8	18	12	2

Place		January, 1929	February, 1929	March, 1929	April, 1929	May, 1929	June, 1929
Angola	C	1					
British East Africa (see also table above):							
Kenya	C			23	91		
Chosen: Chinampo	C		1				
Ecuador: Guayaquil	C	12	4	2	2	1	
	D	1	1				
France	C	9	3	5			

Place		January, 1929	February, 1929	March, 1929	April, 1929	May, 1929	June, 1929
Greece	C	8	5	2	4	5	
	D	1	1				
Morocco	C	7	11	8	12	39	
Persia	D	68	23	8			
Turkey	C	16	7		1		1
	D	6					

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

TYPHUS FEVER

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

Place		Jan. 13–Feb. 9, 1929	Feb. 10–Mar. 9, 1929	Mar. 10–Apr. 6, 1929	Week ended— April, 1929			May, 1929				June, 1929					July, 1929		
					13	20	27	4	11	18	25	1	8	15	22	29	6	13	20
Algeria:																			
Algiers	C			6	4	2	3	2	1				1						
Constantine Department	C	2	13	3								2	1	3	7				
Oran	C	5	2			2	1	5		12		2	1		4				
Bulgaria	C	7	39	40	5	16	7		10	7		4	1	2	1				
	D		2	5	1	1			1						1				
Sofia	C	1																	
Chile: Concepcion	C			2						1									
China:																			
Canton	C	2																	
	D	2																	
Hong Kong	C	1																	
Manchuria—																			
Harbin	C			1															
Chosen (see table below).																			
Czechoslovakia (see table below).																			
Egypt:																			
Alexandria	C			1			1												
	D			1					1										
Assouan Province	C		2																
	D		2																
Beheira Province	C		13	67	50				23	84	52		13				5		
	D			9	9					18	6		6				2		
Cairo	C											2					1		
Daqahliya Province	C			34															
	D																		
Gharbieh	C	1	2																
	D		1																
Menoufieh Province	C					35													
Port Said	C									1	1		1			1	3	1	
Greece (see table below).																			
Hungary	C											1							

Ireland (Irish Free State):																			
Cavan County—Carrickmacross	C								1										
Cork County	C		1																
Donegal County—																			
Inishower	C						1												
Stranorlar	C													1					
Dublin	C	1																	
	D	1																	
Kerry County—																			
Dingle	C			2			1	1											
Killarney	C		1		2														
Tyrone County, Strabane.[1]																			
Lithuania (see table below).																			
Mexico (see also table below):																			
Aguascalientes	D			5													1		
Chihuahua	D																		
Mexico City, including municipalities in Federal District	C	11	7	4	3		1		5	3	6	2	4	2					
	D	3	2		1				1	1		1							
San Luis Potosi	D																		
Morocco	C	20	17	19		8	8	12		1		4		2	5	5			
	D							4											
Norway: Oslo	C								2										
Palestine	C	3		2	1					2				2		1	1	1	
Poland	C	222	202	295	67	79	88	80	85	80	56	43	78	35	31				
	D	15	18	20	2	3	7	13	7	8	3	1	2		2				
Portugal:																			
Lisbon	C														1				
Oporto	C															1			
Rumania	C	173	211	220		27	52	56	55	62	62			36					
	D	23	28	30		3	2	11	10	9	12			3					
Tunisia	C	2	3	20	7	2	8	2	1	1	1	19	12	8	3				
Turkey (see table below).																			
Union of South Africa:																			
Cape Province	C	P	P	P	P	P	P	P	P	P	P		P						
Natal	C		2	P		P	P	P											
Orange Free State	C	P	P			P	P	P	P	P	P		P						
Transvaal	C	1		P	P	P				P	P		P						
Yugoslavia (see table below).																			

[1] During the period from Apr. 14 to May 21, 1929, 18 cases of typhus fever with 4 deaths were reported in Strabane, Tyrone County, Ireland.

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

TYPHUS FEVER—Continued

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

Place		January, 1929	February, 1929	March, 1929	April, 1929	May, 1929	June, 1929
Canada: Ontario	C	------	------	------	------	------	1
Chosen: Seoul	C	4	------	3	2	------	------
Czechoslovakia	C	6	7	41	25	18	------
	D	------	1	1	------	1	------
Greece: Athens	C	13	4	4	2	------	------
	D	5	------	------	------	------	------
Indo-China: Tonkin	C	------	------	------	2	------	------
Latvia	C	------	------	1	10	------	------
Lithuania	C	32	24	62	101	63	27
	D	3	3	1	7	5	4
Mexico (see also table above):							
Sonora	D	1	------	------	------	------	------
Turkey	C	1	3	11	3	7	------
	D	------	1	------	------	1	------
Yugoslavia	C	15	13	7	------	19	------
	D	------	2	------	------	1	------

YELLOW FEVER

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

Place		Jan. 13–Feb. 9, 1929	Feb. 10–Mar. 9, 1929	Mar. 10–Apr. 6, 1929	Week ended— April, 1929			May, 1929				June, 1929					July, 1929	
					13	20	27	4	11	18	25	1	8	15	22	29	6	13
Belgian Congo: Tumba	C						1											
Brazil:																		
Bahia	C			1													1	
	D			1													1	
Guaratingueta	C		[1]1															
	D		[1]1															
Para	D	1		5														
Pernambuco	C			4														
Porto Alegre	D								[1]1									
Rio de Janeiro [2]	C	16	92	252	57	51	39	33	24	22	17	7	5	2				1
	D	17	67	132	34	23	20	17	18	11	6	3	3		2			
Sao Paulo	C	1																
	D	1																
Colombia: Socorro [3]	C																	6
Liberia: Monrovia	C	3	7	10	2										P		4	
	D	2	4	4												1	1	
On vessel:																		
S. S. Skogland, at Porto Alegre, from Rio de Janeiro	C								1									

[1] Imported.
[2] 29 cases of yellow fever with 14 deaths were reported at Rio de Janeiro during January, 1929, mostly suburban.
[3] From June 19 to July 8, 1929, 41 cases of yellow fever with 23 deaths were reported in Socorro, Colombia.