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NOTES ON THE FUMIGATION OF VESSELS

PRELIMINARY INSPECTION, HOW RATS ESCAPE, INCREASED PERIODS OF EXPOSURE, AND OTHER MISCELLANEOUS NOTES¹

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It has been proved beyond the possibility of doubt that the mere release of a fumigant in an inclosed space does not insure penetration of the gas in lethal concentration into all retired locations and dead air spaces. Since these are the very places selected by rats as harborage, it follows that a fumigation conducted by mere release of the fumigant often fails to kill all of the rats. That this is true has been clearly demonstrated by an abundance of the most direct evidence—the appearance of live rats immediately following fumigations. In fact even when considerable pains have been taken to insure the penetration of the gas, the fumigation may fail (that is fall short of 100 per cent effectiveness), as the instances cited in another section will disclose.

Since the penetration of fumigant gases, in the short exposure periods used in ship fumigations, is probably dependent far more on internal air currents than on gaseous diffusion, it is apparent that to secure sufficient penetration, reasonably wide avenues for the air currents must be provided. There is only one way of doing this: Sufficiently large openings must be made into all inclosed spaces prior to fumigation.

Natural penetration, however, is not essential; instead, the gas may be injected directly into harborage. To do this, of course, it is first necessary to know where the harborage are located; and only preliminary inspection can disclose them.

SAVING OF EFFORT

The discovery of harborage is not the only function of preliminary inspection. Properly performed, this procedure provides the fumigating crew with specific information as to just where the rats are located, whether the infestation is general or local, and, if local, the

¹ This is the final paper of a series of articles dealing with the fumigation of vessels that have been published in Public Health Reports during the present year. These articles will be combined and issued as a single reprint.

location, extent, and character of the infested harborages. This knowledge saves labor, since it directs the application of intensive endeavor. A single illustration will make this clear. When a ship has a wood floor in the holds which is raised 2 inches above the steel tank tops, as is often the case, a fumigating crew has a choice of four procedures: It can raise boards in all holds and inject gas directly into each section between battens; it can satisfy itself by adequate inspection that rats are not utilizing the space under the floors and, hence, that direct fumigation or raising of the boards is not necessary; it can perform, without such preparation, a fumigation that may be quite ineffective; or it can remain in blissful ignorance. When rats infest space under such floors, only direct injection of the gas (or the removal of at least every third board) will certainly insure that the gas reaches them effectively.

The illustration is by no means extreme. A very large number of ships have such raised floors in the holds; and if the fumigators do not ascertain that the space beneath is rat-free, they must take adequate measures to insure effective gas penetration, or fail in their manifest duty. On the other hand, space below such floors is infested by rats in only about 5 per cent of all ships. In most cases, inspection will disclose these spaces to be free from rats; then they may be properly disregarded. A more familiar instance may be cited in regard to closed pipe casings. In a great many instances these may be determined at a glance to be uninhabited and, hence, the labor of opening is unnecessary.

In cold-storage spaces fumigation is a very uncertain process. Unguided by preliminary inspection of rat infestation, it is quite hopeless. One can not very well tear out all the insulation, and yet it is in this insulation that the rats are entrenched, and it is practically impervious to the gas. The only hope of complete success is to inject the gas directly into any existing rat burrows. To carry out such treatment the burrows must be located during preliminary inspection and prominently marked with chalk, since the fumigators, wearing gas masks which restrict the vision, can not take the time, while working the injection apparatus, to make a primary search for them.

INSPECTION PROCEDURE

By preliminary inspection of rat infestation it is not meant an inspection conducted some time in advance of fumigation, but one performed by the fumigators themselves as the first step of the fumigation. Only by observing conditions with their own eyes can the fumigators be perfectly aware of just what they are dealing with. However, it is not necessary that every member of the crew see all of a ship; in fact for inspection purposes each member may be assigned

a part of the vessel, reporting to the officer in charge, who should personally inspect any condition reported as unusual or difficult to treat. Small bits of preparatory work, such as opening one or two pipe casings, marking openings into insulation, etc., should generally be done while inspection is in progress; but for more extensive procedures, such as taking up boards from flooring, or opening numbers of pipe casings, it is better to call on the ship's crew. Since direct injection of gas involves changing the plan of fumigation, conditions necessitating such procedure should be reported to the officer in charge as soon as discovered.

Inspection consists primarily in searching for signs of rats, tracing these to the occupied harborage, and determining how they may best be treated. Details of inspection and details of fumigation treatment appear in other papers, already published or in process of publication.

HOW RATS ESCAPE FUMIGATION

Part of the experimental work conducted at the New York quarantine station consists of extensive opening and minute inspection of harborage following fumigation. This work has revealed in many specific instances the locations in which rats have managed to escape from the gas and pass through fumigation unscathed. Some of the specific instances will be cited, but it may first be stated that the highest degree of protection to rats is furnished by the insulation of cold storage spaces, into which rats burrow considerable distances. The burrows often terminate in dead ends, into which the gas seldom penetrates, and into many of which it has not as yet been successfully injected, even by use of compressed air. Next to insulation the best protection appears to be furnished by the space under raised wood floors in holds. Despite the fact that spaces beneath the floors in holds commonly open directly into the bilges, gas penetrates but poorly into them, this being true even when these spaces are relatively clear, though in greater degree when partly obstructed by dirt, collections of grain that have sifted through, and the like. Floors that are inclosed on the sides obviously are impenetrable to the gas unless boards are removed, or unless considerable cracks exist between planks.

Young rats exhibit a distinct tendency to burrow into the material of which nests are constructed and so may escape. Not infrequently new nests are built over old ones, so that there may be a considerable collection of litter under them. Sometimes nests are deeply placed in collections of boatswains' stores, particularly oakum or similar material.

The following are citations of instances of rats escaping fumigation:

S. S. "T".—A short pipe casing, covering a pipe leading from the top of a tank across the bottom of a hold, when pried up after fumigation, disclosed two live

rats at the closed end, shielded from gas by the body of a dead rat lying directly in the opening into the bilge.

S. S. "H."—An old passenger and cargo vessel had a large amount of all types of harborage occupied by a large and persistent rat colony. Following fumigation numerous live rats were discovered. In a locker full of boatswains' gear, five dead rats were found among the gear and one alive was found at the bottom. In a room nearby, also full of boatswains' gear, were six dead rats, but in a nest on the floor was one alive. A pipe casing, opened at the top before fumigation, was opened at the bottom after fumigation, disclosing a live rat. Investigation showed the casing nearly full of oakum through which rats had cut a single tortuous passage. Behind two large cargo gangplanks, lashed to the sides of the shelter deck, were three nests, all containing very young live rats. A long casing beside the keel was directly injected with liquid HCN at 10-foot intervals, but when opened later disclosed, besides a number of dead rats, four young ones alive in a nest hollowed out in the center of a mass of débris. A considerable collection of loose pig iron ballast under the shaft alley was directly fumigated with the air jet sprayer, but later, in its deeper recesses, were found two rats, unconscious but still breathing. This ship was fumigated with liquid HCN, the general fumigation being immediately preceded by direct injection of the fumigant into all deep harborage.

S. S. "P. H."—In a large pipe casing were found two dead adult and four dead young rats, the latter in a nest; but in the packed débris below the nest were four more very much alive young rats which had literally "dug themselves in."

S. S. "M."—Direct fumigation of a long telegraph casing killed several rats therein, but failed to kill one in a small branch that opened into the sick bay.

S. S. "S."—Eight rats were fumigated in a small locker about 2 by 2 by 8 feet, built on the open deck against a deck house, which probably would have been entirely overlooked had not a fumigator seen a rat run across the deck and into the locker.

S. S. "R."—A peculiarly placed chain locker, built at the forward end of the lower forehold and accessible only through a flush manhole, closed with a wooden cover matching the flooring in the deck of the forecastle, was entirely overlooked during loaded fumigation. Subsequent fumigation when the ship was empty killed nine rats (and probably others under the chains) in this location.

S. S. "T."—Infested space under the fresh-water tanks was opened on two sides, but found packed with débris and loose grain literally honeycombed with rat runs. Gas was injected into all openings with the Zyklon pump just prior to general fumigation, but despite such treatment two live rats emerged to confront the fumigators while they were searching for dead ones.

S. S. "T."—Into the insulation of the cold storage room in the poop was directly injected 8 ounces of liquid HCN through several rat holes, the air jet sprayer being used. General fumigation immediately followed. Trapping for several days thereafter killed eight rats in the vicinity of this storeroom and none in any other part of the ship.

S. S. "C. L."—A tremendous rat colony in the poop, with its main harborage in the insulation of an ice box and among the food stores for an Indian crew, was attacked by the crew with sticks. About 150 rats were killed. A large number of the remaining rats scattered over the after part of the ship. The fumigating crew at Baltimore found them in many unusual locations, including the hawsers on the deck. These hawsers were covered with tarpaulins and fumigated, but many of the rats ran out as soon as they sensed the gas, and were killed by an alert fumigating crew.

S. S. "B."—This is a remarkable instance. Rats harboring, unsuspected, in a 6-inch steel conduit for electric cables, had escaped some twenty odd fumigations performed at 3 to 4 month intervals, in sufficient numbers to supply from 20 to 40 rats to each fumigation. A very careful inspection finally located the gas-proof retreat, and in the following fumigation gas was directly injected into it from the engine room. A fumigation three months later yielded just one rat, and several subsequent fumigations, as well as several inspections have demonstrated the vessel to be quite rat-free.

S. S. "F."—Rats were harboring under the raised wooden floors, and so, prior to fumigation, two or more boards were removed in each hold. Following fumigation, 78 dead rats were picked up and 14 live ones were seen, of which 10 were then killed. All the live rats were under the floors. Much better results would have been secured had gas been directly injected under the floors with the air jet sprayer.

S. S. "T."—All the rats on this vessel were under the raised wooden floors in holds. Boards were raised in all holds and gas was directly injected beneath the floors. This, followed by general fumigation, resulted in the recovery of 127 rats. In No. 1 hold, however, a live rat was found in a closed end against a bulkhead, at the extreme end of a rat run established through a collection of dirt and débris.

S. S. "D."—Following a very careful and painstaking fumigation of a cold-storage compartment, including direct injection of gas into rat burrows, searchers discovered a live rat which promptly ran up a pipe and disappeared through a hole that had been entirely overlooked. At the foot of the same pipe was a rat burrow into the insulated floor from which, when gas was injected, six rats emerged.

A STUDY OF INCREASED EXPOSURE

During the calendar year 1929, fumigation exposure time for HCN on all ships fumigated at the New York quarantine station was experimentally lengthened to three hours instead of the usual two hours.

During the first six months of this trial year the number of rats per fumigation definitely increased. During the second six months the number decreased. In the six months following the trial year, when the usual 2-hour exposure was resumed, the decrease progressed.

To determine whether these were real or only coincidental results (that is, dependent on general shipping conditions), a group of ships for which relatively complete records were available were segregated and tabulated in relation to previous and subsequent records and in relation to the periods in which fumigated. These appear in Table 1.

It would appear from this table that the first one or two fumigations with increased time of exposure killed more rats than previous fumigations on the same ships and that following fumigations, whether with increased exposures or not, produced less rats, presumably because there had been left fewer rats on these vessels to rebuild rat colonies. The small group of ships that escaped increased exposure fumigations, constituting a control group, subsequently showed practically the same numbers of rats as previously. It will be noted that on the ships fumigated in both increased exposure periods there occurred a much larger total average decrease in rats than on either of the groups fumigated in only one such period.

USE OF THE AIR JET GUN

FUMIGATING BILGES VIA SOUNDING PIPES

The latest development in the use of the air jet gun (October, 1931) is to pass compressed air through liquid HCN contained in an applicator and to carry it, still under compression, to the gun, where it is delivered through the nozzle as required. To accomplish this the air supply line is connected to the gas valve of the applicator, while the line to the gun is attached to the air valve. The air passing through the liquid picks up sufficient HCN to fumigate small enclosed spaces. Two desirable results are obtained: The line carrying liquid HCN under pressure to the gun, always recognized as a hazard to the operator, is eliminated and the use of a much larger volume of compressed air, greatly promoting deep penetration, is permitted. This development is of special value in fumigating bilges by way of the sounding pipes, since the HCN can be blown down these pipes as a vapor instead of as a liquid spray. By inserting the nozzle through a hole in a large cork pushed into the deck opening of the sounding pipe, it can at once be ascertained whether the pipe is blocked; if it is the cork is promptly blown out.

RAT SIGNS ON CARGO

An interesting observation of rat signs on the cargo made during investigations of loaded ships became of exceptional value in estimating rat infestation in the holds. Obviously, rat droppings on the surface of the cargo must have been left there since the cargo was loaded; on the surface of bulk cargo rat tracks have the same significance. Since the length of time that the cargo has been in place may be readily ascertained, the amount of evidence thereon more accurately indicates the numbers of rats in a hold than is usually indicated by similar signs on empty ships. Conversely, absence of rat signs on the cargo is exceptionally strong evidence of the absence of rats. The total absence of rat tracks on the surface of such bulk cargoes as

grain, linseed, and dry ores is practically proof that no rats are present. It is interesting to note that in rat-infested loaded holds some droppings, and often a disproportionately large number, are nearly always directly under the hatches.

FUMIGATION OF TEA

With the cooperation of a large tea importing company a number of samples of tea were fumigated for two hours with liquid HCN containing 10 per cent of chloropicrin, in concentrations from 2 to 8 ounces per 1,000 cubic feet. When these samples were tested by three tea experts on the following day they could not be distinguished from unfumigated samples.

FUMIGATION OF FRESH FRUIT AND VEGETABLES

It has been definitely determined that HCN in high concentrations interferes with the ripening processes of fresh fruits and causes delicate vegetables, such as lettuce, to wilt. This effect appears some days after the fumigation. In the concentration used to destroy rats on ships, however, no injurious effect has been noted. In one experiment conducted in cooperation with a large steamship company, a number of samples of various fruits and vegetables were fumigated with HCN and with sulphur (by burning) in the amounts used for ship fumigation. After fumigation and over-night airing the samples were stored with similar unfumigated produce. Ten days later the HCN fumigated samples showed no deterioration, but those fumigated with sulphur were spotted or had turned dark, becoming a partial or total commercial loss.

MICROSCOPIC EXAMINATION FOR INTÉSTINAL PARASITES OF 73 BOYS IN THE NATIONAL TRAINING SCHOOL FOR BOYS, WASHINGTON, D. C.

By C. E. BAKER, M. A., *Laboratory Aide, National Institute of Health*

On various occasions fecal specimens from the boys in the National Training School for Boys, Washington, D. C., have been examined for parasites at the National Institute of Health.

During the period October 23, 1929, to January 9, 1930, an examination of this kind was made of 73 of these boys, of whom 67 came from the southern part of the United States. The distribution by States was as follows:

	Number of boys		Number of boys
Alabama.....	7	Florida.....	1
Arkansas.....	2	Georgia.....	5
California.....	1	Illinois.....	1
District of Columbia.....	2	Kentucky.....	7

	Number of boys		Number of boys
Louisiana.....	3	Tennessee.....	2
Mississippi.....	3	Texas.....	6
North Carolina.....	17	West Virginia.....	11
Oklahoma.....	1		
Porto Rico.....	1	Total.....	73
South Carolina.....	3		

The boys from California and the District of Columbia were negative for parasites.

Of the 73 boys examined, 56 harbored intestinal parasites, a total percentage of 76.7 positive.

In Table 1 the incidence of infection is shown; in Table 2 the presumptive geographic origin of the parasites is tabulated; and Table 3 shows the number of cases with pure infections and the number with mixed infections.

As the sanitation of the training school is strictly urban, it is scarcely to be assumed that many of the boys received their infections in the District of Columbia. On the contrary, it is to be assumed that the hookworm cases in particular brought their infections with them, as hookworm disease is not common, if found at all, in the District of Columbia, except in imported cases.

On the basis of a single specimen from each boy, 34.2 per cent were found to be infected with hookworms. Though the number (73) of specimens was small, the percentage of positives is at least confirmatory of the view that hookworm disease is still prevalent in the South.

In regard to some of the other infections found, it can not be so definitely said that the infections were brought here by the boys. Certain infections (whipworms) seem to increase with the length of institutional life in this locality, and conceivably this fact might account for some of the infections.

In view of the sanitary conditions of the school, it was thought possible that some of the infections may have been spread by infected persons handling food and that cysts or larvae of the parasites might be found under the finger nails. With this thought in mind the scrapings from under the nails of 47 boys were examined. Unfortunately for our particular purpose, most of the boys had cleaned their nails just before reporting to us. In spite of this fact an *Endamoeba* cyst was found under the nail in one case. This boy had previously been examined for parasites and had been found to be infected with *Endamoeba coli* and *Endamoeba histolytica*. At the time the cyst was found under the nail, the boy was detailed to the kitchen of the officers' mess.

The two most interesting facts brought out by these examinations of clinically unselected boys were as follows:

(1) The percentage (34.2 per cent) found infected with hookworms agrees fairly well with the average percentage (28.1 per cent) found

by seven southern State boards of health in 1929¹ and with the uncorrected percentage (32.5 per cent) observed by Stiles and Collins on the basis of symptoms observed in school inspection of 18,649 pupils in seven States in 1931.

(2) For the first time, as far as we know, an *Endamoeba* cyst has been found under the nail of a boy infected with *Endamoeba histolytica*. Thus the demonstration is given of what many persons have assumed with good reason to occur.

TABLE 1.—Incidence of zooparasitic intestinal infections among the 73 boys

	Number of boys infected	Per cent of boys infected
PROTOZOA		
Rhizopoda:		
<i>Endamoeba coli</i>	25	34.2
<i>Endamoeba histolytica</i>	6	8.2
<i>Endolimax nana</i>	16	21.9
<i>Endolimax williamsi</i>	1	1.4
Unidentifiable cysts.....	2	2.7
Flagellata:		
<i>Chilomastix mesnili</i>	3	4.1
<i>Giardia lamblia</i>	11	15.1
WORMS		
Cestoda:		
<i>Hymenolepis nana</i>	7	9.6
Nematoda:		
<i>Necator americanus</i>	25	34.2
<i>Ascaris lumbricoides</i>	3	4.1
<i>Trichuris trichiura</i>	10	13.7
<i>Strongyloides stercoralis</i>	2	2.7
Free living.....	1	1.4
Total.....	56	76.7

TABLE 2.—Presumptive geographic origin of parasitic infections

	Alabama	Arkansas	Florida	Georgia	Illinois	Kentucky	Louisiana	Mississippi	North Carolina	Oklahoma	Porto Rico	South Carolina	Tennessee	Texas	West Virginia	Total
<i>Endamoeba coli</i>	2	1		2	1	2	1	1	5		1	2	2	2	3	25
<i>Endamoeba histolytica</i>	1					1			2			1	1			6
<i>Endolimax nana</i>	1		1	2	1	1		1	4	1				1	1	16
<i>Endolimax williamsi</i>				1												1
Unidentifiable cysts.....									1						1	2
<i>Chilomastix mesnili</i>							1		1				1			3
<i>Giardia lamblia</i>	1			2	1	1			1			1		1	1	11
<i>Hymenolepis nana</i>	1				1	1		1					1	1	1	7
<i>Necator americanus</i>	3		1	2		4		1	10		1			1	2	25
<i>Ascaris lumbricoides</i>						1			1							3
<i>Trichuris trichiura</i>						3	1		2		1				3	10
<i>Strongyloides stercoralis</i>									1						1	2
Ovum of free living nematode.....														1		1

¹ Stiles, C. W. (1930): Pub. Health Rep., vol. 45, No. 31, Aug. 1, 1930, p. 1765.

TABLE 3.—Pure and mixed infections

Pure infections:

- Endamoeba coli* in 7 cases.
- Endolimax nana* in 5 cases.
- Giardia lamblia* in 2 cases.
- Unidentifiable amoeba cyst in 1 case.
- Necator americanus* in 7 cases.
- Ascaris lumbricoides* in 1 case.
- Trichuris trichiura* in 1 case.

Double infections:

- Endamoeba coli* and *Endamoeba histolytica* in 1 case.
- Endamoeba coli* and *Chilomastix mesnili* in 2 cases.
- Endamoeba coli* and *Giardia lamblia* in 1 case.
- Endamoeba coli* and *Necator americanus* in 2 cases.
- Endolimax nana* and *Hymenolepis nana* in 2 cases.
- Endolimax nana* and *Necator americanus* in 2 cases.
- Endolimax nana* and *Trichuris trichiura* in 1 case.
- Unidentifiable amoeba cyst and *Necator americanus* in 1 case.
- Giardia lamblia* and *Necator americanus* in 2 cases.
- Giardia lamblia* and *Trichuris trichiura* in 1 case.
- Hymenolepis nana* and *Necator americanus* in 1 case.
- Hymenolepis nana* and ovum of free living nematode in 1 case.
- Necator americanus* and *Trichuris trichiura* in 1 case.

Triple infections:

- Endamoeba coli*, *Endamoeba histolytica*, and *Hymenolepis nana* in 1 case.
- Endamoeba coli*, *Endamoeba histolytica*, and *Necator americanus* in 1 case.
- Endamoeba coli*, *Endolimax nana*, and *Giardia lamblia* in 1 case.
- Endamoeba coli*, *Endolimax nana*, and *Necator americanus* in 1 case.
- Endamoeba coli*, *Necator americanus*, and *Trichuris trichiura* in 1 case.
- Endamoeba coli*, *Trichuris trichiura*, and *Strongyloides stercoralis* in 1 case.
- Necator americanus*, *Ascaris lumbricoides*, and *Trichuris trichiura* in 1 case.

Quadruple infections:

- Endamoeba coli*, *Endamoeba histolytica*, *Giardia lamblia*, and *Necator americanus* in 1 case.
- Endamoeba coli*, *Endamoeba histolytica*, *Necator americanus*, and *Trichuris trichiura* in 1 case.
- Endamoeba coli*, *Endolimax nana*, *Chilomastix mesnili*, and *Giardia lamblia* in 1 case.
- Endamoeba coli*, *Endolimax nana*, *Giardia lamblia*, and *Hymenolepis nana* in 1 case.
- Hymenolepis nana*, *Necator americanus*, *Ascaris lumbricoides*, and *Trichuris trichiura* in 1 case.

Quintuple infections:

- Endamoeba coli*, *Endolimax nana*, *Endolimax williamsi*, *Giardia lamblia*, and *Necator americanus* in 1 case.

Sextuple infections:

- Endamoeba coli*, *Endamoeba histolytica*, *Endolimax nana*, *Necator americanus*, *Trichuris trichiura*, and *Strongyloides stercoralis* in 1 case.

COURT DECISIONS RELATING TO PUBLIC HEALTH

Quarantine for venereal disease upheld.—(Missouri Supreme Court; *Ex parte Lewis*, 42 S. W. (2d) 21; decided Sept. 28, 1931.) An ordinance of the city of St. Louis provided, in part, as follows:

Sec. 9. When any person is arrested for being a prostitute, a keeper, inmate, or frequenter of a house of ill-fame, prostitution, or assignation, or for lewd, lascivious conduct, said person shall be subjected to a physical examination by a physician of the division of health for the purpose of determining if such person is infected with a venereal disease in the infectious stage.

If such examination should reveal that such person is suffering from and afflicted with a venereal disease in an infectious stage, such person shall be quarantined and detained in a hospital provided by the city of St. Louis until such time as such person is no longer capable of conveying the disease to others: *Provided, however,* That any person so quarantined and detained may, at his or her option, be cared for at his or her own expense by his or her own physician.

The petitioner was arrested on a charge of being an inmate of a house of prostitution. Pursuant to the above ordinance, she was subjected to a physical examination and, upon being found to be suffering from syphilis and gonorrhoea, was quarantined and detained in a hospital provided by the city for that purpose. She sought her release by habeas corpus, claiming that the ordinance was unconstitutional and void. The case was submitted on an agreed statement of facts, by the terms of which the parties agreed that the petitioner was lawfully detained if the ordinance in question was valid.

The first objection made against the validity of the ordinance was that it violated the due process clause of the State and Federal constitutions. Respecting this the supreme court pointed out that it was well settled that laws and ordinances prescribing regulations for the promotion of the health and welfare of the people were referable to the police power and, if reasonable, were not obnoxious to the due process clause. Applying this principle to the instant case, the court ruled against the objection made, saying:

It appears from the provisions of the ordinance in question that it was enacted to protect and promote the health of the people, and is, therefore, fairly referable to the police power of the city, and for that reason is not violative of the constitutional provisions invoked.

The next contention was that the ordinance conferred judicial power upon an administrative officer in violation of the State constitution. In holding that the ordinance was not subject to this objection, the court stated, in part, as follows:

* * * A power is not necessarily judicial, within the meaning of the constitutional provision invoked, merely because its exercise requires an investigation of the facts and the exercise of judgment within lines prescribed by the law which confers the power. * * *

The ordinance under consideration does not authorize the health officers to determine what the law is or what diseases will subject the prisoner to quaran-

tine and detention in a hospital. True, the ordinance authorizes the health officers to determine whether or not the prisoner is afflicted with a venereal disease in an infectious stage, but such authority only authorizes the health officer to determine the facts upon which the ordinance, by its own terms, operates. For reasons heretofore stated, the determination of such fact is not the exercise of either legislative, executive, or judicial power within the meaning of the constitution.

The final contention made against the ordinance was that it violated that part of the State constitution which provided that no person should be prosecuted criminally for a felony or misdemeanor otherwise than by indictment or information. The court held that there was no merit in this contention and stated the following reasons therefor:

* * * (1) Petitioner was not prosecuted on any charge. The isolation of the petitioner was neither a prosecution or punishment for the commission of a felony or misdemeanor. *Ex parte Brooks*, 85 Tex. Cr. R. 397, 212 S. W. 956, 957. And (2) if she had been prosecuted under a city ordinance, it would not have been a criminal prosecution, and for that reason the constitutional provision invoked would have had no application. [Cases cited.]

It was the court's conclusion that the petitioner was "quarantined and detained pursuant to the provisions of a valid ordinance."

Wife granted a divorce where husband had communicated syphilis to her.—(New Jersey Court of Errors and Appeals; *Gartner v. Gartner*, 156 A. 673; decided Oct. 19, 1931.) A wife brought suit for divorce on the ground of extreme cruelty, it being alleged that her husband had communicated syphilis to her. The appellate court summed up the evidence in the following words:

The testimony reasonably shows that appellant was free of disease when she married respondent; that, as a consequence of sexual intercourse with her husband, she contracted syphilis; that respondent knew he was infected with the disease prior to his marriage; and that he had reason to know he was suffering from the disease during the period of cohabitation with his wife.

The court then proceeded to say that it thought the true rule had been stated in the case of *Danielly v. Danielly*, 93 N. J. Eq. 556, 118 A. 335, 336, as follows:

It has been held that where a husband afflicted with a venereal disease, having reason to know it, has communicated it to his wife, he is guilty of extreme cruelty. *Cook v. Cook*, 32 N. J. Eq. 475. See also *Crane v. Crane*, 62 N. J. Eq. 21, 26, 49 A. 734; *Rogers v. Rogers*, 81 N. J. Eq. 479, 484, 86 A. 935, 46 L. R. A. (N. S.) 711. It is gross cruelty for a husband to communicate to his wife a venereal disease; and, if he does it, his knowledge of his condition and the danger of infection will be presumed. 1 Bish. M. D. & S. sec. 1581.

The court granted a decree of divorce to the wife.

DEATHS DURING WEEK ENDED NOVEMBER 21, 1931

Summary of information received by telegraph from industrial insurance companies for the week ended November 21, 1931, and corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

	Week ended Nov. 21, 1931	Corresponding week, 1930
Policies in force-----	74, 167, 145	75, 226, 750
Number of death claims-----	13, 440	14, 232
Death claims per 1,000 policies in force, annual rate..	9. 4	9. 9
Death claims per 1,000 policies, first 47 weeks of year, annual rate-----	9. 6	9. 6

Deaths¹ from all causes in certain large cities of the United States during the week ended November 21, 1931, infant mortality, annual death rate, and comparison with corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)

[The rates published in this summary are based upon mid-year population estimates derived from the 1930 census]

City	Week ended Nov. 21, 1931				Corresponding week, 1930		Death rate ² for the first 47 weeks	
	Total deaths	Death rate ¹	Deaths under 1 year	Infant mortality rate ³	Death rate ²	Deaths under 1 year	1931	1930
Total (82 cities)-----	7, 623	11. 1	634	4 50	11. 8	707	11. 8	11. 9
Akron-----	39	7. 7	6	59	7. 3	4	7. 6	7. 9
Albany ⁴ -----	34	13. 7	1	20	15. 5	5	13. 9	14. 8
Atlanta ⁴ -----	101	19. 0	4	39	15. 9	5	15. 0	15. 4
White-----	52	14. 7	2	30	13. 0	2	11. 6	11. 6
Colored-----	49	27. 4	2	58	21. 8	3	21. 8	23. 2
Baltimore ⁴ -----	196	12. 6	22	77	12. 9	14	14. 3	14. 0
White-----	145	11. 3	18	80	12. 0	10	13. 0	12. 7
Colored-----	51	18. 1	4	64	17. 4	4	20. 2	19. 9
Birmingham ⁴ -----	65	12. 6	6	70	11. 4	7	13. 2	13. 6
White-----	32	10. 0	2	34	6. 8	1	10. 1	10. 0
Colored-----	33	16. 8	4	98	18. 8	6	18. 1	19. 4
Boston-----	217	14. 4	25	72	13. 9	23	14. 2	14. 1
Bridgeport-----	24	8. 5	2	34	12. 4	4	11. 0	10. 9
Buffalo-----	133	11. 9	12	54	13. 7	16	12. 9	12. 9
Cambridge-----	29	13. 3	8	165	12. 8	1	12. 1	11. 8
Camden-----	30	13. 1	2	35	13. 2	5	14. 1	13. 5
Canton-----	25	12. 2	4	99	10. 9	2	10. 1	9. 9
Chicago ⁴ -----	589	8. 9	51	46	10. 8	54	10. 5	10. 4
Cincinnati-----	128	14. 6	9	54	15. 9	9	15. 9	15. 6
Cleveland-----	187	10. 7	12	35	13. 2	20	11. 1	11. 1
Columbus-----	90	14. 1	7	68	12. 2	4	13. 5	15. 4
Dallas ⁴ -----	46	8. 8	5	-----	11. 7	5	11. 1	11. 5
White-----	33	7. 6	5	-----	10. 8	3	9. 8	10. 5
Colored-----	13	14. 3	0	-----	16. 2	2	17. 5	16. 2
Dayton-----	53	11. 9	8	114	7. 8	6	10. 6	9. 6
Denver-----	88	15. 7	11	111	18. 1	12	13. 8	14. 9
Des Moines-----	32	11. 5	2	38	12. 0	2	11. 0	11. 7
Detroit-----	229	7. 2	21	33	9. 0	34	8. 2	9. 3
Duluth-----	25	12. 8	2	54	12. 8	2	11. 3	11. 5
El Paso-----	28	13. 9	3	-----	19. 3	4	15. 2	17. 1
Erie-----	23	10. 2	1	21	13. 9	1	10. 2	11. 2
Fall River ⁴ -----	26	11. 8	1	24	8. 1	3	11. 1	11. 6
Flint-----	26	8. 3	2	25	7. 3	1	6. 9	9. 1
Fort Worth ⁴ -----	21	6. 5	4	-----	11. 4	6	10. 6	10. 8
White-----	17	6. 3	3	-----	10. 2	6	10. 2	10. 3
Colored-----	4	7. 7	1	-----	17. 8	0	12. 4	13. 6
Grand Rapids-----	46	14. 0	1	15	6. 2	6	9. 1	10. 1
Houston ⁴ -----	67	11. 3	10	-----	12. 5	6	11. 0	12. 1
White-----	50	11. 5	8	-----	10. 6	3	10. 2	10. 7
Colored-----	17	10. 7	2	-----	17. 9	3	13. 4	16. 0
Indianapolis ⁴ -----	96	13. 5	10	77	13. 6	7	13. 7	14. 5
White-----	83	13. 3	10	88	13. 5	7	13. 2	13. 5
Colored-----	13	15. 0	0	0	14. 1	0	17. 1	21. 5

See footnotes at end of table.

Deaths¹ from all causes in certain large cities of the United States during the week ended November 21, 1931, infant mortality, annual death rate, and comparison with corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended Nov. 21, 1931				Corresponding week, 1930		Death rate ² for the first 47 weeks	
	Total deaths	Death rate ³	Deaths under 1 year	Infant mortality rate ⁴	Death rate ¹	Deaths under 1 year	1931	1930
Jersey City.....	60	9.8	10	89	11.8	14	11.3	11.3
Kansas City, Kans. ⁵	32	13.6	3	66	11.1	1	12.6	11.7
White.....	23	12.1	3	80	11.0	1	11.9	11.0
Colored.....	9	20.0	0	0	11.4	0	15.7	15.0
Kansas City, Mo.....	100	12.8	4	32	14.2	11	13.0	13.3
Knoxville ⁶	27	12.9	2	43	11.8	3	12.4	13.6
White.....	21	12.0	2	49	10.5	3	11.6	12.7
Colored.....	6	17.6	0	0	18.1	0	16.4	18.0
Long Beach.....	23	7.9	0	0	14.5	0	9.9	10.0
Los Angeles.....	295	11.7	27	79	10.1	7	10.6	11.0
Louisville ⁶	67	11.3	3	27	13.9	9	13.8	13.6
White.....	54	10.8	3	31	11.8	9	12.4	12.1
Colored.....	13	14.2	0	0	25.2	0	21.5	21.7
Lowell ⁷	22	11.4	1	26	12.0	4	12.7	13.4
Lynn.....	16	8.1	0	0	12.7	4	9.3	10.4
Memphis ⁸	76	15.3	7	74	12.3	6	16.5	16.9
White.....	34	11.1	4	67	11.0	3	13.5	13.2
Colored.....	42	22.1	3	87	14.5	3	21.5	22.9
Miami ⁹	27	12.5	4	103	9.9	0	11.7	10.9
White.....	20	12.0	3	108	9.1	0	10.8	9.6
Colored.....	7	14.4	1	91	12.4	0	14.9	15.3
Milwaukee.....	94	8.3	14	63	9.6	8	9.1	9.6
Minneapolis.....	80	8.8	2	13	10.4	10	11.0	10.7
Nashville ⁶	50	16.8	6	90	20.0	13	16.8	16.6
White.....	36	16.7	3	59	17.8	13	14.4	14.0
Colored.....	14	17.1	3	189	25.5	0	23.0	23.2
New Bedford ⁷	24	11.1	2	52	10.7	0	12.0	10.9
New Haven.....	45	14.4	5	76	11.9	6	12.5	12.7
New Orleans ⁶	118	13.2	7	39	18.1	13	16.7	17.4
White.....	74	11.6	4	34	15.2	6	13.6	14.3
Colored.....	44	17.0	3	50	25.3	7	24.3	24.9
New York.....	1,407	10.3	109	46	9.7	107	11.0	10.8
Bronx borough.....	199	7.8	15	43	7.9	19	8.1	7.9
Brooklyn borough.....	512	10.2	51	54	8.3	33	10.2	9.8
Manhattan borough.....	517	14.8	38	51	15.2	43	16.7	16.0
Queens borough.....	143	6.5	4	16	5.8	11	7.2	7.0
Richmond borough.....	36	11.5	1	19	10.1	1	13.6	13.9
Newark, N. J.....	98	11.5	9	48	11.2	8	11.5	12.0
Oakland.....	61	10.9	2	25	13.7	13	10.5	11.0
Oklahoma City.....	44	11.7	4	56	10.6	2	10.7	10.6
Omaha.....	63	15.2	6	69	15.3	4	13.8	13.6
Paterson.....	32	12.0	3	51	12.8	1	13.3	12.1
Peoria.....	18	8.7	1	26	9.4	1	12.5	12.2
Philadelphia.....	463	12.3	40	58	12.5	46	12.9	12.6
Pittsburgh.....	162	12.5	12	42	13.3	26	14.4	13.8
Portland, Oreg.....	74	12.6	5	61	11.4	2	11.6	12.1
Providence.....	58	11.9	7	64	10.9	1	12.6	12.8
Richmond ⁶	47	13.3	2	29	15.1	5	15.4	14.9
White.....	33	13.1	1	22	12.4	3	13.0	12.2
Colored.....	14	13.8	1	43	21.6	2	21.3	21.5
Rochester.....	68	10.7	2	18	11.3	4	11.8	11.6
St. Louis.....	203	12.8	14	50	14.4	13	14.9	14.1
St. Paul.....	39	7.4	1	10	10.1	4	10.4	10.1
Salt Lake City ⁵	27	9.8	0	0	15.6	4	12.1	12.5
San Antonio.....	47	10.2	6	0	13.4	10	14.1	15.9
San Diego.....	50	16.7	4	83	16.4	3	13.5	14.3
San Francisco.....	155	12.4	6	40	18.2	8	12.9	13.0
Schenectady.....	25	13.6	1	30	9.8	3	10.7	11.2
Seattle.....	74	10.4	6	59	10.5	1	11.3	10.8
Somerville.....	16	7.9	2	62	6.0	2	8.8	9.7
South Bend.....	13	6.3	1	26	10.4	1	8.0	8.9
Spokane.....	23	10.3	0	0	11.7	1	12.3	12.5
Springfield, Mass.....	21	7.2	1	17	8.7	4	11.5	12.1
Syracuse.....	39	9.5	3	37	11.4	5	11.5	11.6
Tacoma.....	22	10.6	1	28	8.8	1	12.1	12.5
Toledo.....	50	8.8	4	38	8.9	6	11.8	12.7
Trenton.....	42	17.7	4	73	16.5	6	16.3	16.5

See footnotes at end of table:

Deaths¹ from all causes in certain large cities of the United States during the week ended November 21, 1931, infant mortality, annual death rate, and comparison with corresponding week of 1930. (From the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce)—Continued

City	Week ended Nov. 21, 1931				Corresponding week, 1930		Death rate ² for the first 47 weeks	
	Total deaths	Death rate ²	Deaths under 1 year	Infant mortality rate ³	Death rate ²	Deaths under 1 year	1931	1930
Utica.....	32	16.3	2	56	15.4	1	14.3	14.9
Washington, D. C. ⁴	170	18.1	16	89	15.9	23	15.9	15.2
White.....	106	15.5	6	49	14.7	9	13.6	13.0
Colored.....	64	24.7	10	171	19.2	14	22.0	20.8
Waterbury.....	14	7.2	1	25	8.9	2	9.7	9.4
Wilmington, Del. ⁵	24	11.7	1	23	11.3	2	13.8	14.3
Worcester.....	49	13.0	4	57	15.2	7	12.0	12.7
Yonkers.....	21	7.9	2	48	9.6	1	8.3	8.1
Youngstown.....	33	10.0	3	41	14.1	2	9.9	10.4

¹ Deaths of nonresidents are included. Stillbirths are excluded.

² These rates represent annual rates per 1,000 population, as estimated for 1931 and 1930 by the arithmetical method.

³ Deaths under 1 year of age per 1,000 live births. Cities left blank are not in the registration area for births.

⁴ Data for 77 cities.

⁵ Deaths for week ended Friday.

⁶ For the cities for which deaths are shown by color, the percentages of colored population in 1930 were as follows: Atlanta, 33; Baltimore, 18; Birmingham, 38; Dallas, 17; Fort Worth, 16; Houston, 27; Indianapolis, 12; Kansas City, Kans., 19; Knoxville, 16; Louisville, 15; Memphis, 38; Miami, 23; Nashville, 28; New Orleans, 29; Richmond, 26; and Washington, D. C., 27.

⁷ Population Apr. 1, 1930; decreased 1920 to 1930, no estimate made.

PREVALENCE OF DISEASE

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

UNITED STATES

CURRENT WEEKLY STATE REPORTS

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

Reports for Weeks Ended November 28, 1931, and November 29, 1930

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 28, 1931, and November 29, 1930

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930
New England States:								
Maine.....	2	5	1	1	.213	15	0	0
New Hampshire.....	9	3	---	---	10	---	0	0
Vermont.....	1	3	---	---	64	---	0	0
Massachusetts.....	47	68	1	3	114	162	1	1
Rhode Island.....	12	4	---	---	3	155	3	0
Connecticut.....	2	9	1	3	44	85	0	1
Middle Atlantic States:								
New York.....	119	93	1 15	1 15	278	112	8	11
New Jersey.....	27	65	12	8	29	120	2	4
Pennsylvania.....	98	108	---	---	365	359	5	12
East North Central States:								
Ohio.....	111	84	22	18	74	29	1	8
Indiana.....	90	46	9	6	19	84	0	5
Illinois.....	140	179	10	7	29	113	8	6
Michigan.....	53	77	---	9	52	68	1	6
Wisconsin.....	22	18	20	25	16	205	0	1
West North Central States:								
Minnesota.....	27	13	---	2	8	8	2	2
Iowa.....	21	9	---	---	2	5	2	0
Missouri.....	72	52	16	2	22	331	1	4
North Dakota.....	5	6	---	---	---	3	1	0
South Dakota.....	4	6	---	---	38	2	0	1
Nebraska.....	29	19	5	5	14	3	0	0
Kansas.....	71	15	---	1	12	10	0	0
South Atlantic States:								
Delaware.....	33	5	---	---	---	3	1	0
Maryland ¹	82	40	8	9	6	8	1	0
District of Columbia.....	19	3	---	---	5	1	0	0
Virginia.....	---	---	---	---	---	---	---	---
West Virginia.....	69	19	9	32	286	27	1	1
North Carolina.....	116	98	89	4	15	25	2	2
South Carolina ²	27	34	401	588	3	---	0	1
Georgia ³	35	11	36	53	10	3	2	1
Florida.....	10	9	1	2	1	2	0	0

¹ New York City only.

² Week ended Friday.

³ Typhus fever, 1931, 8 cases: 1 case in South Carolina, 4 cases in Georgia, and 3 cases in Alabama.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 28, 1931, and November 29, 1930—Continued

Division and State	Diphtheria		Influenza		Measles		Meningococcus meningitis	
	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930
East South Central States:								
Kentucky.....	81	15					1	0
Tennessee.....	78	23	29	75	17	17	6	1
Alabama ³	84	70	21	64	6	28	0	0
Mississippi.....	87	35					0	1
West South Central States:								
Arkansas.....	23	33	10	31	1		0	1
Louisiana.....	49	34	10	8	5	8	0	2
Oklahoma ⁴	90	59	16	29		35	0	3
Texas.....	92	60	5	44	11	1	0	1
Mountain States:								
Montana.....	5	2	2		329	5	0	0
Idaho.....						1	0	4
Wyoming.....		1			2		0	0
Colorado.....	4	17			1	101	1	1
New Mexico.....	14	10			9	24	1	1
Arizona.....	12	4	2	2		100	2	1
Utah ²	1	6	11	5		2	2	1
Pacific States:								
Washington.....	5	3			31	6	2	0
Oregon.....		6	24	13	1	29	0	1
California.....	91	66	42	43	116	188	5	4

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930
New England States:								
Maine.....	0	2	33	12	0	0	5	9
New Hampshire.....	0	0	6	8	0	0	0	1
Vermont.....	1	0	4	1	9	1	0	0
Massachusetts.....	12	14	221	175	0	0	1	10
Rhode Island.....	0	0	21	14	0	0	9	0
Connecticut.....	3	6	44	36	0	0	2	3
Middle Atlantic States:								
New York.....	16	4	419	380	36	3	15	22
New Jersey.....	9	1	106	149	0	0	5	5
Pennsylvania.....	10	1	423	399	0	0	43	30
East North Central States:								
Ohio.....	1	17	460	470	22	53	14	20
Indiana.....	0	2	107	145	10	62	3	1
Illinois.....	8	11	235	245	17	26	20	4
Michigan.....	5	6	178	25	24	50	5	6
Wisconsin.....	6	3	56	90	1	7	7	7
West North Central States:								
Minnesota.....	4	2	44	36	2	2	1	0
Iowa.....	11	0	40	69	137	10	2	6
Missouri.....	1	3	66	68	1	6	9	14
North Dakota.....	2	0	10	16	6	13	0	4
South Dakota.....	0	1	11	13	9	16	2	3
Nebraska.....	0	5	30	18	22	33	1	1
Kansas.....	0	4	57	52	11	12	1	6

¹ Week ended Friday.

² Typhus fever, 1931, 8 cases: 1 case in South Carolina, 4 cases in Georgia, and 3 cases in Alabama.

⁴ Figures for 1931 are exclusive of Oklahoma City and Tulsa.

Cases of certain communicable diseases reported by telegraph by State health officers for weeks ended November 28, 1931, and November 29, 1930—Continued

Division and State	Poliomyelitis		Scarlet fever		Smallpox		Typhoid fever	
	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930	Week ended Nov. 28, 1931	Week ended Nov. 29, 1930
South Atlantic States:								
Delaware.....	0	0	9	9	0	0	0	4
Maryland ¹	2	0	95	68	0	0	17	12
District of Columbia.....	0	0	18	28	0	0	2	2
Virginia.....					5			
West Virginia.....	1	0	73	87	0	59	38	22
North Carolina.....	2	1	123	103	1	5	14	8
South Carolina ¹	1	0	14	32	0	1	16	19
Georgia ¹	0	0	29	16	1	0	19	5
Florida.....	1	0	6	6	0	0	1	2
East South Central States:								
Kentucky.....	1	2	88	41	7	0	34	10
Tennessee.....	1	1	72	44	2	1	23	18
Alabama ¹	1	3	71	79	0	1	22	8
Mississippi.....	0	0	39	31	2	0	0	11
West South Central States:								
Arkansas.....	1	2	23	14	4	1	6	29
Louisiana.....	1	3	22	26	8	2	11	20
Oklahoma ¹	0	1	45	62	1	5	29	32
Texas.....	0	4	39	27	9	4	9	25
Mountain States:								
Montana.....	1	1	18	33	1	6	0	1
Idaho.....	0	0	7	2	0	1	0	1
Wyoming.....	0	0	14	3	0	0	0	0
Colorado.....	0	2	17	40	0	6	8	5
New Mexico.....	0	0	15	1	0	0	9	3
Arizona.....	1	1	4	1	0	0	0	1
Utah ¹	1	0	6	11	0	3	0	0
Pacific States:								
Washington.....	2	0	48	37	20	11	1	3
Oregon.....	0	0	19	26	6	10	2	4
California.....	2	27	122	96	14	18	10	8

¹ Week ended Friday.

² Typhus fever, 1931, 8 cases: 1 case in South Carolina, 4 cases in Georgia, and 3 cases in Alabama.

³ Figures for 1931 are exclusive of Oklahoma City and Tulsa.

SUMMARY OF MONTHLY REPORTS FROM STATES

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

State	Me-ningo-coc-cus menin-gitis	Diph-theria	Influ-enza	Ma-laria	Mea-sles	Pel-lagra	Polio-mye-litis	Scarlet fever	Small-pox	Ty-phoid fever
<i>October, 1931</i>										
Colorado.....	1	30		1	11		1	76	0	62
Montana.....	1	2	10		118		7	45	1	21
Nevada.....		2		2			0	4	1	3
North Carolina.....	5	865	18		148	89	14	581	5	114
Oklahoma ¹	2	577	64	171	10	33	3	193	15	221
Oregon.....	2	16	121	3	37		2	64	19	15
Pennsylvania.....	30	400		1	527	3	139	882	0	336
South Dakota.....	3	34	5		119		3	41	11	11
Virginia.....	4	1,360	774	57	78	23	13	557	4	215
Washington.....	2	41	22		69		19	165	22	21

¹ Exclusive of Oklahoma City and Tulsa.

October, 1931	Cases	Paratyphoid fever—Continued.	Cases
Chicken pox:		Oregon.....	1
Colorado.....	107	Washington.....	1
Montana.....	54	Puerperal septicemia:	
Nevada.....	3	Pennsylvania.....	24
North Carolina.....	100	Washington.....	3
Oklahoma ¹	1	Rocky Mountain spotted or tick fever:	
Oregon.....	178	Colorado.....	1
Pennsylvania.....	691	Scabies:	
South Dakota.....	102	Oklahoma ¹	2
Virginia.....	87	Oregon.....	55
Washington.....	331	Septic sore throat:	
Conjunctivitis:		Colorado.....	1
Oklahoma ¹	1	Montana.....	1
Diarrhea and dysentery:		North Carolina.....	28
Nevada (children).....	5	Oklahoma ¹	45
Virginia.....	460	Oregon.....	4
Dysentery:		Tetanus:	
Montana.....	3	Oklahoma ¹	1
Oklahoma ¹	27	Pennsylvania.....	8
Oregon.....	1	Trachoma:	
Pennsylvania.....	5	Montana.....	1
Washington.....	2	Oklahoma ¹	12
German measles:		Oregon.....	6
Colorado.....	2	Pennsylvania.....	1
Montana.....	2	South Dakota.....	3
North Carolina.....	12	Washington.....	2
Washington.....	16	Trench mouth:	
Hookworm disease:		Oklahoma ¹	7
Oklahoma ¹	1	Trichinosis:	
Impetigo contagiosa:		Pennsylvania.....	6
Colorado.....	35	Tularaemia:	
Oklahoma ¹	4	Oregon.....	1
Oregon.....	49	Virginia.....	2
Washington.....	4	Undulant fever:	
Lead poisoning:		Oklahoma ¹	2
Pennsylvania.....	1	Oregon.....	3
Lethargic encephalitis:		Pennsylvania.....	4
Oregon.....	2	South Dakota.....	3
Pennsylvania.....	2	Virginia.....	2
Washington.....	1	Washington.....	5
Mumps:		Vincent's angina:	
Colorado.....	28	Colorado.....	1
Montana.....	4	Oklahoma ¹	6
Oklahoma ¹	7	Oregon.....	13
Oregon.....	68	Washington.....	3
Pennsylvania.....	516	Whooping cough:	
South Dakota.....	37	Colorado.....	34
Washington.....	68	Montana.....	44
Ophthalmia neonatorum:		Nevada.....	4
North Carolina.....	2	North Carolina.....	345
Oklahoma ¹	2	Oklahoma ¹	45
Pennsylvania.....	13	Oregon.....	24
Paratyphoid fever:		Pennsylvania.....	1,537
Colorado.....	1	South Dakota.....	24
North Carolina.....	2	Virginia.....	542
		Washington.....	104

¹ Exclusive of Oklahoma City and Tulsa.

**Cases of Certain Communicable Diseases Reported for the Month of August,
1931, by State Health Officers**

State	Chick- an pox	Diph- theria	Measles	Mumps	Scarlet fever	Small- pox	Tuber- culosis	Ty- phoid and para- typhoid fever	Whoop- ing cough
Maine.....	13	8	15	33	34	1	62	11	73
New Hampshire.....	4	4			8	0		8	
Vermont.....	21	8	18	29	48	19	19	0	69
Massachusetts.....	112	132	179	185	250	0	417	35	557
Rhode Island.....	3	8	9	11	26	0	46	16	21
Connecticut.....	31	20	72	70	39	0	90	22	289
New York.....	194	233	793	261	393	6	1,552	203	1,754
New Jersey.....	35	64	98	63	117	0	409	40	1,260
Pennsylvania.....	138	186	413	380	327	0	601	177	1,479
Ohio.....	58	101	162	139	351	18	263	188	772
Indiana.....	11	52	54	16	90	61	239	67	171
Illinois.....	66	179	218	127	242	37	1,019	115	1,067
Michigan.....	101	66	92	127	260	21	625	45	1,005
Wisconsin.....	112	44	151	216	61	4	161	13	600
Minnesota.....	47	33	19		74	8	142	27	99
Iowa.....	14	15	8	14	36	32	48	17	62
Missouri.....	9	77	16	35	65	11	250	106	496
North Dakota.....	12	17	31	22	14	20	15	43	131
South Dakota.....	29	19	6	15	17	3	18	8	23
Nebraska.....	11	11	13	83	27	10	28	21	74
Kansas.....	19	30	17	80	52	6	146	40	120
Delaware.....	3		5	11		0	23		24
Maryland.....	16	45	37	22	41	0	1,260	118	463
District of Columbia.....	10	24	8		16	0	91	6	81
Virginia.....	84	123	101		125	3	162	264	518
West Virginia.....	24	37	160		68	3	41	179	211
North Carolina.....	5	132	76		132	2		222	338
South Carolina.....		72	52	25	21	0	130	410	170
Georgia.....	11	61	55	25	76		165	320	48
Florida.....	3	12	5	6	6	1	154	13	5
Kentucky ¹									
Tennessee.....	12	57	36	23	94	20	226	518	254
Alabama.....	19	112	64	15	85	4	464	255	62
Mississippi.....	166	162	25	67	58	30	101	217	283
Arkansas.....	2	58	5	17	8	18	129	208	36
Louisiana.....	5	69	6	12	46	6	143	248	18
Oklahoma ²	9	97	4	2	40	15	64	199	35
Texas.....		80			77			128	
Montana.....	11	7	37	11	44	4	34	11	45
Idaho.....	4	9	6	5	18	1	10	8	5
Wyoming.....	1	1	8	1	3	0		1	21
Colorado.....	29	25	10	39	31	8	89	29	79
New Mexico.....	3	7	1	3	14	1	53	17	23
Arizona.....	0	4	3	1	3	1	107	18	12
Utah ²									
Nevada.....	1					0	1	0	10
Washington.....	47	18	32	22	45	47	157	30	164
Oregon.....	38	19	29	27	20	35	56	22	43
California.....	129	148	197	149	145	28	846	90	704

¹ Pulmonary.² Reports received weekly.³ Exclusive of Oklahoma City and Tulsa.

Case Rates per 100,000 Population (Annual Basis) for the Month of August, 1931

State	Chick- en pox	Diph- theria	Measles	Mumps	Scarlet fever	Small- pox	Tuber- culosis	Ty- phoid and para- typhoid fever	Whoop- ing cough
Maine.....	19	12	22	49	50	1	91	16	107
New Hampshire.....		10			20	0		20	
Vermont.....	69	26	59	95	157	62	62	0	225
Massachusetts.....	31	36	49	61	79	0	114	10	153
Rhode Island.....	5	14	162	19	44	0	78	27	85
Connecticut.....	22	14	52	50	28	0	65	16	208
New York.....	18	21	73	24	36	1	142	19	161
New Jersey.....	10	18	28	18	33	0	116	11	358
Pennsylvania.....	17	22	50	46	40	0	73	21	179
Ohio.....	10	18	28	24	61	3	46	33	135
Indiana.....	4	19	19	6	29	22	86	24	61
Illinois.....	10	27	33	19	37	6	164	17	162
Michigan.....	24	16	22	30	61	5	148	11	237
Wisconsin.....	44	17	60	85	24	2	64	5	237
Minnesota.....	21	15	9		34	4	65	12	41
Iowa.....	7	4	4	7	17	15	23	8	29
Missouri.....	3	25	5	11	21	4	80	24	190
North Dakota.....	21	39	53	38	24	34	26	74	206
South Dakota.....	49	32	10	25	29	5	30	12	39
Nebraska.....	9	9	11	70	23	8	24	18	63
Kansas.....	12	19	11	50	32	4	91	25	75
Delaware.....	15		25	54		0	113		118
Maryland.....	11	32	26	16	29	0	185	64	329
District of Columbia.....	24	57	19		38	0	217	14	193
Virginia.....	41	69	49		60	1	73	123	250
West Virginia.....	16	25	107		39	2	27	120	141
North Carolina.....	2	48	28		48	1		81	141
South Carolina.....		49	35	17	14	0	88	277	115
Georgia.....	4	25	22	10	31		67	129	19
Florida.....	2	9	4	5	5	1	142	10	4
Kentucky ¹									
Tennessee.....	5	25	16	10	42	9	105	230	113
Alabama.....	8	49	28	7	37	2	204	112	27
Mississippi.....	96	94	14	39	34	17	58	125	164
Arkansas.....	1	37	3	11	5	11	118	131	23
Louisiana.....	3	36	3	7	25	3	179	137	10
Oklahoma ²	5	55	2	1	22	8	36	112	20
Texas.....		16			15			25	
Montana.....	24	15	81	24	96	9	74	24	99
Idaho.....	11	24	16	13	47	3	26	21	13
Wyoming.....	5	5	41	5	15	0		5	106
Colorado.....	33	28	11	44	35	9	100	33	89
New Mexico.....	8	19	3	8	36	3	145	46	76
Arizona.....		11	8	3	8	3	261	47	32
Utah ³									
Nevada.....	13					0	113	0	127
Washington.....	35	13	24	16	33	25	116	22	122
Oregon.....	46	23	35	33	24	42	68	27	52
California.....	26	29	39	29	29	6	167	18	139

¹ Pulmonary.² Reports received weekly.³ Exclusive of Oklahoma City and Tulsa.

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES

The 97 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 33,010,000. The estimated population of the 90 cities reporting deaths is more than 31,465,000. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Weeks ended November 21, 1931, and November 22, 1930

	1931	1930	Estimat- ed expect- ancy
<i>Cases reported</i>			
Diphtheria:			
46 States.....	2,472	1,939	
97 cities.....	606	612	965
Measles:			
45 States.....	1,923	2,331	
97 cities.....	548	795	
Meningococcus meningitis:			
46 States.....	66	84	
97 cities.....	29	47	
Poliomyelitis:			
46 States.....	180	184	
Scarlet fever:			
46 States.....	3,881	3,943	
97 cities.....	1,199	1,229	949
Smallpox:			
46 States.....	264	449	
97 cities.....	8	21	21
Typhoid fever:			
46 States.....	539	565	
97 cities.....	69	95	84
<i>Deaths reported</i>			
Influenza and pneumonia:			
90 cities.....	657	749	
Smallpox:			
90 cities.....	0	0	

City reports for week ended November 21, 1931

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 1922 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	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.....	0	0	0	1	0	5	0	3
New Hampshire:								
Concord.....	0	0	0	-----	0	0	0	1
Nashua.....	3	0	0	-----	0	0	0	0
Vermont:								
Barre.....	0	0	0	-----	0	0	0	0
Massachusetts:								
Boston.....	38	32	25	2	1	4	3	19
Fall River.....	5	4	0	-----	0	2	2	0
Springfield.....	12	5	0	-----	0	0	5	0
Worcester.....	2	5	2	-----	0	1	67	1
Rhode Island:								
Pawtucket.....	0	1	0	-----	0	0	0	0
Providence.....	10	9	2	-----	0	84	5	3
Connecticut:								
Bridgeport.....	1	5	0	2	1	0	0	4
Hartford.....	2	5	0	-----	0	0	1	3
New Haven.....	18	1	0	-----	1	1	6	1
MIDDLE ATLANTIC								
New York:								
Buffalo.....	32	12	11	-----	0	4	1	19
New York.....	78	149	80	9	7	16	33	136
Rochester.....	6	4	0	-----	0	11	5	0
Syracuse.....	11	2	0	-----	1	1	2	1
New Jersey:								
Camden.....	5	7	5	1	0	0	0	6
Newark.....	18	15	5	6	0	1	5	10
Trenton.....	2	2	0	-----	0	0	0	2
Pennsylvania:								
Philadelphia.....	78	60	9	11	2	3	10	45
Pittsburgh.....	95	25	9	1	4	169	61	39
Reading.....	15	2	0	-----	0	0	0	1
Scranton.....	9	-----	0	-----	0	0	0	0
EAST NORTH CENTRAL								
Ohio:								
Cincinnati.....	6	11	6	-----	0	0	0	14
Cleveland.....	118	35	6	3	0	15	46	19
Columbus.....	8	6	14	-----	0	1	0	3
Toledo.....	72	9	3	2	2	2	0	4
Indiana:								
Fort Wayne.....	1	4	13	-----	0	0	0	0
Indianapolis.....	71	11	14	-----	0	0	28	8
South Bend.....	2	2	0	-----	0	0	0	1
Terre Haute.....	4	2	3	-----	0	0	0	2
Illinois:								
Chicago.....	103	117	53	5	2	25	8	40
Peoria.....	15	-----	4	-----	0	0	0	1
Springfield.....	2	2	4	-----	0	0	1	0
Michigan:								
Detroit.....	37	59	32	-----	4	5	2	14
Flint.....	35	4	0	-----	0	0	23	2
Grand Rapids.....	6	1	0	-----	0	0	1	5

City reports for week ended November 21, 1931—Continued

Division, State, and city	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.....	7	1	0	-----	0	1	0	1
Madison.....	12	1	3	-----	-----	1	4	7
Milwaukee.....	60	14	4	1	1	1	31	0
Racine.....	25	2	1	-----	0	0	14	0
Superior.....	1	0	0	-----	0	0	6	0
WEST NORTH CENTRAL								
Minnesota:								
Duluth.....	7	0	0	-----	0	0	1	2
Minneapolis.....	54	24	10	-----	0	3	19	6
St. Paul.....	16	9	3	-----	0	2	3	3
Iowa:								
Davenport.....	6	2	0	-----	-----	0	0	-----
Des Moines.....	0	2	5	-----	-----	1	0	-----
Sioux City.....	5	2	4	-----	-----	0	2	-----
Waterloo.....	15	0	1	-----	-----	0	0	-----
Missouri:								
Kansas City.....	27	9	2	-----	0	0	2	9
St. Joseph.....	2	1	10	-----	0	0	0	2
St. Louis.....	23	43	28	-----	1	2	5	8
North Dakota:								
Fargo.....	9	0	0	-----	0	0	0	0
Grand Forks.....	0	0	0	-----	-----	0	0	-----
South Dakota:								
Aberdeen.....	8	0	0	-----	-----	18	0	-----
Nebraska:								
Omaha.....	13	10	17	-----	0	1	4	7
Kansas:								
Topeka.....	3	1	0	-----	1	1	0	0
Wichita.....	12	3	16	-----	0	1	0	2
SOUTH ATLANTIC								
Delaware:								
Wilmington.....	1	2	3	-----	0	2	0	1
Maryland:								
Baltimore.....	51	24	15	3	1	1	29	23
Cumberland.....	8	0	1	-----	0	0	0	2
Frederick.....	0	0	0	-----	0	0	0	0
District of Columbia:								
Washington.....	7	17	15	2	2	3	0	14
Virginia:								
Lynchburg.....	0	4	6	-----	0	1	1	1
Norfolk.....	2	3	4	-----	0	2	0	5
Richmond.....	1	18	15	-----	1	0	0	5
Roanoke.....	4	4	10	-----	0	0	0	1
West Virginia:								
Charleston.....	23	3	3	-----	0	1	0	2
Wheeling.....	15	1	0	-----	0	0	0	2
North Carolina:								
Raleigh.....	2	3	4	-----	0	9	0	1
Wilmington.....	0	2	0	-----	0	0	0	1
Winston-Salem.....	8	5	6	-----	0	0	2	0
South Carolina:								
Charleston.....	1	2	2	28	0	0	0	3
Columbia.....	0	1	0	-----	1	0	0	3
Greenville.....	10	1	0	-----	0	0	0	0
Georgia:								
Atlanta.....	3	8	4	14	1	0	1	13
Brunswick.....	0	0	0	-----	0	0	0	0
Savannah.....	1	3	0	5	0	0	0	5
Florida:								
Miami.....	0	2	2	-----	0	2	0	2
Tampa.....	2	2	3	1	0	0	0	0

City reports for week ended November 21, 1931—Continued

Division, State, and city	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.....	2	3	3	-----	0	0	0	3
Tennessee:								
Memphis.....	6	10	13	-----	1	0	2	7
Nashville.....	0	4	4	-----	2	1	0	9
Alabama:								
Birmingham.....	0	8	6	-----	0	0	0	7
Mobile.....	0	2	1	-----	1	0	0	3
Montgomery.....	0	3	2	-----		4	2	-----
WEST SOUTH CENTRAL								
Arkansas:								
Fort Smith.....	0	0	3	-----		0	0	-----
Little Rock.....	0	2	2	-----	0	0	0	2
Louisiana:								
New Orleans.....	-----	14	-----	-----	-----	-----	-----	-----
Shreveport.....	3	2	4	-----	0	3	0	2
Oklahoma:								
Muskogee.....	1	3	8	-----	0	0	0	0
Tulsa.....	0	6	40	-----		0	0	-----
Texas:								
Dallas.....	2	20	23	-----	1	0	0	4
Galveston.....	0	1	0	-----	0	0	0	0
Houston.....	0	9	16	-----	0	0	0	9
San Antonio.....	0	5	1	-----	1	0	0	2
MOUNTAIN								
Montana:								
Billings.....	0	0	0	-----	0	68	0	0
Great Falls.....	1	0	0	-----	0	0	0	1
Helena.....	2	0	0	-----	0	16	0	0
Missoula.....	0	1	0	-----	0	0	0	0
Idaho:								
Boise.....	1	0	0	-----	0	0	0	0
Colorado:								
Denver.....	60	11	1	-----	2	2	3	14
Pueblo.....	8	1	0	-----	0	0	0	1
New Mexico:								
Albuquerque.....	1	0	3	-----	0	0	0	1
Arizona:								
Phoenix.....	0	1	1	-----	0	0	0	1
Utah:								
Salt Lake City.....	53	4	1	-----	0	1	1	4
Nevada:								
Reno.....	0	0	0	-----	0	0	0	0
PACIFIC								
Washington:								
Seattle.....	36	5	3	-----	-----	26	8	-----
Spokane.....	9	2	0	-----	-----	0	0	-----
Tacoma.....	1	4	1	-----	0	0	4	2
Oregon:								
Portland.....	29	10	0	-----	3	0	8	4
Salem.....	4	0	0	-----	4	0	2	-----
California:								
Los Angeles.....	27	35	42	-----	33	1	3	13
Sacramento.....	2	3	3	-----	1	0	0	2
San Francisco.....	62	13	1	-----	8	1	1	4

City reports for week ended November 21, 1931—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	1	2	0	0	0	0	1	0	0	2	27
New Hampshire:											
Concord	0	0	0	0	0	0	0	0	0	0	10
Nashua	1	1	0	0	0	0	0	0	0	3	
Vermont:											
Barre	0	1	0	0	0	1	0	0	0	0	5
Massachusetts:											
Boston	54	54	0	0	0	13	2	3	0	19	217
Fall River	3	5	0	0	0	1	1	1	0	0	25
Springfield	5	7	0	0	0	0	1	0	0	12	18
Worcester	11	24	0	0	0	0	0	0	0	17	49
Rhode Island:											
Pawtucket	1	0	0	0	0	0	0	0	0	0	12
Providence	16	9	0	0	0	1	0	0	1	1	58
Connecticut:											
Bridgeport	0	2	0	0	0	0	1	0	0	2	24
Hartford	5	3	0	0	0	1	0	0	0	1	
New Haven	3	1	0	0	0	1	0	0	0	2	45
MIDDLE ATLANTIC											
New York:											
Buffalo	21	32	0	0	0	8	1	0	0	13	138
New York	93	93	0	0	0	77	14	11	0	137	1,406
Rochester	6	51	0	0	0	3	0	0	0	6	64
Syracuse	6	12	0	0	0	1	0	1	0	40	39
New Jersey:											
Camden	3	8	0	0	0	1	1	0	0	2	30
Newark	11	12	0	0	0	7	1	0	0	49	101
Trenton	2	8	0	0	0	2	0	11	0	4	42
Pennsylvania:											
Philadelphia	60	30	0	0	0	21	4	2	1	141	403
Pittsburgh	38	05	0	0	0	12	0	4	0	23	162
Reading	1	3	0	0	0	1	0	0	0	6	18
Scranton	2	9	0	0	0	0	0	0	0	4	
EAST NORTH CENTRAL											
Ohio:											
Cincinnati	16	53	0	0	0	4	0	0	0	3	123
Cleveland	29	62	0	0	0	6	1	0	0	100	187
Columbus	9	30	0	0	0	1	0	1	0	5	80
Toledo	11	9	0	0	0	3	1	0	1	27	50
Indiana:											
Fort Wayne	3	1	1	0	0	0	0	1	0	0	20
Indianapolis	13	4	2	0	0	3	1	1	0	9	
South Bend	4	0	0	0	0	1	0	0	0	0	13
Terre Haute	3	0	0	0	0	0	0	0	0	0	15
Illinois:											
Chicago	98	115	0	0	0	43	3	2	0	148	589
Peoria		3	0	0	0	0	0	0	0	18	18
Springfield	2	6	0	0	0	0	0	0	0	3	
Michigan:											
Detroit	74	80	1	0	0	18	2	2	0	54	229
Flint	12	6	0	0	0	2	0	0	0	15	26
Grand Rapids	9	13	0	0	0	0	0	0	0	10	46
Wisconsin:											
Kenosha	1	5	0	0	0	0	0	0	0	1	4
Madison	2	0	0	0	0	0	0	0	0	1	
Milwaukee	16	21	0	0	0	2	0	0	0	108	94
Racine	4	1	0	0	0	1	0	0	0	7	12
Superior	2	0	0	0	0	0	0	0	0	6	5

1 Nonresident.

City reports for week ended November 21, 1931—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											
Minnesota:											
Duluth.....	9	0	0	0	0	0	1	1	2	25	
Minneapolis.....	37	10	0	0	0	0	0	0	9	80	
St. Paul.....	16	3	0	0	0	2	0	0	5	43	
Iowa:											
Davenport.....	0	5	0	0	0	0	0	0	0	0	
Des Moines.....	8	5	2	0	0	0	0	0	0	32	
Sioux City.....	3	5	0	3	0	0	0	0	3	0	
Waterloo.....	2	0	0	1	0	0	0	0	10	0	
Missouri:											
Kansas City.....	14	9	0	0	0	6	1	0	15	100	
St. Joseph.....	3	1	0	0	0	9	0	1	0	16	
St. Louis.....	35	24	0	1	0	10	3	2	65	203	
North Dakota:											
Fargo.....	2	8	0	0	0	0	0	0	4	7	
Grand Forks.....	1	0	0	0	0	0	0	0	0	0	
South Dakota:											
Aberdeen.....	0	2	0	0	0	0	0	0	5	0	
Nebraska:											
Omaha.....	5	4	2	0	0	2	0	1	4	63	
Kansas:											
Topeka.....	3	1	0	0	0	1	0	0	3	17	
Wichita.....	5	4	1	0	0	0	0	0	1	23	
SOUTH ATLANTIC											
Delaware:											
Wilmington.....	2	5	0	0	0	0	1	0	4	24	
Maryland:											
Baltimore.....	17	25	0	0	0	11	3	4	121	196	
Cumberland.....	1	6	0	0	0	0	1	0	7	11	
Frederick.....	1	0	0	0	0	0	0	0	0	4	
District of Col.:											
Washington.....	16	27	1	0	0	16	2	5	13	170	
Virginia:											
Lynchburg.....	1	2	0	0	0	0	0	0	0	18	
Norfolk.....	3	13	0	0	0	1	0	1	0	0	
Richmond.....	8	29	0	0	0	3	0	0	0	52	
Roanoke.....	4	1	0	0	0	1	0	0	0	11	
West Virginia:											
Charleston.....	2	2	0	0	0	4	0	12	1	8	
Wheeling.....	2	3	0	0	0	1	0	0	2	21	
North Carolina:											
Raleigh.....	1	3	0	0	0	0	0	0	1	7	
Wilmington.....	1	1	0	0	0	0	0	0	0	11	
Winston-Salem.....	4	4	1	0	0	1	0	0	5	10	
South Carolina:											
Charleston.....	1	2	0	0	0	2	0	0	0	24	
Columbia.....	1	2	0	0	0	1	0	0	3	18	
Greenville.....	1	2	0	0	0	0	0	0	1	0	
Georgia:											
Atlanta.....	7	12	0	0	0	6	1	0	0	101	
Brunswick.....	0	0	0	0	0	0	0	0	0	2	
Savannah.....	0	4	0	0	0	3	0	1	0	30	
Florida:											
Miami.....	1	1	0	0	0	3	0	0	0	27	
Tampa.....	0	3	0	0	0	0	0	0	3	25	
EAST SOUTH CENTRAL											
Kentucky:											
Covington.....	1	2	0	0	0	0	0	0	0	19	
Tennessee:											
Memphis.....	7	5	0	0	0	7	2	3	1	37	
Nashville.....	4	3	0	0	0	1	1	1	0	8	
Alabama:											
Birmingham.....	4	9	0	0	0	1	3	0	0	0	
Mobile.....	1	4	0	0	0	0	0	0	0	27	
Montgomery.....	1	2	0	0	0	0	0	0	0	0	

† Nonresidents.

City reports for week ended November 21, 1931—Continued

Division, State, and city	Scarlet fever		Smallpox			Tuber- cul- sis, deaths re- ported	Typhoid fever			Whoop- ing cough, cases re- ported	Deaths, all causes
	Cases, esti- mated expect- ancy	Cases re- ported	Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		Cases, esti- mated expect- ancy	Cases re- ported	Deaths re- ported		
WEST SOUTH CENTRAL											
Arkansas:											
Fort Smith.....	1	1	0	0		0	0		3		
Little Rock.....	2	3	0	0	0	2	1	0	0		6
Louisiana:											
New Orleans.....	9		0			2	2				
Shreveport.....	2	1	0	0	0	2	1	0	0	3	28
Oklahoma:											
Muskogee.....		1		0	0	0		0	0	4	
Tulsa.....	3	4	0	0			0	0	0	0	
Texas:											
Dallas.....	8	8	0	0	0	1	1	5	0	0	46
Galveston.....	1	0	0	0	0	1	1	0	0	0	12
Houston.....	3	0	0	0	0	5	0	0	0	0	67
San Antonio.....	1	0	1	0	0	9	0	0	1	6	47
MOUNTAIN											
Montana:											
Billings.....	0	0	0	0	0	0	0	0	0	0	8
Great Falls.....	2	4	0	0	0	0	0	0	0	0	8
Helena.....	0	0	0	0	0	0	0	0	0	0	6
Missoula.....	1	0	0	0	0	0	0	0	0	0	6
Idaho:											
Boise.....	0	0	0	0	0	1	0	0	0	0	4
Colorado:											
Denver.....	12	15	0	0	0	9	1	0	0	16	88
Pueblo.....	1	1	0	0	0	0	0	1	0	2	14
New Mexico:											
Albuquerque.....	0	3	0	0	0	4	1	1	0	1	8
Arizona:											
Phoenix.....	2	1		0	0	0	0	0	0	1	
Utah:											
Salt Lake City.....	3	5	1	0	0	2	1	0	0	1	27
Nevada:											
Reno.....	0	0	0	0	0	0	0	0	0	0	3
PACIFIC											
Washington:											
Seattle.....	10	9	1	0			1	3		4	
Spokane.....	6	5	7	1			1	0		0	
Tacoma.....	3	0	1	0	0	0	0	0	0	0	22
Oregon:											
Portland.....	8	4	2	1	0	1	1	0	1	0	74
Salem.....	0	0	0	0	0	0		0	0	2	
California:											
Los Angeles.....	24	47	1	0	0	15	1	3	0	15	295
Sacramento.....	3	1	1	0	0	2	0	0	0	4	28
San Francisco.....	13	4	0	2	0	11	1	3	0	8	138

City reports for week ended November 21, 1931—Continued

Division, State, and city	Meningo- coccus meningitis		Lethargic en- cephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, esti- mated expect- ancy	Cases	Deaths
NEW ENGLAND									
Maine:									
Portland.....	0	0	0	0	0	0	0	0	1
Massachusetts:									
Boston.....	1	0	0	0	0	0	2	2	0
Springfield.....	0	0	0	0	0	0	0	3	0
Worcester.....	0	0	0	0	0	0	0	1	0
MIDDLE ATLANTIC									
New York:									
New York City.....	6	6	1	2	0	0	5	11	1
Syracuse.....	1	0	0	0	0	0	0	0	0
New Jersey:									
Camden.....	0	0	0	0	0	0	0	1	1
Pennsylvania:									
Philadelphia.....	3	2	0	0	0	0	1	2	1
Pittsburgh.....	1	1	0	0	0	0	0	0	0
Scranton.....	0	0	0	0	0	0	1	0	0
EAST NORTH CENTRAL									
Ohio:									
Cincinnati.....	1	0	0	0	0	0	0	1	0
Cleveland.....	0	0	0	1	0	0	1	2	0
Columbus.....	0	0	1	1	0	1	0	0	0
Toledo.....	0	0	1	1	0	0	1	0	0
Illinois:									
Chicago.....	6	4	0	0	0	0	1	4	2
Peoria.....	0	0	0	0	0	0	0	1	0
Michigan:									
Detroit.....	1	0	1	0	0	0	0	1	0
Flint.....	0	0	0	1	0	0	0	0	0
Wisconsin:									
Madison.....	1	0	0	0	0	0	0	0	0
Milwaukee.....	0	0	0	0	0	0	0	1	0
WEST NORTH CENTRAL									
Minnesota:									
Minneapolis.....	0	0	0	0	0	0	0	2	1
St. Paul.....	0	0	0	0	0	0	0	5	2
SOUTH ATLANTIC									
Maryland:									
Baltimore.....	1	0	0	0	0	0	0	0	0
North Carolina:									
Raleigh.....	0	0	0	0	1	0	0	0	0
Wilmington.....	0	0	0	0	0	1	0	0	0
South Carolina:									
Charleston.....	0	0	0	0	6	0	0	0	0
Georgia: ¹									
Savannah.....	0	0	0	0	2	1	0	0	0
EAST SOUTH CENTRAL									
Tennessee:									
Memphis.....	5	1	0	0	0	0	0	1	0
Alabama:									
Birmingham.....	1	2	1	0	2	1	0	0	0
Mobile.....	0	0	0	0	0	1	0	0	0
WEST SOUTH CENTRAL									
Arkansas:									
Little Rock.....	0	0	0	0	0	2	0	0	0
Texas:									
Dallas.....	0	1	0	0	0	0	0	0	0
Houston.....	1	0	0	0	0	0	0	0	0

¹ Typhus fever, 5 cases; 1 case at Raleigh, N. C.; 1 case at Atlanta, Ga.; and 3 cases at Savannah, Ga.

City reports for week ended November 21, 1931—Continued

Division, State, and city	Meningo- coccus meningitis		Lethargic en- cephalitis		Pellagra		Poliomyelitis (infantile paralysis)		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases, esti- mated expect- ancy	Cases	Deaths
MOUNTAIN									
Utah:									
Salt Lake City.....	1	0	0	0	0	0	0	0	0
PACIFIC									
Washington:									
Seattle.....	0	0	0	0	0	0	0	1	0
California:									
Los Angeles.....	0	0	0	0	0	0	1	2	0
San Francisco.....	0	1	0	0	0	0	0	0	0

The following table gives the rates per 100,000 population for 98 cities for the 5-week period ended November 21, 1931, compared with those for a like period ended November 22, 1930. The population figures used in computing the rates are estimated mid-year populations for 1930 and 1931, respectively, derived from the 1930 census. The 98 cities reporting cases have an estimated aggregate population of more than 33,000,000. The 91 cities reporting deaths have more than 31,500,000 estimated population.

*Summary of weekly reports from cities, October 18 to November 21, 1931—Annual rates per 100,000 population compared with rates for the corresponding period of 1930*¹

DIPHTHERIA CASE RATES

	Week ended—									
	Oct. 24, 1931	Oct. 25, 1930	Oct. 31, 1931	Nov. 1, 1930	Nov. 7, 1931	Nov. 8, 1930	Nov. 14, 1931	Nov. 15, 1930	Nov. 21, 1931	Nov. 22, 1930
98 cities.....	82	77	85	90	² 94	³ 82	⁴ 96	89	⁵ 96	100
New England.....	87	106	63	92	84	85	50	82	70	123
Middle Atlantic.....	32	34	41	44	32	33	52	44	53	52
East North Central.....	74	105	82	130	97	109	⁶ 76	128	91	124
West North Central.....	145	96	174	93	155	⁷ 77	184	107	174	110
South Atlantic.....	223	106	146	116	182	86	146	120	172	154
East South Central.....	122	179	204	293	⁷ 289	215	227	185	169	275
West South Central.....	142	80	162	101	203	199	233	160	⁸ 238	171
Mountain.....	35	62	9	35	⁸ 49	123	⁹ 63	26	17	26
Pacific.....	76	101	92	67	¹⁰ 104	93	127	63	98	63

MEASLES CASE RATES

98 cities.....	32	36	37	59	² 39	³ 59	⁴ 49	91	⁵ 87	126
New England.....	180	75	115	138	161	128	238	172	233	179
Middle Atlantic.....	19	29	30	27	27	34	38	68	92	76
East North Central.....	18	16	18	18	18	16	⁶ 19	17	29	31
West North Central.....	6	143	11	294	15	² 282	17	502	19	767
South Atlantic.....	10	14	12	20	12	48	10	26	34	64
East South Central.....	17	24	23	42	⁷ 13	84	12	18	29	149
West South Central.....	24	3	17	0	27	0	24	0	⁸ 15	3
Mountain.....	17	141	61	414	⁸ 157	229	⁹ 63	308	757	326
Pacific.....	69	18	125	24	¹⁰ 109	24	135	32	149	28

SCARLET FEVER CASE RATES

98 cities.....	126	121	139	161	² 170	³ 169	⁴ 169	187	⁵ 189	195
New England.....	195	157	142	213	202	225	221	276	260	237
Middle Atlantic.....	100	78	127	132	134	133	131	126	163	159
East North Central.....	140	171	161	218	239	231	⁶ 212	287	241	263
West North Central.....	119	116	136	163	140	³ 140	149	143	132	219
South Atlantic.....	156	162	158	166	190	158	239	154	259	216
East South Central.....	145	149	198	245	⁷ 107	293	198	275	145	209
West South Central.....	57	70	47	66	95	91	122	118	⁸ 63	94
Mountain.....	174	167	165	344	⁸ 275	282	⁹ 322	388	218	282
Pacific.....	141	89	133	47	¹⁰ 127	95	96	99	129	87

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, 1931, and 1930, respectively.

² Covington, Ky., Billings, Mont., Pueblo, Colo., and Spokane, Wash., not included.

³ Waterloo, Iowa, not included.

⁴ South Bend, Ind., Springfield, Ill., and Billings, Mont., not included.

⁵ New Orleans, La., not included.

⁶ South Bend, Ind., and Springfield, Ill., not included.

⁷ Covington, Ky., not included.

⁸ Billings, Mont., and Pueblo, Colo., not included.

⁹ Billings, Mont., not included.

¹⁰ Spokane, Wash., not included.

Summary of weekly reports from cities, October 18 to November 21, 1931—Annual rates per 100,000 population compared with rates for the corresponding period of 1930—Continued

SMALLPOX CASE RATES

	Week ended—									
	Oct. 24, 1931	Oct. 25, 1930	Oct. 31, 1931	Nov. 1, 1930	Nov. 7, 1931	Nov. 8, 1930	Nov. 14, 1931	Nov. 15, 1930	Nov. 21, 1931	Nov. 22, 1930
98 cities.....	2	2	2	3	2	2	1	4	1	3
New England.....	0	0	0	0	0	0	0	0	0	0
Middle Atlantic.....	0	0	0	0	0	0	0	0	0	0
East North Central.....	0	2	1	1	0	4	0	2	0	0
West North Central.....	10	0	6	19	11	6	4	21	10	23
South Atlantic.....	4	0	0	0	0	0	0	0	0	0
East South Central.....	0	0	0	0	13	0	6	0	0	3
West South Central.....	3	7	0	3	3	7	3	3	0	0
Mountain.....	0	0	0	9	0	9	9	0	0	44
Pacific.....	12	18	12	14	10	6	4	18	6	6

TYPHOID FEVER CASE RATES

96 cities.....	22	17	16	14	12	11	12	15	11	15
New England.....	29	29	5	5	10	5	7	24	10	17
Middle Atlantic.....	24	12	11	9	11	5	6	4	8	5
East North Central.....	12	5	16	7	6	9	11	5	5	9
West North Central.....	19	8	19	14	21	4	13	19	8	23
South Atlantic.....	26	40	38	32	30	32	36	34	24	28
East South Central.....	105	84	6	102	19	24	23	48	41	12
West South Central.....	37	24	17	14	30	28	24	87	24	84
Mountain.....	17	79	0	0	10	18	0	26	9	53
Pacific.....	6	16	25	18	10	16	10	10	18	10

INFLUENZA DEATH RATES

91 cities.....	4	5	5	9	11	9	8	9	7	10
New England.....	2	2	10	2	12	2	14	5	7	7
Middle Atlantic.....	2	6	4	9	8	12	10	8	6	7
East North Central.....	3	3	6	6	5	6	2	9	4	5
West North Central.....	3	9	0	9	6	3	6	6	6	6
South Atlantic.....	10	4	4	18	4	10	6	6	12	24
East South Central.....	13	6	6	13	7	26	0	39	25	13
West South Central.....	17	7	0	21	17	14	7	28	10	36
Mountain.....	9	9	17	18	20	9	27	9	17	62
Pacific.....	7	7	2	2	5	7	12	5	5	7

PNEUMONIA DEATH RATES

91 cities.....	69	86	82	99	118	101	88	115	102	116
New England.....	50	99	90	104	67	89	101	114	84	126
Middle Atlantic.....	78	102	96	109	107	116	108	120	116	133
East North Central.....	52	52	63	87	64	74	50	85	70	82
West North Central.....	91	60	75	96	80	87	88	78	115	138
South Atlantic.....	67	136	113	134	117	132	97	172	132	156
East South Central.....	95	84	101	65	123	136	151	188	183	175
West South Central.....	97	125	86	103	66	110	55	103	95	114
Mountain.....	78	79	52	167	128	194	152	220	174	167
Pacific.....	55	60	46	32	53	42	70	67	50	50

¹ Covington, Ky.; Billings, Mont.; Pueblo, Colo.; and Spokane, Wash., not included.

² Waterloo, Iowa, not included.

³ South Bend, Ind.; Springfield, Ill.; and Billings, Mont., not included.

⁴ New Orleans, La., not included.

⁵ South Bend, Ind., and Springfield, Ill., not included.

⁶ Covington, Ky., not included.

⁷ Billings, Mont., and Pueblo, Colo., not included.

⁸ Billings, Mont., not included.

⁹ Spokane, Wash., not included.

¹⁰ Covington, Ky.; Billings, Mont., and Pueblo, Colo., not included.

FOREIGN AND INSULAR

CANADA

Provinces—Communicable diseases—Week ended November 14, 1931.—The Department of Pensions and National Health of Canada reports cases of certain communicable diseases for the week ended November 14, 1931, as follows:

Province	Cerebrospinal meningitis	Influenza	Lethargic encephalitis	Poliomyelitis	Small-pox	Typhoid fever
Prince Edward Island ¹						
Nova Scotia.....		1				
New Brunswick ¹						
Quebec.....	1	9		17		47
Ontario.....	1	1	1	7	5	26
Manitoba.....	1					9
Saskatchewan.....	1				18	4
Alberta.....					1	
British Columbia.....					1	2
Total	4	11	1	24	25	88

¹ No case of any disease included in the table was reported during the week.

Quebec Province—Communicable diseases—Week ended November 14, 1931.—The Bureau of Health of the Province of Quebec, Canada, reports cases of certain communicable diseases for the week ended November 14, 1931, as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis.....	1	Paratyphoid fever.....	1
Chicken pox.....	134	Poliomyelitis.....	17
Diphtheria.....	81	Puerperal septicemia.....	1
German measles.....	66	Scarlet fever.....	100
Influenza.....	9	Tuberculosis.....	44
Measles.....	71	Typhoid fever.....	46
Mumps.....	3	Whooping cough.....	31

Saskatchewan—Vital statistics—1930.—According to information published by the Provincial Department of Statistics of Saskatchewan, Canada, birth and death rates in the Province for the year 1930 were as follows:

Birth rate per 1,000 population.....	Rate 25. 0
Infant mortality per 1,000 live births.....	72. 6
Death rate per 1,000 population.....	7. 2

CZECHOSLOVAKIA

Communicable diseases—September, 1931.—During the month of September, 1931, certain communicable diseases were reported in the Republic of Czechoslovakia as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	6	1	Paratyphoid fever.....	30	2
Cerebrospinal meningitis.....	3	2	Puerperal fever.....	40	15
Diphtheria.....	2, 126	105	Scarlet fever.....	1, 634	32
Dysentery.....	89	19	Trachoma.....	123	-----
Malaria.....	36	-----	Typhoid fever.....	782	65

IRAQ

Cholera.—The number of cases of and deaths from cholera reported in Iraq since the beginning of the outbreak in the latter part of July, 1931, up to October 30, 1931, are as follows:

Locality	Cases	Deaths	Locality	Cases	Deaths
Abulkhasib.....	6	5	Diwaniyah.....	2	-----
Amara.....	70	62	Diwaniyah Province.....	110	76
Amara Province.....	328	213	Muntafiq Province.....	494	362
Basra.....	1, 106	603	Nasiriyah.....	95	87
Basra Province.....	104	52	Qurnah.....	9	7

MEXICO

Monterrey—Malaria.—According to recent information, malaria was said to have been epidemic at Monterrey, Mexico, during the present year. Although measures were taken in recent years by the sanitary authorities to eradicate mosquito-breeding places, and for a time there was a marked reduction in the number of persons affected by the disease this year, owing to the continuous rains mosquitoes soon became numerous again. A large number of persons employed by industrial establishments, as well as many school teachers and pupils, have been affected by malaria.

The use of quinine in combatting the disease has been largely confined to the upper and middle classes. Promise of assistance in the distribution of quinine to malaria patients has been made by the government of the State of Nuevo Leon, of which Monterrey is the capital, as well as by the more important industrial establishments located there.

YUGOSLAVIA

Communicable diseases—October, 1931.—During the month of October, 1931, certain communicable diseases were reported in Yugoslavia, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Anthrax.....	95	13	Poliomyelitis.....	5	-----
Cerebrospinal meningitis.....	7	3	Rabies.....	1	1
Diphtheria.....	1, 186	137	Scarlet fever.....	891	52
Dysentery.....	100	23	Sepsis.....	12	2
Erysipelas.....	251	18	Tetanus.....	35	11
Measles.....	1, 528	7	Typhoid fever.....	672	86
Paratyphoid fever.....	9	-----	Typhus fever.....	1	-----

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

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

Place	May 3-30, 1931	May 31-June 27, 1931	June 28-July 25, 1931	July 26-Aug. 22, 1931	Week ended—																
					September, 1931			October, 1931				November, 1931									
					5	12	19	26	3	10	17	24	31	7	14						
Brazil:																					
Alagoas State.....	D			1																	
Maceio.....	D			1																	1
Ceara State.....		1		1																	
Mimas Geraes State.....	D	2																			
Rio de Janeiro State.....	D	1																			
Sergipe State.....	C																				
British Cameroons: Mamfe.....	C	3																			
.....	C	2																			
Colombia: Magdalena Province—Near Cienega	D			4																	
Gold Coast:																					
Akuse.....	C			2																	
Dagomba District.....	D			1																	
Kete Krachi.....	C			4																	
Kintampo.....	C										1										
.....	D																				
Oda.....	C										1										
.....	D																				
Tamale.....	C			2																	
Wale Wale.....	D			2							2										
Ivory Coast:																					
Bobo Dioulasso.....	C			1																	
.....	D																				
Grand Bassam.....	C																				
.....	D																				
Kong Circle.....	C																				
Seguela.....	D			4																	
Tehini.....	C																				
.....	D																				
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