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A SOURCE OF LEAD CONTAMINATION OF CISTERN WATER.

REPORT OF AN EXAMINATION OF THE DRINKING WATER SUPPLY SYSTEM AT THE U. S. FISH HATCHERY STATION, TEN POUND ISLAND, GLOUCESTER, MASS., FOR POSSIBLE SOURCES OF LEAD CONTAMINATION.

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The investigation here reported was made in accordance with a request from the United States Employees' Compensation Commission to the Public Health Service.

The fish hatchery with which this report deals is located on an island (Ten Pound Island) in the bay of Gloucester, Mass. On this island, which is comparatively level and, hence, to outward appearances, presents little likelihood of a large amount of surface drainage, there are to be found the two main hatchery buildings and a number of other buildings, such as the pumping plant, shops, etc., necessary to the conduct of the establishment.

The two main fish-hatchery buildings are of frame construction, resting on brick foundations. One of these buildings is a single story; the other, which is of principal concern in this report, is two stories in height.

DRINKING WATER SUPPLY AT THE FISH HATCHERY.

The water used for drinking purposes at the station is rain water that falls on the unpainted roof of the two-story hatchery building. The water drains from the roof into copper gutters (unpainted on the inside), and then into two 3-inch copper drain pipes (also unpainted on the inside). Neither the copper gutters nor the drain pipes are soldered together. The two drain pipes empty into a cistern located beneath the floor of the building. This cistern, which is of about 4,500 gallons capacity, is made of brick and cemented on the inside.

There are three outlets for the water from this cistern. One is an overflow drain pipe and the other two are galvanized-iron pipes serving the sinks, one of which is on the ground floor of the building and directly over the corner of the cistern and the other on the second floor of the building in the kitchen. According to a statement made by the superintendent of the station, a short piece (about

6 to 7 feet) of soft pipe (sample was obtained) was used until July, 1920, to convey water from the cistern to the ground-floor sink. In July, 1920, this pipe was removed and the cistern was thoroughly cleaned. On the second visit of the writer, the cistern was again drained and thoroughly cleaned. The cistern was found to be in excellent condition and, with the exception of a thin layer of black organic sludge, was found to be perfectly clean.

POSSIBLE SOURCES OF LEAD CONTAMINATION.

From the examination of the drinking water system it appeared that there were only three possible sources of lead contamination; namely—

1. Lead pipe removed in 1920.
2. Lead paint which might possibly have gotten into gutters or drains.
3. Lead flashing on one side of the stair well opening, leading out on the roof, and on the lower side of two dormer windows, a total length of approximately 16 to 17 feet.

With these facts in mind, four samples of water (1, 2, 3, and 4) were obtained on the occasion of the first visit of the investigators, and also a sample of the old pipe which was removed in July, 1920. A small piece of flashing was also obtained. On a second visit to the island, two additional samples of water (5 and 6) were obtained, and also a large piece of the flashing.

METHOD OF ANALYSIS.

The samples of water were analyzed according to the procedure outlined in the report of the Committee on Standard Methods, of the American Public Health Association.

Result of analysis.

Sample No.	Source.	Amount of sample (c. c.).	Lead found (parts per million).
1	Cistern (top)	1,820	1.9
2	Ground floor pump	3,470	.4
3	Second floor pump	3,710	.6
4	Cistern (bottom)	1,740	6.4
5	Cistern (top)	3,800	.96
6	Cistern (bottom)	3,800	3.84

The analyses of this series of samples show that lead was present in all cases. The samples taken at the two pumps averaged 0.5 parts of lead per million, the top water of the cistern 1.43 p. p. m., and the bottom cistern water 5.12 p. p. m. It would appear from these results that a portion of the lead at least was in the form of insoluble lead compounds and was present in a state of suspension.

This has been found to be true in previous studies by other investigators.

The quantity of lead necessary in drinking water to produce the symptoms of poisoning is highly variable. Since lead is a cumulative poison, the quantity ingested would depend on the degree of contamination of the supply, the amount of water consumed daily, and the total number of days of consumption. The production of the symptoms of poisoning would, in practically all cases, vary, because of the high degree of variation of individuals in the susceptibility of the toxic action of lead.

Concerning the consumption of leaded water, Mason [1] says:

"* * * No water to be used for drinking purposes should contain lead compounds in quantity greater than what would correspond to half a part per million of metallic lead."

Doctor Summerville in a paper on "Water" [2] says:

"Lead to the extent of 0.25 parts per million is sufficient to condemn a potable water."

Weston [3] quotes the following cases reported by Prof. Reid Hunt, in which a considerable number of persons were poisoned by drinking water containing the following amounts of lead:

Amount of lead, p. p. m.:	Place.
0. 5–1. 6	At Sprokhoevel (in Westphalia), (Lemmer).
0. 7–12. 5	At a village in the Taunus (Schwenkenbecher and Neisser).
0. 998–9. 983	At Sheffield (White and Allen).
1. 997	At Huddersfield (Aird).
1. 143–11. 98	At Huddersfield (Stevenson).
1. 43–4. 28	At Manchester (Calvert).
2. 00–15. 00	At Castle Claremont (de Mussy).
8. 7	At Keighley (Stevenson).

"Amounts of lead, p. p. m., which a number of writers have stated to be poisonous or tolerated are as follows:

"0.36 may be poisonous (A. Smith).

"1.41 may not be poisonous (A. Smith).

"0.36 maximum permissible amount (Rubner).

"0.3 or, at most, 0.5 permissible (Schwenkenbecher & Neisser).

"0.7 maximum permissible amount (Steiner).

"0.71 tolerated (J. Smith).

"1.00 tolerated (Gartner) (Telekey).

"1.43 tolerated (?) (White)."

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[1] Examination of Water. By W. P. Mason. Wiley & Sons, N. Y., 1917.

[2] Quoted by Mason.

[3] Lead poisoning by water, and its prevention. By Robert Spurr Weston. Jour. N. E. Waterworks Assoc., vol. XXXIV, No. 4, December, 1920, p. 257.

From a review of the facts as brought out by this investigation, and the consideration of the past experience in this field, it is concluded that the presence of the amount of lead found in the water supply at the station may constitute a true health hazard.

CONCERNING THE SOURCE OF LEAD.

The analysis of the lead pipe removed in July, 1920, shows it to be largely composed of lead. If an average of the lead content of the top and bottom water of the cistern is taken, we find it to be 3.3 parts of lead per million of water; and assuming that the cistern of 4,500 gallons capacity had been emptied twice in the interval between July, 1920, and February, 1922, it would have been necessary for 112 grams of lead to remain in the cistern after its cleaning in July, 1920, to give the water this lead content. For this quantity of lead to have remained in the cistern after cleaning seems so unlikely that it is not believed that the old lead pipe removed in July, 1920, can be the source of the lead found in the cistern at the time of investigation.

It was noted that possibly some paint used in painting the outside of the gutters and drains might adventitiously have reached the inside of these appurtenances. This as a source of lead, however, is not to be considered seriously; for lead in paint is highly insoluble in water (its use in building paint would not be advisable if it were); in fact, it is so insoluble that it would take extremely large amounts of lead paint in such a case as this to constitute a hazard.

It seems reasonable, then, by this process of elimination, to return to the flashing, of which there are some 16.5 feet on the roof, and examine it as a possible source of lead in the system under consideration. A piece of the flashing was analyzed and found to be composed largely of lead. A large piece was removed on the occasion of the second visit to the station and later examined under the microscope by reflected light. This was found to be corroded. In several places that had been subjected to weathering it was found to be thinner than in other places where it was protected from such action, though it was impossible to measure the actual thickness with calipers because of the softness of the metal.

It seems highly possible for the flashing (subject, as it is, to the action of salt spray and every rainstorm) to have been the source of such an amount of lead as called for in the estimate made above..

Flashing, as the source of lead in cases such as the one under consideration is not a rarity, as is shown by the experience of the Bureau of Lighthouses. On page 165 of the Regulations of the United States Lighthouse Service for 1911, the following is found:

"To purify rain water contaminated with chloride of lead from salt spray resting in the leads of structures, put a small quantity of pulverized chalk or whiting into the cistern and stir well after each rain."

Here are regulations concerning cases analogous to the one here reported.

CONCLUSIONS.

It is the opinion of the writer, after carefully reviewing all of the foregoing facts, that the flashing on the roof of the hatchery buildings, from which rain water is collected and then used for drinking purposes, is the source of the lead found in the water under investigation.

RECOMMENDATIONS.

It is recommended that the Public Health Service advise against the use of lead in the construction of roofs, the drainage from which is to be used for drinking purposes.

EFFICIENCY OF VARIOUS KINDS OF VENTILATING DUCTS.

A Study of the Uniformity of Air Distribution Attained with Ventilating Ducts of Various Designs.

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INTRODUCTION.

The Second Report of the English Departmental Committee Appointed to Enquire into the Ventilation of Factories and Workshops (London, 1907) presented highly suggestive researches on the effect of the design of ventilating ducts upon the uniformity of air distribution. The studies of the committee demonstrated that it is difficult to secure good distribution with branch ducts constructed at right angles to the main duct, but that it is easy, by inclining the branch ducts at an angle of 30°, to attain a fairly uniform air flow at all points. Another point brought out by these English experiments—the influence of tapered as compared with untapered main ducts—appears to have attracted less general notice. In regard to exhaust ducts, the appendix to the second report of the departmental committee states that "the effect of substituting a tapered for a uniform parallel-sided main duct was always to exaggerate the difference in air flow through the different branch ducts or openings. For example, the currents through ducts A and D were as 1 to 1½ with the uniform air duct, but as 1 to 2 with the tapering air duct. A main exhaust air duct tapering toward the far end is thus not merely of no use in helping to equalize the flow through the branch air

ducts, but its influence, if any, is distinctly harmful, as might, indeed, have been predicted on purely theoretical grounds."

With plenum supply ducts and branch ducts set at right angles to the main duct, a tapered main duct gave better results than a straight-sided main duct, as, with the untapered main duct and right angled branches, the outlets near the fan showed a relatively low air velocity; but with properly designed branch outlets inclined at an angle of 30° the straight-sided main duct was again better than a tapered duct.

It seems probable that the original reason for tapering the main ducts in a system of exhaust or plenum ventilation was to save material. However, there has gradually grown up among ventilating engineers a feeling that tapering is essential for good distribution. As stated in the English report, "It has come, however, to be commonly considered that the real essential of success in obtaining a uniform flow of air is the tapered form of the main duct." In practice we often find main ducts elaborately tapered when the extra cost of workmanship must more than balance the saving in materials. There appeared, therefore, to be good reason for repeating the work of the English investigators to determine on a somewhat more exhaustive scale the true efficiency of straight-sided and tapered ducts from the standpoint of distribution; and the study here reported was planned with that end in view.

DESCRIPTION OF EXPERIMENTAL PLANT.

The experimental plant, as shown in Figure 1, consisted of two ducts, a tapered and an untapered one. Both main ducts were 22 feet 10 inches long and were placed side by side on wooden supports. At the upper end they were joined by a Y branch, at which point a damper was so placed that the air could be shut off from either duct at will. The single leg of the Y was connected by means of a tube 6 feet long to a 45-inch steel plate planing-mill fan arranged so as to blow air into the ducts. The fan was driven by a constant speed electric motor. Proper control apparatus was provided by means of which the motor speed could be varied at will. It will be observed from the figure that each duct was 1 foot $4\frac{7}{16}$ inches square at its beginning, the tapered duct being finally reduced to 6 inches square at the further end. Both main ducts were provided with six branch pipes, five on the side and one at the far end (numbered 1–6 on plan, Figure 1). In designing the tapered duct, the plan was to provide a main duct of cross sectional area, 25 per cent in excess of the sum of the branch areas from any point to the end of the duct. All of the branch pipes were 6 by 6 inches in cross section and entered the main duct at an angle of 30°. Ports were also placed at five points in the

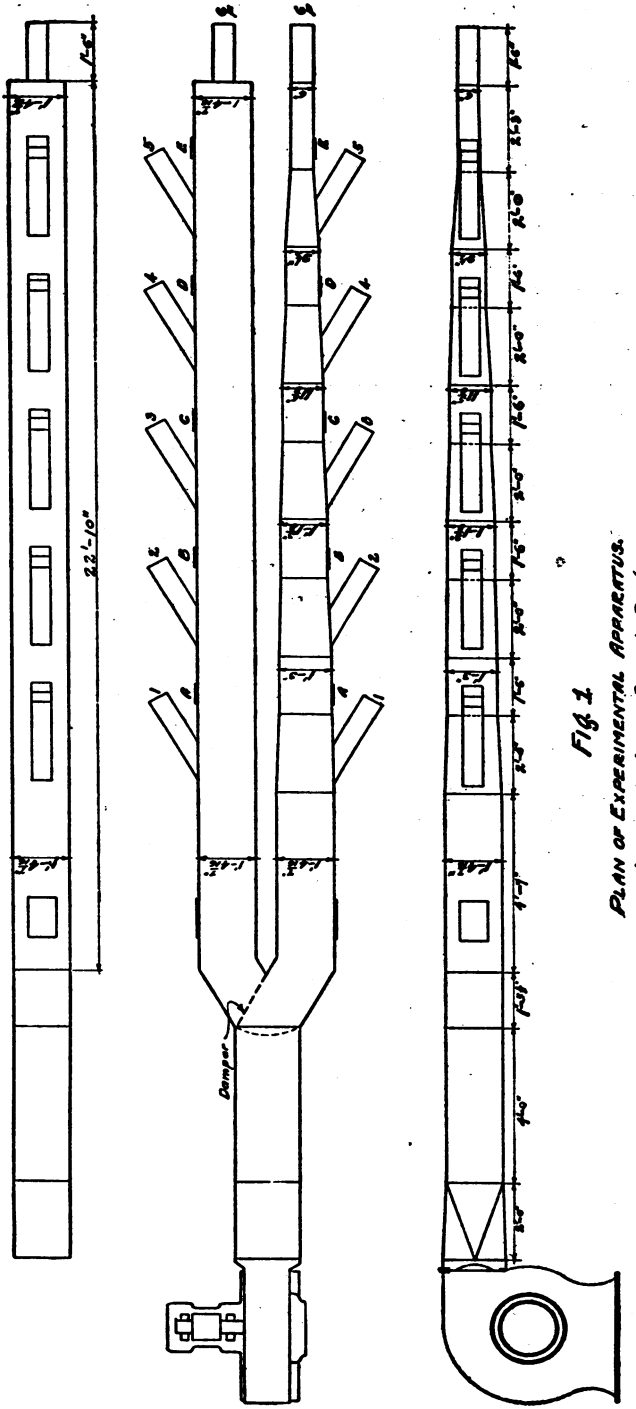

Fig. 1

PLAN OF EXPERIMENTAL APPARATUS.
Figures Indicate Branch Ducts
Letters Indicate Parts.

side of the duct for the study of direct discharge (or exhaust) without slanting branch ducts (lettered A–F in Figure 1). At the upper end of each duct there was also placed a large handhole 8 by 12 inches, as shown. All of the branch pipes, the ports, and the handhole were provided with sliding dampers. All joints in the ducts, branches, and dampers were designed and constructed with care so as to insure the apparatus being air-tight.

In the third and fourth series of experiments reported below, the straight leg of the Y originally connecting with the discharge outlet of the fan was connected, instead, to the inlet of the fan by an S-shaped bend so that the apparatus could be used as an exhaust system.

METHOD OF MAKING OBSERVATIONS.

The apparatus was adjusted for making observations by closing the ports and the handhole on the duct under observation, and fully opening the dampers on its branch pipes or by closing the dampers on branch pipes and leaving the lateral ports in the main duct open. The motor speed was then set and the damper between the two main ducts was so adjusted as to give the desired average velocity. The velocity of discharge (or exhaust) was determined by means of a 4-inch amemometer, calibrated at the Bureau of Standards at Washington. A stop watch reading directly to 0.2 second was used for determining the time. The amemometer was placed in the opening of the branch pipe or in the lateral port, as the case might be. The stop watch was started when the amemometer registered zero, and the amemometer continued registering until the stop watch showed that one minute had elapsed. In this manner two check observations of one minute each were made of the velocity at each successive branch pipe; and each figure presented in the tables to follow represents the average of two such readings.

RESULTS OF AIR SUPPLY STUDIES WITH SLANTING BRANCH DUCTS.

Sixteen tests were made with the straight duct and 16 tests with the tapered duct, involving, in all, 192 velocity measurements, the slanting branch ducts being open in all cases and the side ports of the main ducts closed. The results are presented in compact form in Table I. The individual tests have been grouped under four headings according to the mean velocity of air flow through the six outlets, and the actual data in the table represent the deviation of the air flow at a particular outlet, expressed as a percentage of the mean flow through all six outlets for that particular test. Four tests were made with each duct for each velocity group.

A general inspection of the table indicates that the velocity of discharge from branch duct 6 (farthest from the fan) was always less

than the mean, except in the case of low velocities with the straight main duct. Branch 5 always showed a velocity lower than the mean. At branch 4 the velocity was generally very close to the mean, except with the lowest velocities in the case of the tapered main duct. At branches 2 and 3 the velocity was always above the mean. At branch 1 (nearest the fan) the velocity was markedly lower than the mean at low mean velocities and somewhat higher than the mean at high mean velocities.

TABLE I.—*Study of uniformity of distribution effected by tapered and untapered main ducts and slanting branch ducts. Deviation of observed velocity at each branch outlet in percentage of mean velocity at all outlets for the test in question.*

Branch.	Tapered duct: Deviation (percentage of mean velocity) in tapered duct, at mean velocity (feet per min.) of—				Untapered duct: Deviation (percentage of mean velocity) in untapered duct, at mean velocity (feet per min.) of—			
	400–600	800–1,000	1,100–1,400	1,500–1,800	400–600	800–1,000	1,100–1,400	1,500–1,800
Branch 1	−13.0	+5.8	+3.9	+4.3	−18.1	0.0	+2.0	+5.4
	−12.7	+5.5	+4.3	+4.6	−17.9	0.0	+2.1	+4.8
	−15.4	+4.4	+7.7	+7.4	−10.1	−3.4	+1.1	+2.1
	−16.7	+5.7	+13.7	+8.2	−12.2	0.0	+1.1	+2.0
Branch 2	+6.8	+5.5	+3.9	+2.9	+6.8	+4.6	+3.0	+4.0
	+6.8	+5.4	+3.7	+3.0	+6.8	+4.6	+3.1	+4.3
	+8.5	+6.6	+5.2	+4.5	+4.0	+4.9	+5.6	+5.1
	+9.0	+5.2	+4.5	+4.1	+4.0	+5.0	+6.5	+5.0
Branch 3	+7.6	+2.0	+1.7	+1.6	+10.1	+4.7	+3.4	+2.7
	+7.4	+2.4	+1.6	+2.2	+8.0	+4.4	+3.2	+2.9
	+7.9	+1.6	+0.6	+1.1	+7.7	+6.2	+7.2	+4.9
	+9.3	+1.1	−2.2	+0.4	+7.6	+6.6	+6.8	+6.1
Branch 4	+3.4	−0.7	+0.9	+0.9	−0.4	+2.5	−2.5	−3.7
	+3.8	−0.8	+1.1	+0.7	0.0	−2.1	−2.8	−3.1
	+2.3	−0.8	−0.6	−0.8	−0.2	−0.3	−2.1	−0.9
	+2.6	+1.9	−2.8	−0.5	+0.2	−1.1	−2.2	−1.0
Branch 5	−1.0	−4.0	−2.4	−2.6	−1.3	−5.1	−4.3	−5.8
	−1.8	−4.5	−3.0	−3.0	−0.5	−5.7	−4.2	−5.9
	−1.2	−4.0	−4.2	−4.1	−3.7	−5.4	−6.7	−7.1
	−1.2	−5.0	−5.0	−3.3	−1.8	−5.5	−7.0	−7.3
Branch 6	−3.8	−8.1	−7.7	−7.0	+2.4	−1.4	−1.4	−2.7
	−3.6	−7.8	−7.6	−7.3	+4.0	−1.2	−1.3	−2.9
	−2.8	−7.7	−8.7	−8.1	+2.8	−1.6	−5.1	−4.0
	−3.3	−8.8	−8.2	−9.0	+2.3	−3.1	−5.2	−4.8
Average percent deviation[1]	6.3	4.4	4.4	3.8	5.5	3.3	3.7	4.1

[1] Disregarding sign.

In general, the distribution was more even with mean velocities over 800 feet per minute than with mean velocities under 600 feet. On the whole, however, the deviations were in most cases remarkably small. Disregarding sign, we find that out of 192 individual observations, 44 deviated by less than 2 per cent from the mean, 49 by 2–3.9 per cent, 50 by 4–5.9 per cent, 39 by 6–9.9 per cent, and only 10 by 10 to 20 per cent. Of the 10 highly aberrant observations, 8 were made at branch 1, where low mean velocities indicated the strong tendency for an air current of low velocity to pass this outlet.

Finally, on comparing the results obtained with the tapered and straight-sided ducts, respectively, it is evident that there is very little difference between them; but that what advantage exists is on the side of the untapered duct. Averaging the observations for all velocities we get an average deviation from the mean of 4.7 per cent for the tapered and 4.4 per cent for the untapered duct.

RESULTS OF AIR-SUPPLY STUDIES WITH LATERAL PORTS.

The second set of tests, 16 with the tapered and 16 with the untapered duct (including 192 velocity measurements), was conducted with the slanting branch ducts closed, so that the air emerged only from the 6 by 6 inch ports in the side and at the end of the main duct. The results are presented in Table II, on the same plan as that used in Table I.

It is obvious that with the tapered duct the change from slanting branch ducts to lateral ports has had a most disastrous effect upon the evenness of distribution. Results obtained with the untapered duct are slightly less satisfactory than those recorded in Table I, but for the tapered duct we find average deviations of about 23 per cent at all velocities.

With the slanting branch ducts the air passed out in excess through the branches near the fan, whereas a deficiency was manifest at the terminal end of the system. With lateral ports open, the untapered duct showed exactly the reverse relation, the ports near the fan having a minimum, and those at the far end a maximum discharge. The tapered duct, on the other hand, with lateral ports, showed the same general tendency manifest with the branch ducts to decreased flow as we pass away from the fan, but in much more marked degree, port E having a deficiency of over 60 per cent; whereas the terminal port (F) at the end of the duct and in the direct line of flow showed a marked excess.

With the tapered duct the velocity of air flow made little difference in the distribution, which was always highly uneven; but with the untapered duct the low velocities gave the poorest results.

TABLE II.—*Study of uniformity of distribution effected by tapered and untapered main ducts with plain portholes. Deviation of observed velocity at each port, in percentage of mean velocity at all outlets for the test in question.*

Port.	Tapered duct: Deviation (percentage of mean velocity) in tapered duct, at mean velocity (feet per min.) of—				Untapered duct: Deviation (percentage of mean velocity) in untapered duct, at mean velocity (feet per min.) of—			
	400–600	800–1,000	1,100–1,400	1,500–1,800	400–600	800–1,000	1,100–1,400	1,500–1,800
Port A	+10.2	+11.6	+11.0	+11.9	−12.5	−10.9	−9.7	−9.4
	+9.8	+12.1	+13.2	+11.5	−14.9	−10.9	−10.3	−8.6
	+8.9	+14.4	+9.8	+11.0	−14.0	−8.8	−10.7	−9.0
	+11.2	+14.0	+11.2	+11.9	−14.9	−10.8	−9.3	−9.6
Port B	+11.6	+13.6	+11.9	+11.9	−4.0	−5.6	−4.8	−5.0
	+12.9	+13.3	+12.9	+13.7	−5.6	−4.9	−4.6	−5.0
	+13.3	+12.6	+13.0	+12.9	−5.1	−5.1	−5.2	−4.6
	+13.6	+14.3	+14.1	+13.7	−5.2	−6.0	−4.6	−4.3
Port C	+6.7	+4.2	+2.7	+5.4	−2.4	−0.4	−1.0	−1.9
	+4.0	+1.2	+3.8	+4.6	−0.6	−1.9	−1.0	−2.4
	+5.5	+4.5	+5.3	+2.7	−1.3	−1.7	−0.8	−2.3
	+5.5	+3.3	+5.2	+3.9	−1.7	−1.8	−1.9	−1.4
Port D	−3.7	−5.9	−5.8	−4.7	+3.2	+2.1	+0.8	+2.4
	−2.7	−5.1	−8.4	−8.3	+3.1	+1.7	+1.3	+1.6
	−2.7	−7.0	−5.0	−4.5	+2.6	+2.6	+3.0	+1.9
	−6.9	−8.1	−6.6	−5.9	+3.4	+2.2	+0.1	+1.6
Port E	−62.2	−61.6	−61.3	−67.3	+5.3	+4.9	+4.7	+5.9
	−62.4	−62.8	−63.2	−64.4	+7.6	+5.4	+5.4	+5.9
	−62.6	−63.1	−62.7	−61.4	+6.5	+4.5	+4.2	+5.1
	−63.1	−63.2	−62.8	−62.5	+7.2	+7.0	+4.2	+4.7
Port F	+37.2	+40.2	+41.8	+42.8	+10.3	+9.8	+10.0	+8.0
	+38.4	+41.0	+41.6	+43.0	+10.3	+10.6	+9.3	+8.4
	+37.6	+38.7	+39.6	+41.4	+11.3	+8.4	+9.5	+8.9
	+39.8	+39.7	+39.1	+39.0	+11.2	+9.3	+10.3	+9.0
Average per cent deviation [1]	22.2	23.1	23.0	23.4	6.8	5.7	5.3	5.3

[1] Disregarding sign.

RESULTS OF AIR-EXHAUST STUDIES WITH SLANTING BRANCH DUCTS.

Table III presents the results of 40 tests (including 240 velocity measurements) made with the system operated on the exhaust plan, but with slanting branch ducts open and side ports on main ducts closed, as in the experiments of the first series.

Five velocity groups are represented, extending up to 2,500 feet per minute, as higher velocities commonly obtain in exhaust systems than in plenum systems. Otherwise the technique was the same as that described above.

As far as the distribution between the different branch ducts is concerned, branch duct 6 (farthest from the fan) here shows a consistent excess, probably because this branch duct, as indicated in the figure, opened at the end of the main duct in the direct line of air flow instead of slanting off at an angle from the side of the main duct. Branch duct 5 showed a velocity very close to the mean, and branch ducts 1, 2, and 4 were fairly close. Branch duct 3, curiously enough, generally showed a distinct deficiency in air flow.

Comparing different velocities, we find that the untapered duct agrees with the results obtained for both ducts under plenum con-

ditions in showing most marked deviation at the low velocities (under 600 feet). On the other hand, the tapered duct shows its most marked deviation under exhaust condition at high velocities.

As in the case of the plenum studies with slanting branch ducts, the deviations are, in most cases, remarkably small. Forty-nine measurements showed deviations of less than 2 per cent from the mean, 65 were between 2 and 3.9 per cent, 61 between 4 and 5.9 per cent, 42 between 6 and 9.9 per cent, and 23 between 10 and 20 per cent.

When we compare the tapered with the untapered duct, it appears that the tapered duct gave better results at mean velocities under 600 feet, whereas at all the higher velocities the untapered duct gave more even distribution.

Averaging the figures for all velocities, we find a grand average deviation from the mean of 5 per cent for the tapered duct and 4.5 per cent for the untapered duct. Still more significant is the fact that out of 23 deviations of 10 per cent and over, 20 were observed with the tapered duct (including all the observations made with this duct at branch 6—farthest from the fan), and only 3 (at branch ducts 3, 4, and 6, with low velocities) with the untapered duct.

TABLE III.—*Study of uniformity of exhaust effected by tapered and untapered main ducts with slanting branch ducts. Deviation of observed velocity at each branch outlet, in percentage of mean velocity at all outlets for the test in question.*

Branch.	Tapered duct: Deviation (percentage of mean velocity) in tapered duct, at mean velocity (feet per min.) of—					Untapered duct: Deviation (percentage of mean velocity) in untapered duct, at mean velocity (feet per min.) of—				
	400–600	800–1,000	1,100–1,400	1,500–1,800	2,300–2,500	400–600	800–1,000	1,100–1,400	1,600–1,800	2,300–2,500
Branch 1	0.0	−4.7	−0.2	−2.9	−2.8	+6.8	+2.7	+3.7	+0.5	+2.0
	−3.5	−0.8	−4.5	−3.2	−4.2	+8.3	+4.0	+2.8	+2.5	+2.0
	+4.2	+1.5	+0.4	−2.7	−3.0	+6.3	+5.6	+3.7	+4.6	+3.5
	−2.1	−0.4	−0.1	+0.8	−3.1	+3.9	+2.8	+1.9	+3.6	+1.7
Branch 2	−3.4	−3.4	−2.4	−3.0	−4.3	−3.9	−3.7	−3.2	−4.4	−3.9
	−4.6	−5.0	−4.0	−3.3	−3.7	−6.8	−3.8	−2.8	−3.2	−3.4
	+0.9	−2.7	−4.7	−4.3	−6.1	−1.8	−2.2	−3.8	−4.4	−4.5
	−4.0	−2.5	−3.3	−4.2	−5.3	−6.7	−4.9	−4.1	−5.0	−3.2
Branch 3	−6.5	−6.4	−4.7	−6.0	−6.5	−2.7	−7.3	−5.9	−3.4	−3.7
	−1.2	−6.9	−5.7	−6.4	−6.6	−5.4	−6.2	−6.4	−5.4	−4.4
	−6.3	−6.2	−5.7	−4.8	−6.0	−10.4	−5.7	−4.1	−6.3	−4.5
	−6.1	−6.1	−5.0	−5.4	−6.2	−9.7	−5.8	−4.6	−6.9	−4.0
Branch 4	−3.7	−1.9	−4.4	−2.3	−1.4	−6.1	−4.0	−5.1	−3.1	−4.6
	+0.6	−1.8	−2.1	−2.2	−2.9	−4.6	−2.2	−3.2	−3.7	−4.8
	−5.5	−4.7	−4.1	−3.3	−1.8	−5.5	−5.5	−0.6	−4.5	−3.6
	−0.9	−3.2	−5.0	−4.3	−2.4	+11.0	−5.1	−4.3	−3.4	−3.6
Branch 5	+0.3	+1.6	−1.4	−0.4	−0.6	−1.3	+4.3	+2.0	+1.5	+2.0
	−1.6	−1.0	+1.2	−0.3	+1.1	−0.3	+0.8	−0.1	+0.3	−1.4
	−5.8	−1.6	+2.3	−1.4	+0.3	+4.0	+1.2	+2.9	+2.3	+0.8
	+0.2	+0.1	−0.5	−1.5	+0.6	−2.3	+2.5	+2.4	+4.0	+1.6
Branch 6	+13.3	+14.8	+13.1	+13.7	+15.6	+7.6	+7.9	+8.5	+3.3	+8.2
	+10.0	+15.5	+14.8	+15.2	+16.2	+8.7	+7.5	+9.7	+9.5	+5.2
	+11.6	+13.7	+11.9	+16.6	+16.6	+7.5	+6.5	+7.5	+8.3	+8.2
	+12.9	+12.2	+13.9	+14.5	+16.4	+3.7	+10.6	+8.6	+7.7	+7.5
Average per cent deviation[1]	4.6	4.9	4.8	5.1	5.6	5.6	4.7	4.2	4.2	3.8

[1] Disregarding sign.

RESULTS OF AIR EXHAUST STUDIES WITH LATERAL PORTS.

Finally, a series of tests was made of exhaust ventilation with lateral ports and no branch ducts, including 24 tests and 144 velocity measurements, the extreme range of velocities being the same used in the third series, with two of the intermediate velocity groups omitted.

Again the substitution of lateral ports for slanting branch ducts proved highly detrimental to the evenness of distribution, particularly with the tapered duct.

In all cases the ports nearest the fan showed a markedly excessive air flow and those at a distance from the fan a marked deficiency. Port F (at the end of the duct in the direct line of air flow) exhibited the most striking deficiency with the tapered duct, but gave a value near the mean with the untapered duct.

The velocity of air flow showed little influence upon the evenness of distribution in the case of the tapered duct, but with the untapered duct the results were least satisfactory at low velocities.

TABLE IV.—*Study of uniformity of exhaust effected by tapered and untapered main ducts with plain portholes. Deviation of observed velocity at each port, in percentage of mean velocity at all outlets for the test in question.*

Port.	Tapered duct: Deviation (percentage of mean velocity) in tapered duct, at mean velocity (feet per min.) of—			Untapered duct: Deviation (percentage of mean velocity) in untapered duct, at mean velocity (feet per min.) of—		
	400–600	1,100–1,400	2,300–2,500	400–600	1,100–1,400	2,200–2,500
Port A	+52.8	+47.0	+51.7	+20.2	+18.0	+18.7
	+51.1	+47.6	+49.3	+20.5	+20.2	+19.1
	+50.8	+48.4	+49.1	+23.4	+19.4	+20.8
	+50.2	+48.6	+50.5	+19.8	+18.1	+18.7
Port B	+37.1	+35.4	+37.0	+7.9	+5.6	+5.0
	+35.9	+38.1	+35.4	+8.0	+5.8	+5.6
	+34.2	+35.8	+40.0	+9.8	+5.9	+5.0
	+36.4	+31.0	+35.0	+7.2	+4.8	+4.0
Port C	+21.6	+21.2	+19.1	−4.0	−0.3	−0.8
	+19.3	+19.5	+22.6	−0.4	+0.4	−1.4
	+21.0	+21.8	+19.2	−1.0	−2.4	−2.0
	+19.3	+19.2	+20.4	−2.2	−2.9	−2.7
Port D	−2.4	+1.6	−1.3	−13.2	−10.6	−8.5
	−0.5	−0.3	−1.3	−12.2	−11.1	−9.3
	−0.2	+1.8	−1.3	−14.5	−8.5	−10.2
	−2.0	−1.0	−0.1	−9.3	−8.1	−9.2
Port E	−49.5	−49.1	−50.9	−14.3	−12.5	−12.4
	−48.0	−48.8	−49.5	−17.3	−15.9	−14.3
	−47.6	−50.0	−50.9	−16.5	−12.8	−12.9
	−47.6	−46.7	−50.7	−13.3	−11.9	−13.5
Port F	−59.5	−55.9	−55.6	+2.5	−0.2	−1.0
	−57.9	−56.2	−56.4	+1.3	−0.5	−3.2
	−58.2	−57.8	−56.0	−1.1	−1.7	−0.5
	−56.1	−58.6	−55.2	−2.2	−0.1	+1.7
Average per cent deviation [1].	35.8	35.0	35.8	10.1	8.2	8.4

[1] Disregarding sign.

GENERAL CONCLUSIONS.

In Table V we have summarized the main results obtained, arranging the averages for the four series of tests with tapered and untapered duct in order, with the tests showing best results at the top and those with more uneven distribution in regressive order downward. The general conclusions to be drawn from this study are brought out in the clearest fashion by an inspection of this table.

TABLE V.—*General results in regard to evenness of distribution in all tests—Average per cent deviation, disregarding sign.*

Type of ventilation.	Type of duct.	Type of outlet.	Velocity (feet per minute).					
			400–600	800–1,000	1,10 1,400	1,500–1,800	2,300–2,500	All velocities.
Plenum	Untapered	Branch ducts	5.5	3.3	3.7	4.1	.....	4.4
Exhaust	do	do	5.6	4.7	4.2	4.2	3.8	4.5
Plenum	Tapered	do	6.3	4.4	4.4	3.8	.....	4.7
Exhaust	do	do	4.6	4.9	4.8	5.1	5.6	5.0
Plenum	Untapered	Lateral ports	6.8	5.7	5.3	5.3	.....	5.8
Exhaust	do	do	10.1	.....	8.2	.....	8.4	8.9
Plenum	Tapered	do	22.2	23.1	23.0	23.4	.....	22.9
Exhaust	do	do	35.8	.....	35.0	.....	35.8	35.5

It will be noted that without a single exception—

(*a*) Branch ducts give better results than lateral ports;

(*b*) With either branch ducts or lateral ports, an untapered main duct gives better results than a tapered one;

(*c*) Other conditions being equal, plenum ventilation is more even than exhaust ventilation.

The most important factor, as the English departmental report pointed out, is the use of slanting branch ducts for the exhaust or discharge of air into or from the main duct. Where such lateral branches are provided the shape of the main duct makes little difference, as in all the tests made with such branches in operation we obtained results showing an average deviation of less than 5 per cent.

If lateral branch ducts are not provided, on the other hand, the design of the main duct becomes of compelling importance. A tapered main duct with lateral ports gives a distribution so markedly uneven as to detract in a serious measure from its efficiency, whereas the lateral port system, though never as good as one which involves the use of branch ducts, may yield results which are fairly satisfactory if the main duct is untapered.

In conclusion, then, it may be stated:

1. That in order to secure the most even distribution, ventilating systems, on either the plenum or the exhaust plan, should be constructed with slanting branch ducts, the question whether the main duct should be tapered or untapered being decided by the relative cost of labor and materials involved.

2. That reasonably good distribution can be economically effected with an untapered duct discharging or exhausting through lateral ports.

3. That a tapered duct discharging or exhausting through lateral ports is likely to give rise to serious irregularity in distribution.

COURT DECISION REGARDING PERSONAL ATTENDANCE ON PATIENTS BY PRACTITIONERS UNDER HARRISON ANTI-NARCOTIC ACT.[1]

In a prosecution for violation of the Harrison Antinarcotic Act, the evidence showed that the defendant, a physican, dispensed at his office some morphine to a certain person. The defendant claimed that what he did he had a right to do as a practicing physician. The law provides for the dispensing, without an order form, of drugs to a patient by a physician in the course of his professional practice, and no record is required to be kept of drugs dispensed to a patient upon whom a physician shall personally attend. Under the authority conferred by the law, the Commissioner of Internal Revenue promulgated a rule regarding dispensing of drugs by practitioners which provided in part that "A practitioner is not regarded as in personal attendance upon a patient within the intent of the statute unless he is in personal attendance upon such patient away from his office." In reversing the judgment of conviction and granting a new trial, the United States Circuit Court of Appeals, Eighth Circuit, said: "The power of the Commissioner of Internal Revenue, with the approval of the Secretary of the Treasury, to make all needful rules and regulations for carrying the provisions of the Narcotic Act into effect, did not confer the power to say that a physician could not personally attend a patient at his office. The enforcement of the act did not require any such rule, and it is contrary to the language of the act itself, which is plain and unambiguous and says nothing about where the patient shall be when personally attended. * * * If Congress had intended to exclude personal attendance at office, it would have said so. * * * The fact of omission is strong evidence that it did not intend to say so. * * * Congress can not delegate legislative power to an executive officer."

DEATHS DURING WEEK ENDED JULY 15, 1922.

Summary of information received by telegraph from industrial insurance companies for week ended July 15, 1922, and corresponding week, 1921. (From the Weekly Health Index, July 18, 1922, issued by the Bureau of the Census, Department of Commerce.)

	Week ended July 15, 1922.	Corresponding week, 1921.
Policies in force	49,659,725	47,327,101
Number of death claims	8,616	8,159
Death claims per 1,000 policies in force, annual rate	9.0	9.0

[1] Hurwitz v. United States, 280 Fed. 109.

Deaths from all causes in certain large cities of the United States during the week ended July 15, 1922, infant mortality, annual death rate, and comparison with corresponding week of 1921. (From the Weekly Health Index, July 18, 1922, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population July 1, 1922.	Week ended July 15, 1922.		Annual death rate per 1,000 corresponding week, 1921.	Deaths under 1 year.		Infant mortality rate, week ended July 15, 1922.[2]
		Total deaths.	Death rate.[1]		Week ended July 15, 1922.	Corresponding week, 1921.	
Total	27,852,553	5,747	10.8	10.8	816	869	.....
Akron, Ohio	[3] 208,435	25	6.3	6.1	1	5	11
Albany, N. Y.	116,223	20	9.0	10.9	5	3	112
Atlanta, Ga.	220,047	68	16.1	15.3	9	7	.....
Baltimore, Md.	762,222	192	13.1	12.1	37	26	104
Birmingham, Ala.	191,017	56	15.3	13.7	5	5	.....
Boston, Mass.	764,017	179	12.2	10.7	25	16	67
Bridgeport, Conn.	[3] 143,555	23	8.4	7.3	5	4	62
Buffalo, N. Y.	528,163	124	12.2	11.9	21	19	83
Cambridge, Mass.	110,944	22	10.3	12.3	1	4	18
Camden, N. J.	121,915	14	6.0	10.9	3	6	46
Chicago, Ill.	2,833,288	496	9.1	10.5	61	86	.....
Cincinnati, Ohio.	404,865	93	12.0	15.3	4	13	27
Cleveland, Ohio.	854,003	142	8.7	9.6	22	22	57
Columbus, Ohio.	253,455	61	12.5	14.7	8	2	84
Dallas, Tex.	171,974	37	11.2	12.0	11	9	.....
Dayton, Ohio.	161,824	35	11.3	8.6	6	4	102
Denver, Colo.	267,591	51	9.9	14.1	4	6	.....
Detroit, Mich.	[3] 993,678	196	10.3	8.6	41	50	79
Fall River, Mass.	120,790	23	9.9	16.9	5	9	70
Fort Worth, Tex.	114,717	25	11.4	.....	4	.....	.....
Grand Rapids, Mich.	143,572	33	12.0	9.6	3	3	50
Houston, Tex.	150,087	33	11.5	14.1	7	4	.....
Indianapolis, Ind.	333,257	83	13.0	11.7	8	13	61
Jersey City, N. J.	305,911	73	12.4	12.2	19	20	121
Kansas City, Kans.	105,688	19	9.4	11.5	1	4	23
Kansas City, Mo.	343,988	82	12.4	14.1	10	19	.....
Los Angeles, Calif.	634,866	177	14.5	13.4	12	24	50
Louisville, Ky.	236,877	79	17.4	14.1	9	11	97
Lowell, Mass.	114,423	26	11.8	7.8	5	1	84
Memphis, Tenn.	167,882	35	10.9	19.2	3	6	.....
Milwaukee, Wis.	476,603	70	7.7	8.0	19	15	93
Minneapolis, Minn.	400,970	69	9.0	12.1	5	8	27
Nashville, Tenn.	122,832	38	16.1	19.2	7	4	.....
New Bedford, Mass.	127,542	27	11.0	10.0	7	3	104
New Haven, Conn.	169,987	33	10.1	11.2	5	5	61
New Orleans, La.	399,616	128	16.7	14.1	21	13	.....
New York, N. Y.	5,839,746	1,094	9.8	9.4	158	186	61
Newark, N. J.	431,792	77	9.3	10.6	19	16	84
Norfolk, Va.	124,915	24	10.0	12.0	6	4	106
Oakland, Calif.	233,279	43	9.6	9.2	5	8	63
Omaha, Nebr.	200,739	42	10.9	12.2	3	7	32
Paterson, N. J.	138,521	24	9.0	10.2	4	6	62
Philadelphia, Pa.	1,894,500	378	10.4	10.1	57	52	68
Pittsburgh, Pa.	607,902	147	12.6	12.3	21	31	67
Portland, Oreg.	269,240	44	8.5	10.6	7	2	69
Providence, R. I.	241,011	46	10.0	7.8	9	10	71
Richmond, Va.	178,365	43	12.6	14.5	10	9	122
Rochester, N. Y.	311,548	66	11.0	11.1	8	7	62
St. Louis, Mo.	795,008	147	9.6	13.5	10	17	.....
St. Paul, Minn.	239,836	44	9.6	6.6	7	3	66
Salt Lake City, Utah.	123,918	32	13.5	11.6	6	3	89
Seattle, Wash.	[3] 315,312	60	9.9	9.6	8	5	68
Spokane, Wash.	104,445	25	12.5	9.0	1	2	21
Springfield, Mass.	140,052	23	8.6	5.8	1	1	15
San Antonio, Tex.	178,056	50	14.6	.....	15	.....	.....
San Francisco, Calif.	529,792	137	13.5	11.5	8	6	46
Toledo, Ohio.	260,717	69	13.8	12.9	5	7	49
Trenton, N. J.	125,075	31	12.9	14.0	2	6	31
Washington, D. C.	[3] 437,571	103	12.3	10.2	11	10	63
Wilmington, Del.	115,568	23	10.4	10.6	2	4	39
Worcester, Mass.	188,449	39	10.8	13.5	7	12	76
Yonkers, N. Y.	105,422	20	9.9	4.5	2	2	42
Youngstown, Ohio.	144,970	29	10.4	10.8	5	4	66

[1] Annual rate per 1,000 population.
[2] Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1921. Cities left blank are not in the registration area for births.
[3] Enumerated population Jan. 1, 1920.

PREVALENCE OF DISEASE.

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

UNITED STATES.

CURRENT STATE SUMMARIES.

Telegraphic Reports for Week Ended July 22, 1922.

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

ALABAMA.

	Cases.
Diphtheria	22
Hookworm disease	147
Malaria	31
Measles	2
Paratyphoid fever	2
Pellagra	6
Poliomyelitis	6
Scarlet fever	6
Smallpox	1
Tuberculosis	15
Typhoid fever	46
Whooping cough	1

ARKANSAS.

Chicken pox	2
Diphtheria	2
Malaria	137
Measles	1
Ophthalmia neonatorum	1
Pellagra	5
Scarlet fever	1
Trachoma	1
Tuberculosis	14
Typhoid fever	22
Whooping cough	26

CALIFORNIA.

Cerebrospinal meningitis:	
Riverside County	1
San Francisco	1
Diphtheria	85
Influenza	6
Leprosy—Sacramento	1
Lethargic encephalitis:	
Merced County	1
Winters	1
Measles	18
Poliomyelitis—Los Angeles	1
Scarlet fever	31
Smallpox	14
Typhoid fever	24

COLORADO.

(Exclusive of Denver.)

	Cases.
Chicken pox	6
Diphtheria	19
Impetigo contagiosa	1
Influenza	4
Measles	1
Rocky Mountain spotted or tick fever	1
Scarlet fever	3
Septic sore throat	2
Tuberculosis	69
Typhoid fever	3

CONNECTICUT.

Cerebrospinal meningitis	3
Chicken pox	3
Diphtheria:	
Hartford	8
Scattering	24
Influenza	8
Measles:	
Bridgeport	14
New Haven	12
Scattering	44
Mumps	6
Ophthalmia neonatorum	1
Pneumonia (lobar)	11
Poliomyelitis	1
Scarlet fever	18
Septic sore throat	1
Tetanus	2
Tuberculosis (all forms)	44
Typhoid fevec:	
New Haven	8
Scattering	7
Whooping cough	43

DELAWARE.

Diphtheria	6
Malaria	5
Scarlet fever	2
Tuberculosis	4

DELAWARE—continued.

	Cases.
Typhoid fever	2
Typhus fever—Milford	1

FLORIDA.

Dengue	184
Diphtheria	16
Influenza	49
Malaria	17
Paratyphoid fever	3
Pneumonia	5
Smallpox	1
Typhoid fever	10

GEORGIA.

Chicken pox	1
Diphtheria	17
Hookworm disease	11
Influenza	14
Malaria	87
Measles	1
Mumps	1
Paratyphoid fever	3
Pellagra	1
Pneumonia	6
Scarlet fever	9
Septic sore throat	3
Smallpox	2
Tuberculosis (all forms)	11
Typhoid fever	54
Whooping cough	11

INDIANA.

Diphtheria	21
Rabies in animals—Greene County	1
Scarlet fever	7
Smallpox	9
Typhoid fever	22

IOWA.

Diphtheria	4
Scarlet fever	19
Smallpox	3

KANSAS.

Chicken pox	5
Diphtheria	18
Measles	9
Mumps	11
Ophthalmia neonatorum	1
Pellagra	1
Pneumonia	3
Scarlet fever	31
Smallpox	7
Tetanus	2
Tuberculosis	43
Typhoid fever	118
Whooping cough	89

LOUISIANA.

Diphtheria	13
Malaria	41
Pellagra	2
Poliomyelitis	2
Scarlet fever	4
Smallpox	116
Typhoid fever	29
Whooping cough	4

MARYLAND.[1]

	Cases.
Cerebrospinal meningitis	2
Chicken pox	4
Diphtheria	18
Dysentery	14
German measles	2
Influenza	3
Lethargic encephalitis	1
Malaria	8
Measles	92
Mumps	17
Ophthalmia neonatorum	1
Pneumonia (all forms)	22
Poliomyelitis	1
Scarlet fever	12
Tuberculosis	58
Typhoid fever	34
Whooping cough	58

MASSACHUSETTS.

Chicken pox	24
Conjunctivitis (suppurative)	5
Diphtheria	90
German measles	6
Lethargic encephalitis	1
Malaria	1
Measles	227
Mumps	37
Ophthalmia neonatorum	18
Pellagra	1
Pneumonia (lobar)	17
Poliomyelitis	7
Scarlet fever	82
Septic sore throat	1
Trachoma	2
Tuberculosis	157
Typhoid fever	25
Whooping cough	112

MINNESOTA.

Chicken pox	3
Diphtheria	30
Influenza	1
Measles	19
Pneumonia	3
Poliomyelitis	1
Scarlet fever	54
Smallpox	27
Tuberculosis	63
Typhoid fever	14
Whooping cough	17

MISSISSIPPI.

Diphtheria	29
Poliomyelitis	2
Scarlet fever	9
Typhoid fever	32

MISSOURI.

Chicken pox	2
Diphtheria	21
Epidemic sore throat	8
Measles	7
Ophthalmia neonatorum	1
Pneumonia	2
Scarlet fever	7
Smallpox	7

[1] Week ended Friday.

MISSOURI—continued.	Cases.
Tetanus	1
Trachoma	4
Tuberculosis	49
Typhoid fever	41
Whooping cough	27

MONTANA.

Diphtheria	2
Rocky Mountain spotted or tick fever:	
Jitney	1
Klein	1
Vananda	1
Scarlet fever	2
Smallpox	6
Typhoid fever	4

NEBRASKA.

Chicken pox	3
Diphtheria	7
Measles	6
Mumps	6
Scarlet fever	6
Smallpox	1
Tuberculosis	1
Typhoid fever	4
Whooping cough	2

NEW JERSEY.

Cerebrospinal meningitis	1
Chicken pox	21
Diphtheria	75
Influenza	9
Malaria	2
Measles	185
Pneumonia	29
Poliomyelitis	1
Scarlet fever	36
Typhoid fever	31
Whooping cough	140

NEW MEXICO.

Cerebrospinal meningitis	1
Chicken pox	4
Diphtheria	26
Influenza	1
Pellagra	1
Poliomyelitis	1
Scarlet fever	1
Tuberculosis	28
Typhoid fever	10

NEW YORK.

(Exclusive of New York City.)

Diphtheria	100
Influenza	5
Lethargic encephalitis	1
Measles	330
Pneumonia	58
Scarlet fever	88
Typhoid fever	44
Whooping cough	179

NORTH CAROLINA.

Cerebrospinal meningitis	3
Chicken pox	8

[1] Death.

NORTH CAROLINA—continued.	Cases.
Diphtheria	77
German measles	1
Measles	27
Ophthalmia neonatorum	1
Poliomyelitis	3
Scarlet fever	23
Septic sore throat	1
Smallpox	19
Typhoid fever	139
Whooping cough	173

OREGON.

Chicken pox	4
Diphtheria:	
Portland	15
Scattering	2
Lethargic encephalitis	[1] 1
Measles	4
Ophthalmia neonatorum	1
Pneumonia	5
Scarlet fever	3
Smallpox	9
Tuberculosis	5
Typhoid fever	2
Whooping cough	1

SOUTH DAKOTA.

Chicken pox	2
Diphtheria	2
Measles	1
Poliomyelitis	1
Scarlet fever	9
Smallpox	5
Tuberculosis	6
Typhoid fever	1
Whooping cough	1

TEXAS.

Diphtheria	15
Measles	13
Pellagra	6
Scarlet fever	8
Smallpox	4
Typhoid fever	15

VERMONT.

Chicken pox	5
Diphtheria	3
Measles	3
Mumps	2
Scarlet fever	8
Whooping cough	8

WASHINGTON.

Cerebrospinal meningitis—Wenatchee	1
Chicken pox	28
Diphtheria:	
Seattle	13
Scattering	5
Measles	11
Mumps	24
Scarlet fever	6
Smallpox	5
Tuberculosis	20
Typhoid fever	7
Whooping cough	29

WISCONSIN.

	Cases.
Milwaukee:	
Chicken pox	9
Diphtheria	6
German measles	1
Measles	42
Pneumonia	1
Scarlet fever	3
Tuberculosis	18
Whooping cough	196
Scattering:	
Chicken pox	21
Diphtheria	29
German measles	2
Measles	36
Pneumonia	2
Scarlet fever	42
Smallpox	24
Tuberculosis	24
Typhoid fever	6
Whooping cough	86

WYOMING.

Chicken pox	1
Rocky Mountain spotted or tick fever—Johnson County	1
Smallpox	1
Typhoid fever	1

Delayed Reports for Week Ended July 15, 1922.

ALABAMA.

	Cases.
Diphtheria	12
Influenza	17
Malaria	38
Measles	2
Pellagra	3
Poliomyelitis	3
Scarlet fever	7
Smallpox	6
Tuberculosis	17
Typhoid fever	48
Whooping cough	3

DISTRICT OF COLUMBIA.

Chicken pox	5
Diphtheria	6
Measles	13
Scarlet fever	1
Tuberculosis	20
Typhoid fever	5
Whooping cough	11

ILLINOIS.

Cerebrospinal meningitis—Chicago	4
Diphtheria:	
Chicago	89
Scattering	39
Influenza	12
Pneumonia	114
Poliomyelitis:	
Cass County	1
Chicago	1
Lake County	1
Scarlet fever:	
Chicago	29
Scattering	45
Smallpox:	
Mason County	22
Peoria County	9
Scattering	23
Typhoid fever	45

KENTUCKY.

	Cases.
Chicken pox	3
Diphtheria	6
Dysentery	9
Measles	9
Pellagra	2
Pneumonia	1
Scarlet fever	2
Septic sore throat	1
Smallpox	3
Trachoma	4
Tuberculosis:	
Jefferson County	20
Scattering	2
Typhoid fever:	
Jefferson County	9
Scattering	28
Whooping cough	6

MAINE.

Chicken pox	5
Measles	14
Mumps	2
Pneumonia	1
Poliomyelitis	1
Scarlet fever	28
Tetanus	6
Tuberculosis	7
Typhoid fever	12
Whooping cough	7

MINNESOTA.

Chicken pox	2
Diphtheria	31
Measles	32
Scarlet fever	60
Smallpox	8
Tetanus	1
Tuberculosis	63
Typhoid fever	4
Whooping cough	1

SUMMARY OF CASES REPORTED MONTHLY BY STATES.

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

State.	Cerebrospinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Poliomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
1922.										
Idaho (June)	.....	7	.....	.....	2	.....	.....	12	22	2
Indiana (June)	3	105	1	.....	265	.....	1	85	119	23
Maryland (June)	1	87	22	16	949	1	2	85	4	49
Minnesota (June)	1	188	1	.....	527	.....	.....	347	89	26
New Mexico (May)	.....	105	21	4	1	1	.....	44	11	8
New Mexico (June)	.....	85	1	9	.....	.....	1	39	.....	26
New York (June)	24	1,463	102	.....	7,441	.....	4	1,207	57	120
Rhode Island (June)	1	37	.....	.....	15	.....	5	12	1	1
Vermont (June)	.....	16	.....	.....	79	.....	.....	60	1	3
West Virginia (June)	3	81	18	.....	131	1	.....	40	56	45
Wisconsin (June)	4	161	34	.....	307	.....	.....	197	129	40

RECIPROCAL NOTIFICATION.

Minnesota—June, 1922.

Cases of communicable diseases referred during June, 1922, to other State health departments by the Department of Health of the State of Minnesota.

Disease and locality of notification.	Referred to health authority of—	Why referred.
Typhoid fever:		
Pipestone, Pipestone County.	Mayfield, Graves County, Ky.....	Contracted typhoid after visit to Graves County, Ky.
Minneapolis. Hennepin County	Larimore, Grand Forks County, N. Dak.	Positive case from Larimore.
Graceville, Big Stone County.	Sisseton, Roberts County, S. Dak....	Patient recently employed in Sisseton.
Spooner, Beltrami County.	Rainy River, Ontario, Canada.....	Patient brought from Rainy River for treatment.
Chickenpox:		
Rochester, Olmsted County.	Cedar Township, Cherokee County, Iowa.	Patient returned to her home in Cedar township, Iowa.
Tuberculosis:		
St. Paul, Ramsey County.	La Crosse, La Crosse County, Wis.; Valley City, Barnes County, N. Dak.	2 open cases left St. Paul for their homes.
Minnesota State Sanatorium, Cass County.	Fargo, Cass County, N. Dak.....	An unimproved case left sanatorium for his home.
Thomas Hospital, Minneapolis, Hennepin County.	Minot, Ward County, N. Dak.; Spokane, Spokane County, Wash.	Two incipient cases left hospital for their homes.
Mayo Clinic, Rochester, Olmsted County.	Little Sioux, Harrison County, Iowa; Fenton, Kossuth County, Iowa; Sharon Springs, Wallace County, Kans.; South Sioux City, Dakota County, Nebr.; Jamestown, Stutsman County, N. Dak.; St. Phillip, Saskatchewan, Canada; Sheboygan, Sheboygan County, Wis.; Ridgeway, Iowa County, Wis.; Wausau, Marathon County, Wis.	Eight advanced cases and one moderately advanced left Mayo Clinic for their homes.
U. S. Veterans' Hospital No. 65, St. Paul, Ramsey County.	Prescott, Yavapai County, Ariz.; Fort Bayard, Grant County., N. Mex.; Yankton, Yankton County, S. Dak.; Mitchell, Davison County, S. Dak.; Winnipeg, Manitoba, Canada.	Four active cases, one improved and one unchanged, left hospital for their homes.

DENGUE.

Florida.

According to information dated July 17, 1922, 250 cases of dengue were reported in Florida during the week ended July 15. It was stated that the largest number of cases occurred in Tampa. Later telegraphic information reports 184 cases for the State during the week ended July 22.

Galveston, Tex.

An epidemic of dengue was reported in Galveston, Texas, July 17, 1922. It was stated that approximately 200 cases existed in Galveston on that date, the outbreak being confined almost wholly to the western part of the city.

CITY REPORTS FOR WEEK ENDED JULY 8, 1922.

ANTHRAX.

City.	Cases.	Deaths.
Michigan:		
Detroit	1	1

CEREBROSPINAL MENINGITIS.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended July 8, 1922.		City.	Median for previous years.	Week ended July 8, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
California:				North Carolina:			
San Francisco	1	1	.....	Charlotte	0	.....	1
Illinois:				Oklahoma:			
Chicago	1	1	3	Oklahoma	0	.....	1
Kentucky:				Pennsylvania:			
Louisville	1	.....	1	Erie	0	1	.....
New Jersey:				Texas:			
West Hoboken	0	.....	1	Dallas	0	.....	1
New York:				Virginia:			
Cohoes	0	.....	1	Lynchburg	0	.....	1
New York	6	1	1				
Syracuse	0	1	1				

DIPHTHERIA.

See p. 1852; also Telegraphic weekly reports from States, p. 1841, and Monthly summaries by States, p. 1845.

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

INFLUENZA.

City.	Cases.		Deaths, week ended July 8, 1922.	City.	Cases.		Deaths, week ended July 8, 1922.
	Week ended July 9, 1921.	Week ended July 8, 1922.			Week ended July 9, 1921.	Week ended July 8, 1922.	
Alabama:				Minnesota:			
Birmingham			1	Minneapolis			1
California:				Missouri:			
Los Angeles	1	3	2	Kansas City	1		
District of Columbia:				New Jersey:			
Washington	1	1		Passaic		1	
Illinois:				Trenton		1	
Chicago	1	1	1	New York:			
Indiana:				Jamestown	1		
Terre Haute			1	New York	2	1	2
Massachusetts:				Ohio:			
Holyoke		1		Cincinnati	1		
Quincy		1		Pennsylvania:			
Worcester		1		Philadelphia			2

LEPROSY.

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

LETHARGIC ENCEPHALITIS.

City.	Cases.	Deaths.
California:		
San Francisco	3	1

MALARIA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Massachusetts:		
Anniston	2		Boston	1	
Mobile		2	Fall River	1	
Tuscaloosa	1		Michigan:		
Arkansas:			Detroit	1	
Little Rock	4		Missouri:		
California:			Kansas City	1	1
Long Beach	1		New Jersey:		
Connecticut:			East Orange	1	
New Britain	2		New York:		
Georgia:			New York	2	
Atlanta	3		North Carolina:		
Brunswick	3		Wilmington	1	
Savannah	2		Tennessee:		
Kansas:			Memphis	10	1
Hutchinson	1		Texas:		
Topeka	2		Dallas	3	2
Louisiana:			Virginia:		
New Orleans	1	1	Portsmouth		1
Maryland:					
Baltimore	3				

MEASLES.

See p. 1852; also Telegraphic weekly reports from States, p. 1841, and Monthly summaries by States, p. 1845.

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			North Carolina—Continued.		
Mobile		1	Durham		1
Montgomery		1	Winston-Salem		1
Florida:			Tennessee:		
Tampa	1		Nashville	1	
Georgia:			Texas:		
Atlanta		2	Dallas	3	
New Jersey:			Waco		1
Atlantic City		1	Virginia:		
North Carolina:			Roanoke		1
Charlotte		1			

PNEUMONIA (ALL FORMS).

Alabama:			Massachusetts:		
Birmingham		2	Boston		8
Mobile		1	Cambridge		2
Montgomery		1	Chicopee		1
Arkansas:			Danvers	1	
North Little Rock	2	1	Fall River	2	
Little Rock	1		Gardner		2
California:			Holyoke		1
Alameda		2	Lowell		1
Bakersfield		1	Melrose	1	
Glendale		1	Newton		2
Los Angeles	12	5	Pittsfield		3
Oakland	3	1	Somerville	2	1
Pasadena		1	Worcester		3
Riverside		1	Michigan:		
Sacramento	2		Battle Creek	2	1
San Diego		2	Detroit	20	7
San Francisco	11	8	Flint		1
Santa Ana		1	Grand Rapids	1	
Stockton		3	Highland Park		2
Colorado:			Kalamazoo	1	
Denver		1	Minnesota:		
Connecticut:			Duluth	2	1
Bridgeport	1		Minneapolis		5
Bristol		1	Rochester		1
Hartford	3		St. Paul		2
Milford	1		Missouri:		
New Haven		3	Kansas City		6
Norwalk		1	Montana:		
Delaware:			Anaconda		1
Wilmington		1	Missoula		1
District of Columbia:			Nebraska:		
Washington		7	Omaha		3
Georgia:			Nevada:		
Savannah		1	Reno		1
Illinois:			New Hampshire:		
Chicago	74	25	Concord		2
Danville	2		Nashua		2
Decatur	2		New Jersey:		
Evanston	1		Bloomfield	1	
Kewanee		1	Garfield	1	
Oak Park	1		Hackensack		1
Indiana:			Hoboken		2
Gary		1	Jersey City		6
Indianapolis		3	Newark	11	6
Iowa:			Plainfield	1	
Council Bluffs		1	Trenton	4	1
Kansas:			West Hoboken		1
Kansas City	1		West New York		1
Topeka	2	1	New York:		
Wichita		1	Albany	4	
Kentucky:			Buffalo		3
Covington		1	Jamestown		1
Louisville	5	3	Mount Vernon		1
Louisiana:			Newburgh	1	
New Orleans		4	New York	86	62
Maine:			Niagara Falls	2	
Lewiston	1		Rochester	6	3
Portland		2	Schenectady		1
Maryland:			Syracuse	6	2
Baltimore	14	10	Troy		3

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

PNEUMONIA [1] (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
New York—Continued.			Rhode Island:		
Watertown	1		Providence		1
Yonkers		3	Tennessee:		
North Carolina:			Memphis		3
Greensboro		1	Texas:		
Winston-Salem		1	Beaumont		1
Ohio:			Dallas		2
Akron	3		Waco		1
Cincinnati		4	Utah:		
Cleveland	16	5	Provo	2	
Columbus		5	Salt Lake City		3
Dayton	1		Virginia:		
East Cleveland	2		Lynchburg		1
Fremont	1		Norfolk		2
Piqua		1	Richmond		3
Salem		1	West Virginia:		
Sandusky		1	Bluefield		2
Toledo		2	Huntington		1
Youngstown		4	Wisconsin:		
Oregon:			Kenosha	3	
Portland		2	Milwaukee	1	
			Racine		1

POLIOMYELITIS (INFANTILE PARALYSIS).

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended July 8, 1922.		City.	Median for previous years.	Week ended July 8, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
District of Columbia:				New Jersey:			
Washington	0	1		Newark	0	6	
Illinois:				New York:			
Chicago	1	1		New York	4	2	
Massachusetts:				Peekskill	0	1	
Westfield	0	1		Yonkers	0	1	
Minnesota:				Pennsylvania:			
Minneapolis	0	1	1	Philadelphia	0	1	

RABIES IN ANIMALS.

City.	Cases.	City.	Cases.
California:		New Jersey:	
Los Angeles	5	Orange	2
Kentucky:		New York:	
Louisville	5	Rochester	2

RABIES IN MAN.

City.	Cases.	Deaths.
California:		
Los Angeles	1	1

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

SCARLET FEVER.

See p. 1852; also Telegraphic weekly reports from States, p. 1841, and Monthly summaries by States, p. 1845.

SMALLPOX.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended July 8, 1922.		City.	Median for previous years.	Week ended July 8, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Missouri:			
Mobile	0	6	.....	Kansas City	2	.....	1
California:				Montana:			
Alameda	0	1	.....	Great Falls	0	1	.....
Los Angeles	1	1	1	Nebraska:			
Stockton	0	1	.....	Lincoln	1	3	.....
Colorado:				Omaha	8	4	.....
Denver	6	1	1	New York:			
Connecticut:				Niagara Falls	0	2	.....
Bridgeport	0	1	.....	North Carolina:			
Illinois:				Winston-Salem	0	1	.....
Peoria	1	3	.....	North Dakota:			
Iowa:				Grand Forks	0	4	.....
Burlington	0	2	.....	Ohio:			
Cedar Rapids	1	1	.....	Springfield	0	1	.....
Muscatine	0	1	.....	Oregon:			
Kansas:				Portland	3	7	.....
Atchison	0	1	.....	South Dakota:			
Hutchinson	0	3	.....	Sioux Falls	0	1	.....
Kansas City	2	2	.....	Washington:			
Michigan:				Seattle	2	1	.....
Detroit	7	2	.....	Wisconsin:			
Grand Rapids	1	1	.....	Superior	1	8	.....
Minnesota:				Wausau	0	3	.....
Duluth	1	2	.....				
Minneapolis	9	1	.....				

TETANUS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
California:			Massachusetts:		
Los Angeles	2	1	Fall River	1	1
Colorado:			Missouri:		
Denver	.....	1	St. Louis	1	.....
Illinois:			New Jersey:		
Chicago	.....	2	Newark	1	.....
Florida:			New York:		
Tampa	.....	1	New York	1	1
Indiana:			Rochester	1	1
Hammond	.....	1	Pennsylvania:		
Indianapolis	.....	1	Philadelphia	.....	1
Kansas:			South Carolina:		
Topeka	1	1	Columbia	1	.....
Maryland:			Texas:		
Baltimore	.....	2	Dallas	.....	2

TUBERCULOSIS.

See p. 1852; also Telegraphic weekly reports from States, p. 1841.

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

TYPHOID FEVER.

The column headed "Median for previous years" gives the median number of cases reported during the corresponding weeks of the years 1915 to 1921, inclusive. In instances in which data for the full seven years are incomplete, the median is that for the number of years for which information is available.

City.	Median for previous years.	Week ended July 8, 1922.	
		Cases.	Deaths.
Alabama:			
Birmingham	16	1	.....
Arkansas:			
Little Rock	0	5	.....
North Little Rock	0	1	.....
California:			
Oakland	1	1	.....
Richmond	0	1	.....
Sacramento	0	1	.....
Santa Ana	.....	1	.....
Stockton	1	7	.....
Colorado:			
Denver	2	1	.....
Pueblo	1	1	.....
Connecticut:			
Derby	0	.....	1
Hartford	0	.....	1
New Haven	1	8	1
Delaware:			
Wilmington	0	.....	1
District of Columbia:			
Washington	3	4	.....
Florida:			
Tampa	.....	1	1
Georgia:			
Albany	.....	2	.....
Atlanta	3	9	.....
Brunswick	1	.....	1
Macon	1	11	1
Rome	1	1	.....
Savannah	1	2	1
Valdosta	0	4	.....
Illinois:			
Chicago	4	2	1
Decatur	0	1	.....
Indiana:			
Hammond	0	.....	1
Indianapolis	1	1	.....
Iowa:			
Dubuque	0	1	.....
Waterloo	0	1	.....
Kansas:			
Coffeyville	0	1	.....
Kansas City	0	1	.....
Topeka	2	.....	1
Kentucky:			
Covington	0	1	.....
Louisville	5	1	.....
Owensboro	.....	1	.....
Louisiana:			
Baton Rouge	2	1	.....
New Orleans	3	7	.....
Maryland:			
Baltimore	8	6	.....
Cumberland	0	1	.....
Massachusetts:			
Boston	2	1	.....
Fall River	1	2	.....
Framingham	0	1	.....
Greenfield	0	2	.....
Holyoke	0	1	.....
New Bedford	1	2	.....
Newton	0	1	.....
Somerville	0	1	.....
Taunton	0	1	.....
Michigan:			
Detroit	7	4	1
Grand Rapids	1	2	1
Kalamazoo	0	1	.....
Saginaw	0	3	.....
Minnesota:			
Minneapolis	2	2	2
Missouri:			
Kansas City	0	3	.....
St. Joseph	0	1	.....
St. Louis	4	7	1
Nebraska:			
Omaha	0	1	.....
New Jersey:			
Garfield	0	.....	1
Newark	1	1	.....
Plainfield	0	2	.....
Rahway	0	1	.....
Trenton	0	1	.....
New York:			
Albany	1	2	.....
Buffalo	0	1	.....
Cohoes	0	2	.....
Elmira	0	1	.....
Lockport	0	1	.....
New York	20	15	5
North Carolina:			
Charlotte	0	2	.....
Durham	5	1	.....
Winston-Salem	5	3	2
Ohio:			
Akron	0	2	.....
Bucyrus	1	4	.....
Columbus	3	5	.....
Dayton	0	1	.....
New Philadelphia	0	1	.....
Springfield	0	1	.....
Toledo	2	3	.....
Youngstown	0	.....	1
Oklahoma:			
Oklahoma	0	1	.....
Pennsylvania:			
Berwick	0	1	.....
Braddock	0	1	.....
Canonsburg	1	5	.....
North Braddock	0	2	.....
Philadelphia	10	11	.....
South Carolina:			
Charleston	5	2	1
Columbia	2	3	.....
Tennessee:			
Knoxville	1	3	1
Memphis	3	8	.....
Nashville	7	4	1
Texas:			
Dallas	5	4	.....
Fort Worth	2	1	.....
Utah:			
Salt Lake City	1	1	.....
Virginia:			
Alexandria	0	1	.....
Charlottesville	.....	1	.....
Lynchburg	1	1	.....
Norfolk	4	1	.....
Portsmouth	0	2	.....
Richmond	1	3	.....
Roanoke	0	4	.....
Washington:			
Seattle	0	1	.....
West Virginia:			
Bluefield	0	1	.....
Charleston	3	1	.....
Fairmont	1	1	.....
Huntington	2	1	.....
Martinsburg	0	1	.....
Wheeling	1	4	1
Wisconsin:			
Ashland	0	1	.....
Superior	0	1	.....

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

TYPHUS FEVER.

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

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Anniston	17,734	.....	.....	.....	.....	.....	.....	.....	1	.....
Birmingham	178,270	64	1	.....	.....	.....	.....	.....	7	8
Mobile	60,151	29	1	.....	.....	.....	.....	.....	.....	2
Montgomery	43,464	22	4	.....	.....	.....	.....	.....	.....	2
Arkansas:										
Hot Springs	11,695	3	.....	.....	.....	.....	.....	.....	.....	.....
North Little Rock	14,048	.....	.....	.....	.....	.....	.....	.....	1	.....
California:										
Alameda	28,806	6	.....	.....	.....	.....	1	.....	.....	.....
Bakersfield	18,638	4	.....	.....	.....	.....	.....	.....	.....	.....
Eureka	12,923	4	2	.....	.....	.....	1	.....	1	.....
Glendale	13,536	10	.....	.....	.....	.....	.....	.....	.....	1
Long Beach	55,593	16	.....	.....	1	.....	.....	.....	1	.....
Los Angeles	576,673	192	38	2	1	.....	11	.....	128	20
Oakland	216,361	42	6	.....	1	.....	5	.....	2	4
Pasadena	45,354	15	.....	.....	.....	.....	.....	.....	.....	1
Richmond	16,843	4	.....	.....	.....	.....	.....	.....	1	.....
Riverside	19,341	3	.....	.....	.....	.....	.....	.....	.....	.....
Sacramento	65,857	12	2	.....	.....	.....	3	.....	.....	2
San Bernardino	18,721	9	.....	.....	.....	.....	2	.....	.....	4
San Diego	74,683	22	3	.....	.....	.....	1	.....	6	3
San Francisco	508,410	122	9	.....	9	.....	4	.....	15	14
Santa Ana	15,485	7	1	.....	.....	.....	.....	.....	.....	.....
Santa Barbara	19,441	5	.....	.....	.....	.....	.....	.....	.....	.....
Santa Cruz	10,917	2	.....	.....	.....	.....	.....	.....	1	.....
Stockton	40,296	14	1	.....	.....	.....	.....	.....	.....	.....
Colorado:										
Denver	256,369	69	3	.....	2	.....	7	1	.....	7
Greeley	10,883	4	.....	.....	.....	.....	.....	.....	.....	.....
Pueblo	42,908	11	2	.....	.....	.....	.....	.....	7	.....
Connecticut:										
Bridgeport	143,538	18	7	.....	12	.....	3	.....	1	.....
Bristol	20,620	.....	.....	.....	2	.....	.....	.....	.....	.....
Derby	11,238	5	.....	.....	2	.....	1	.....	.....	.....
Hartford	138,036	24	7	.....	3	.....	.....	.....	2	2
Manchester (town)	18,370	5	.....	.....	.....	.....	2	.....	.....	.....
Meriden (city)	29,842	.....	.....	.....	2	.....	.....	.....	.....	.....
Milford (town)	10,193	0	.....	.....	5	.....	.....	.....	1	.....
New Haven	162,519	35	2	.....	37	1	1	.....	2	3
New London	25,688	8	.....	1	5	.....	.....	.....	.....	.....
Norwalk	27,700	2	.....	.....	.....	.....	.....	.....	.....	.....
Delaware:										
Wilmington	110,168	21	1	.....	.....	.....	3	.....	.....	.....
District of Columbia:										
Washington	437,571	87	1	.....	25	.....	2	.....	18	7
Florida:										
Tampa	51,252	12	2	.....	.....	.....	.....	.....	.....	3
Georgia:										
Atlanta	200,616	72	1	.....	.....	.....	3	.....	6	5
Brunswick	14,413	2	.....	.....	.....	.....	.....	.....	1	1
Macon	52,995	.....	.....	.....	.....	.....	1	.....	.....	.....
Rome	13,252	2	.....	.....	.....	.....	.....	.....	1	.....
Savannah	83,252	25	1	1	.....	.....	1	.....	3	3
Valdosta	10,783	3	.....	.....	.....	.....	.....	.....	.....	1
Idaho:										
Boise	21,393	5	.....	.....	.....	.....	.....	.....	.....	.....
Pocatello	15,001	3	.....	.....	.....	.....	.....	.....	.....	.....
Illinois:										
Alton	24,682	1	1	.....	.....	.....	.....	.....	.....	.....
Bloomington	28,725	4	.....	.....	.....	.....	1	.....	1	.....

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

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

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Illinois—Continued.										
Centralia	12,491	2								
Chicago	2,701,705	458	107	6	335	4	23	1	119	35
Danville	33,750	7	1		1		1		4	1
Decatur	43,818	8							7	1
East St. Louis	66,740	18	1						1	1
Elgin	27,454	6			1		1			
Evanston	37,215	12			6				1	
Galesburg	23,834	7								
Kewanee	16,026	3					2		2	
La Salle	13,050	2			1					
Mattoon	13,552	3	1		1					
Oak Park	39,830	11	1		11				2	
Peoria	76,121	12	2	2	2		2			1
Rock Island	35,177	8	1						2	2
Springfield	59,183	12					2			
Indiana:										
Bloomington	11,595	1								
Clinton	10,962	0								
Crawfordsville	10,139	5	2	1						
East Chicago	35,967	2					1			1
Frankfort	11,585	1								
Gary	55,378	15			1					1
Hammond	36,004		5		5		1			
Huntington	14,000	2								
Indianapolis	314,194	69			60		2		14	5
Kokomo	30,067	2							1	
La Fayette	22,486	7							1	1
Logansport	21,626	3								
Mishawaka	15,195	3								
Muncie	36,624	7								
Newcastle	14,458	1								
South Bend	70,983	8			6		1		6	
Terre Haute	66,083	13					2			
Iowa:										
Burlington	24,057	6	1							
Cedar Rapids	45,566		1							
Clinton	24,151	1	2	1						
Council Bluffs	36,162	7	2				2			
Davenport	56,727						1			
Dubuque	39,141						2			
Mason City	20,065	4					3			
Muscatine	16,068	3								2
Ottumwa	23,003						1			
Sioux City	71,227		4				2			
Waterloo	36,230						1			
Kansas:										
Atchison	12,630		1							
Coffeyville	13,452	2					1		1	
Kansas City	101,177			3			1		7	
Parsons	16,028	4							1	1
Pittsburg	18,052	7					1			
Salina	15,085	3								
Topeka	50,022	20	1						9	1
Wichita	72,128	16			2		4		1	
Kentucky:										
Covington	57,121	16								3
Lexington	41,534	15			5					2
Louisville	234,891	70			2		1		14	9
Owensboro	17,424		2							
Louisiana:										
Baton Rouge	21,782	3	1						1	
New Orleans	387,219	114	2				1		21	12
Maine:										
Auburn	16,985	3					1			
Bangor	25,978						1		3	
Biddeford	18,008	6								
Lewiston	31,791	13					1		3	
Portland	69,272	20	5							1
Sanford	10,691	2								
Waterville	13,351						1			
Maryland:										
Baltimore	733,826	219	13		47	2	2		27	21
Cumberland	29,837	12							1	1

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

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

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Massachusetts:										
Adams	12,967	0					2			
Amesbury	10,036	0			1					
Arlington	18,665	3			11					
Attleboro	19,731	6								1
Belmont	10,749	3	2							
Beverly	22,561	7	1		3		1			
Boston	748,060	180	44	3	98		21		49	22
Braintree	10,580	2								
Brookline	37,748	8			18			1	1	
Cambridge	109,694	24	2		24				1	4
Chelsea	43,184	6	2		6					
Chicopee	36,214	3	2						1	
Clinton	12,979	7								
Everett	40,120	9			3				2	1
Fall River	120,485	31	4		12		1		5	1
Fitchburg	41,013	2	4		4				2	
Framingham	17,033	5			4					
Gardner	16,971	8							1	1
Greenfield	15,462	0								
Haverhill	53,884	5	1						1	2
Holyoke	60,203	18	1		6				3	
Lawrence	94,270	23	1		5				3	3
Leominster	19,744	2			1		1			
Lowell	112,479	23	3		4		3		2	1
Lynn	99,148	25	3		7				4	5
Malden	49,103	10	1		9	1	1		1	
Medford	39,038	4					1			
Melrose	18,204	5	1		25					
Methuen	15,189	2			5					
New Bedford	121,217	15	5				2		5	2
Newburyport	15,618	4			1				1	
Newton	46,054	5			9					
North Adams	22,282	7							2	1
Northampton	21,951	5	1		22				1	1
Pittsfield	41,751	9							4	1
Plymouth	13,045	6								
Quincy	47,876	3	8		10				3	
Somerville	93,091	8	1		10		1		3	
Southbridge	14,245	3					1			
Springfield	129,563	24	1		24		1		1	2
Taunton	37,137	17					1		2	1
Wakefield	13,025	4	1		32					
Waltham	30,915	5			9					1
Watertown	21,457	1			1				2	1
Webster	13,258	4								
West Springfield	13,443	2								
Westfield	18,604	4			1				2	
Winthrop	15,455	1			1					
Woburn	16,574	4		1						
Worcester	179,754	40	1	1	2		5		3	6
Michigan:										
Alpena	11,101		1							
Ann Arbor	19,516	5								
Battle Creek	36,164				7		1			
Benton Harbor	12,233	6	1	1						
Detroit	993,739	187	32	2	33		30		37	17
Flint	91,599	25	1		12		1			1
Grand Rapids	137,634	21	2		1		1		4	1
Hamtramck	48,615	0							4	
Highland Park	46,499	11	1		2		2	1		
Kalamazoo	48,858	12	5	1			2		2	
Marquette	12,718	5								
Pontiac	34,273	10			7		3			
Port Huron	25,944	7			17					
Saginaw	61,903	7	1		1		3			
Minnesota:										
Duluth	98,917	12			7				3	
Faribault	11,089	3			2					
Hibbing	15,089	2					5			1
Minneapolis	380,582	77	6	2	19		12		121	4
Rochester	13,722	7					1			1
St. Cloud	15,873		3				1			
St. Paul	234,595	39	6		23		12	1	10	6
Winona	19,143	2			1		1			1

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

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

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Missouri:										
Independence	11,686	4								
Kansas City	324,410	85	3		10				6	4
St. Joseph	77,939	35	2				3			1
St. Louis	772,897	158	9		6		3		35	13
Springfield	39,631	9								2
Montana:										
Anaconda	11,668	2								
Billings	15,100	3							1	1
Great Falls	24,121	3					1			
Missoula	12,668	6								
Nebraska:										
Lincoln	54,934	8			3		1			
Omaha	191,601	47	6	2	5		1			1
Nevada:										
Reno	12,016	10								2
New Hampshire:										
Berlin	16,104	3								
Concord	22,167	10			6					2
Dover	13,029	1								
Keene	11,210	3			7					
Nashua	28,379	9	1		3					1
Portsmouth	13,569				2					
New Jersey:										
Asbury Park	12,400	5								
Atlantic City	50,682	15			4				1	
Bayonne	76,754				1					
Belleville	15,660				3					
Bloomfield	22,019	1			2					
Clifton	26,470	3	1		8		1			1
East Orange	50,710	9			4		1		2	
Englewood	11,027	0			5					
Garfield	19,381	3			6		1			
Hackensack	17,667	6								
Harrison	15,721		1		2		1		2	
Hoboken	68,166	14	2						2	
Jersey City	297,864	49	12		5		5		9	8
Kearny	26,724	7	1		1		1			
Montclair	28,810	3			4				1	
Morristown	12,548	7			14		1		2	
Newark	414,216	76	4		68		13	1	16	7
Orange	33,268	3			4		2			
Passaic	63,824	9	4		6		3		4	
Paterson	135,866		5		13		8		7	
Perth Amboy	41,707	9	3	1	7		2		4	
Phillipsburg	16,923	5								
Plainfield	27,700	2			25				1	
Rahway	11,042	3			1		2			
Summit	10,174	0			6				1	
Trenton	119,289	30	2	1	19	1	1		8	5
Union	20,651								2	
West Hoboken	40,068	4	1	1			1		2	
West New York	29,926	2	2				2		1	
West Orange	15,575	1							1	
New Mexico:										
Albuquerque	15,157	6	3						3	1
New York:										
Albany	113,344		2				1			
Auburn	36,192	10	1						1	
Buffalo	506,775	108	10	1	6		10		13	7
Cohoes	22,987	6								1
Elmira	45,305	9			2				2	
Geneva	14,648	5								
Herkimer	10,453	3			17					1
Hudson	11,745	1	1				1		2	
Ithaca	17,004	9	1				2		1	
Jamestown	38,917	10			2		1			
Little Falls	13,029	5								
Lockport	21,308	5								
Middletown	18,420								3	1
Mount Vernon	42,726	8			10					
Newburgh	30,366	7			54				1	1
New York	5,621,151	1,091	166	18	313	11	55	1	[1] 190	[1] 77

[1] Pulmonary tuberculosis only.

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

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

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
New York—Continued.										
Niagara Falls	50,760	10	.....	.....	30	.....	1	.....	2	.....
Ogdensburg	14,609	5	.....	.....	.....	.....	.....	.....	.....	.....
Olean	20,506	4	.....	.....	.....	.....	.....	.....	.....	.....
Peekskill	15,868	3	.....	.....	5	.....	.....	.....	.....	.....
Rochester	295,750	59	9	1	77	1	.....	1	23	3
Rome	26,341	4	.....	.....	.....	.....	2	.....	.....	.....
Saratoga Springs	13,181	5	.....	.....	.....	.....	.....	.....	.....	.....
Schenectady	88,723	11	.....	.....	.....	.....	2	.....	1	.....
Syracuse	171,717	40	12	1	2	.....	3	.....	7	2
Troy	72,013	26	1	.....	.....	.....	1	.....	7	1
Watertown	31,285	7	.....	.....	2	.....	1	.....	1	.....
White Plains	21,031	1	.....	.....	1	.....	.....	.....	.....	.....
Yonkers	100,226	17	1	.....	14	.....	3	.....	.....	1
North Carolina:										
Charlotte	46,338	10	9	.....	.....	.....	.....	.....	2	.....
Durham	21,719	7	.....	.....	.....	.....	.....	.....	3	1
Greensboro	19,861	11	.....	.....	.....	.....	.....	.....	.....	.....
Salisbury	13,884	1	.....	.....	.....	.....	.....	.....	.....	.....
Wilmington	33,372	5	.....	.....	.....	.....	2	.....	2	.....
Winston-Salem	48,395	17	1	.....	.....	.....	.....	.....	2	1
North Dakota:										
Fargo	21,961	0	1	.....	.....	.....	.....	.....	.....	.....
Ohio:										
Akron	208,435	33	3	.....	12	.....	2	.....	9	.....
Ashtabula	22,082	1	.....	.....	.....	.....	.....	.....	.....	.....
Barberton	18,811	3	.....	.....	1	.....	.....	.....	2	.....
Bucyrus	10,425	2	1	.....	.....	.....	.....	.....	.....	.....
Cambridge	13,104	3	3	.....	.....	.....	.....	.....	1	.....
Canton	87,091	10	1	.....	2	.....	2	.....	.....	1
Cincinnati	401,247	121	2	1	24	.....	4	.....	26	14
Cleveland	796,836	148	17	2	128	.....	22	.....	73	22
Cleveland Heights	15,236	13	.....	.....	3	.....	.....	.....	1	.....
Columbus	237,031	46	2	.....	15	.....	1	.....	3	3
Dayton	152,559	38	1	.....	1	.....	1	.....	1	.....
East Cleveland	27,292	3	.....	.....	4	.....	2	.....	.....	.....
East Youngstown	11,237	0	.....	.....	.....	.....	.....	.....	.....	.....
Findlay	17,021	3	1	.....	.....	.....	.....	.....	.....	.....
Fremont	12,468	4	.....	.....	.....	.....	.....	.....	.....	.....
Hamilton	39,675	11	.....	.....	.....	.....	.....	.....	.....	.....
Kenmore	12,683	.....	.....	.....	2	.....	.....	.....	1	.....
Lancaster	14,706	4	.....	.....	.....	.....	.....	.....	.....	1
Mansfield	27,824	3	1	.....	.....	.....	.....	.....	2	1
Marion	27,891	.....	2	.....	.....	.....	.....	.....	.....	.....
Martins Ferry	11,634	3	.....	.....	.....	.....	.....	.....	.....	.....
Middletown	23,594	3	.....	.....	.....	.....	.....	.....	.....	.....
New Philadelphia	10,718	.....	.....	.....	.....	.....	1	.....	.....	.....
Niles	13,080	6	2	.....	.....	.....	.....	.....	.....	.....
Norwood	24,966	1	.....	.....	.....	.....	.....	.....	.....	.....
Piqua	15,044	5	.....	.....	.....	.....	.....	.....	.....	.....
Salem	10,305	8	.....	.....	17	.....	.....	.....	.....	.....
Sandusky	22,897	3	.....	.....	.....	.....	.....	.....	.....	.....
Springfield	60,840	7	.....	.....	.....	.....	.....	.....	1	1
Steubenville	28,508	3	.....	.....	.....	.....	.....	.....	.....	.....
Toledo	243,109	38	9	2	81	.....	4	.....	.....	.....
Youngstown	132,358	23	2	.....	11	.....	2	.....	.....	4
Zanesville	29,569	8	3	.....	.....	.....	.....	.....	.....	.....
Oklahoma:										
Oklahoma	91,258	20	1	.....	.....	.....	.....	.....	.....	1
Oregon:										
Portland	258,288	58	8	.....	2	.....	3	.....	.....	1
Pennsylvania:										
Allentown	73,502	.....	6	.....	.....	.....	.....	.....	1	.....
Ambridge	12,730	.....	2	.....	.....	.....	.....	.....	.....	.....
Berwick	12,181	.....	.....	.....	4	.....	.....	.....	.....	.....
Bethlehem	50,358	.....	3	.....	9	.....	.....	.....	1	.....
Braddock	20,879	.....	.....	.....	2	.....	.....	.....	.....	.....
Bristol	10,273	.....	.....	.....	5	.....	.....	.....	.....	.....
Canonsburg	10,632	.....	.....	.....	3	.....	.....	.....	.....	.....
Carlisle	10,916	.....	.....	.....	3	.....	.....	.....	.....	.....
Carnegie	11,516	.....	.....	.....	.....	.....	1	.....	.....	.....
Carrick	10,504	.....	.....	.....	1	.....	.....	.....	.....	.....
Chester	58,030	.....	.....	.....	21	.....	.....	.....	.....	.....
Coatesville	14,515	.....	.....	.....	1	.....	.....	.....	.....	.....

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

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

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Pennsylvania—Continued.										
Dubois	13,681				1		1			
Erie	93,372		5		1		2		4	
Harrisburg	75,917		1		31		1			
Hazleton	32,277				1					
Jeannette	10,627		1		1					
Johnstown	67,327		4		16		3			
Lancaster	53,150		2				2			
Lebanon	24,643		1						1	
McKeesport	45,675		2		9					
Monessen	18,179		1				1			
Mount Carmel	17,469				1					
Nanticoke	22,614		1							
New Castle	44,938				2					
New Kensington	11,987						1		2	
Norristown	32,319				1					
North Braddock	14,928				5					
Philadelphia	1,823,158	380	32	2	144	1	45	1	62	37
Pittsburgh	588,193		36		145		11		9	
Pottsville	21,876				1		1			
Reading	107,784		1		44		1		2	
Scranton	137,783		1		4		1		9	
Shamokin	21,204				4					
Swissvale	10,908		1		1					
Tamaqua	12,563				2					
Uniontown	15,692				2					
Wilkinsburg	24,403				2					
Williamsport	36,198		1		1					
Rhode Island:										
Pawtucket	64,248	12			1		1			1
Providence	237,595	42	6		1		3			1
South Carolina:										
Charleston	67,957	21							1	
Columbia	37,524		2							
Greenville	23,127	11								2
South Dakota:										
Sioux Falls	25,176	4								1
Tennessee:										
Chattanooga	57,895						1			
Knoxville	77,818		1		3				2	2
Memphis	162,351	53	5				4		12	2
Nashville	118,342	38			1		1		6	7
Texas:										
Beaumont	40,422	6	1	1						
Corpus Christi	10,522	4							1	
Dallas	158,976	43	2				1		13	
Fort Worth	106,482	19	4						3	2
Galveston	44,255	4	2							
Houston	138,076	34	1							1
Waco	38,500	15	2	2						1
Utah:										
Provo	10,303	2	1							
Salt Lake City	118,110	24	1						2	2
Vermont:										
Barre	10,008		2							
Burlington	22,779	3	1							
Rutland	14,954	2								1
Virginia:										
Alexandria	18,060	4								
Charlottesville	10,688	3					1			
Danville	21,539	7	2				1			
Lynchburg	29,956	15								
Norfolk	115,777						1		2	4
Petersburg	31,092	10	1						2	
Portsmouth	54,387	22			2					2
Richmond	171,667	55	1		1					3
Roanoke	50,842	13	3				1			
Washington:										
Seattle	315,652		2		1		2		10	
Spokane	104,437		2				1			
Tacoma	96,965								18	
Yakima	18,539		1							

CITY REPORTS FOR WEEK ENDED JULY 8, 1922—Continued.

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

City.	Population Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuberculosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
West Virginia:										
Bluefield	15,282	8								
Charleston	39,608	7								
Clarksburg	27,869	5					1			
Huntington	50,177	16								
Parkersburg	20,050	8								
Wheeling	54,322	15	3				1	1	3	2
Wisconsin:										4
Appleton	19,561						1			
Ashland	11,334						1			
Beloit	21,284	4			1		2		1	
Eau Claire	20,880								1	
Fond du Lac	23,427	4	1							
Janesville	18,293	3			1					
Kenosha	40,472	5	2		2		2			1
La Crosse	30,363				5		1			
Madison	38,378				3				2	
Marinette	13,610						2			
Milwaukee	457,147		8		46		1		9	
Oshkosh	33,162	9								1
Racine	58,593	9	2		1				4	1
Sheboygan	30,955		1						3	
Stevens Point	11,371						2			
Superior	39,624	10							2	
Wausau	18,661		1							
West Allis	13,765				1				3	
Wyoming:										
Cheyenne	13,829	3								

FOREIGN AND INSULAR.

PLAGUE ON VESSEL.

Steamship "Taisang"—At Manila—From Amoy.

A case of plague with fatal termination, occurring in a Chinese member of the crew of the steamship *Taisang* from Amoy, China, has been reported at Manila, Philippine Islands. The patient was taken acutely ill 36 hours after landing, June 1, 1922, at Manila. The vessel left Amoy direct for Manila and was two and one-half days en route.

GREAT BRITAIN.

Smallpox—Vaccination Exemptions.

According to information dated June 17, 1922, smallpox outbreaks have occurred in Halifax and Huddersfield, England, and the ministry of health has been led to inquire closely into the carrying out of vaccination regulations. At Bradford, England, vaccination exemptions are stated to be increasing. The following table gives the ratio of children not vaccinated to the number of births in the Bradford Union, 1915 to 1920, inclusive:

Year.	Ratio of nonvaccinated children to number of births.	Year.	Ratio of nonvaccinated children to number of births.
1915	54.6	1918	63.4
1916	57.7	1919	63.3
1917	57.9	1920	66.6

POLAND.

Communicable Diseases—March 26-April 22, 1922.[1]

Communicable diseases have been reported in Poland, exclusive of the districts of Brest-Litovsk and Minsk, but including the district of Wilno, as follows:

[1] Public Health Reports, June 16, 1922, p. 1488.

March 26 to April 22, 1922.

Disease.	Cases.	Deaths.	Locality of highest proportional mortality.
Cerebrospinal meningitis	57	27	District of Lodz.
Diphtheria	323	33	Districts of Posen and Lodz. City of Warsaw.
Measles	1,618	58	
Scarlet fever	877	138	District of Lwow.
Smallpox	468	113	District of Stanislawow.
Tuberculosis	419	919	District of Lwow.
Typhoid fever	1,517	137	District of Polesia.
Typhus fever	5,695	349	District of Nowogrodek.
Typhus fever (recurrent)	4,515	155	Do.

CHOLERA, PLAGUE, SMALLPOX, AND TYPHUS FEVER.

Reports Received During Week Ended July 28, 1922.[1]

The reports contained in the following tables must not be considered as complete or final, either as regards the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Calcutta	May 21–June 10	132	98	
Philippine Islands:				
Manila	May 21–27	1		
Provinces—				
Laguna	Apr. 16–22	1		
Pampanga	do	1	1	
Rizal	Apr. 2–8	1	1	

PLAGUE.

Asia Minor:				
Smyrna	June 11–17	1		
British East Africa:				
Kenya Colony—				
Nairobi	Feb. 1–28	15	15	
Ceylon:				
Colombo	May 28–June 3	3	2	
Egypt				Jan. 1–June 15, 1922: Cases, 197; deaths, 93.
City—				
Alexandria	June 8–12	2	2	
Port Said	June 12	1	1	Septicemic.
Province—				
Assiout	do	4	3	
Gharbieh	June 9–12	3	2	
Minieh	June 12	2	1	
India				May 14–20, 1922: Cases, 859; deaths, 702.
Calcutta	May 21–June 10	11	11	
Karachi	June 4–10	13	9	
Madras Presidency	do	5	3	
Philippine Islands:				
Manila	June 3	1	1	From s. s. Taisang from Amoy, China.
Straits Settlements:				
Singapore	May 29–June 5	1	1	
On vessel:				
S. S. Taisang	June 1–3	1	1	At Manila, P. I., from Amoy, China. Patient landed at Manila June 1, 1922. The Taisang was 2½ days en route direct from Amoy.

SMALLPOX.

Arabia:				
Aden	June 11–17	7	3	
Asia Minor:				
Smyrna	June 11–24	2		In district.

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

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

Reports Received During Week Ended July 28, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Brazil:				
Rio de Janeiro	June 3–17	12	4	
Sao Paulo	Apr. 24–May 7		2	
British East Africa:				
Kenya Colony—				
Dar es Salaam	May 7–13	1		
Canada:				
New Brunswick—				
Kent County	June 25–July 1	2		
Ontario—				
Ottawa	July 2–8	4		
Chile:				
Valparaiso	Mar. 26–Apr. 22		52	Incomplete; several districts not reporting.
China:				
Antung	May 22–28	1		
Chungking	June 4–10			Present.
Manchuria—				
Dairen	May 29–June 4	1		
Dominican Republic:				
San Pedro de Macoris	June 18–24	37		City and vicinity. May 21–27, cases, 48; deaths, 1.
Santo Domingo	June 25–July 1	1		
Cuba:				
Santiago	June 1–30	3		
Great Britain:				
Halifax				Outbreak reported under date of June 17, 1922.
Huddersfield				Do.
Haiti:				
Cape Haitien	June 11–17	1		
Plaine du Nord	June 11–17			Present. Vicinity of Cape Haitien.
India:				
Bombay	Apr. 30–May 6	10	4	
Calcutta	May 21–June 10	22	21	
Karachi	June 4–10	6	3	
Madras	June 4–10	33	14	
Japan:				
Kobe	June 19–25	2		
Yokohama	May 29–June 11	2	1	
Mexico:				
Manzanillo	June 27–July 3	6	1	Estimated.
Mexico City	June 4–10	39		Including municipalities in Federal District.
Poland				Mar. 26–Apr. 22, 1922: Cases, 468; deaths, 113.
Straits Settlements:				
Singapore	May 30–June 5	1		
Syria:				
Aleppo	June 18–24			Prevalent.
Turkey:				
Constantinople	June 18–24	1	1	
Yugoslavia:				
Zagreb	June 4–10	1		

TYPHUS FEVER.

Asia Minor:				
Smyrna	May 21–June 24	7		In district.
Austria:				
Vienna	May 28–June 3		1	
Chile:				
Valparaiso	Apr. 2–22		6	
China:				
Manchuria—				
Harbin	June 5–11	1		
Czechoslovakia:				
Prague	June 11–17	1		
Mexico:				
Mexico City	June 4–10	13		Including municipalities in Federal District.

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

Reports Received During Week Ended July 28, 1922—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Poland				Mar. 26–Apr. 22, 1922: Cases, 5,695; deaths, 349.[1] Recurrent typhus: Cases, 4,515; deaths, 155.
Portugal:				
Oporto	June 11–24	7	3	
Rumania				Apr. 1–May 31, 1922: Cases, 62.
Cities—				
Bucharest	May 1–31	14		
Cerenauti	May 1–31	5		
Chisinau	Apr. 1–30	21		
Cluj	May 1–31	18		
Constanza	May 1–31	1		
Galata	May 1–31	1		
Sulina	May 1–31	2		
Spain:				
Madrid	May 1–31		9	

Reports Received from July 1 to 21, 1922.[2]

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Amoy	May 14–June 3	1	2	
Greece:				
Athens	June 29	1	1	
Saloniki	June 7–17	30	11	At quarantine station, among passengers from vessel carrying Russian refugees.
India:				
Bombay	Apr. 23–29	1	1	
Calcutta	Apr. 23–May 20	380	259	
Madras	May 21–June 3	2		
Rangoon	May 7–20	10	9	
Philippine Islands:				
Province—				
Camarines Sur	Mar. 25–Apr. 1	1	1	
Poland:				
Rowno	June 18			Present. Among persons repatriated from Russia.
Siam:				
Bangkok	Apr. 30–May 13	4	3	
Syria:				
Aleppo	May 27–June 3			A few cases in interior.

PLAGUE.

Asia Minor:				
Smyrna	May 28–June 10	2	1	
Brazil:				
Pernambuco	May 7–13	1		
Ceylon:				
Colombo	May 6–27	4	3	
China:				
Amoy	May 7–June 3		32	May 20: From 10 to 20 deaths reported daily.
Canton	May 1–31	21	17	
Foochow	May 7–13	4	4	
Ecuador:				
Guayaquil	June 1–15			Rats found infected, 16; examined, 2,400.
Egypt				Jan. 1–June 8, 1922: Cases, 185; deaths, 84.
City—				
Alexandria	June 1–6	12	3	
Suez	May 24–June 5	3	2	

[1] Consecutive with reports published in Public Health Reports, June 30, 1922, p. 1621.
[2] From medical officers of the Public Health Service, American consuls, and other sources. For reports received from Dec. 31, 1921, to June 30, 1922, see Public Health Reports for June 30, 1922. The tables of epidemic diseases are terminated semiannually and new tables begun.

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

Reports Received from July 1 to 21, 1922—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Egypt—Continued.				
Province—				
Assiout	May 30	1	1	Septicemic.
Benisouef	May 26–June 7	3	1	
Fayoum	June 3–6	4	2	
Gharbieh	May 26–June 7	18	7	
Minieh	June 2–7	2	2	
Greece:				
Patras	Apr. 24–May 14		3	
India				Apr. 23–May 13, 1922: Cases, 3,740; deaths, 2,772.
Bombay	Apr. 23–May 13	110	76	
Calcutta	Apr. 23–May 20	41	39	
Karachi	May 23–29	39	36	
Madras Presidency	May 21–June 3	10	3	
Rangoon	May 6–20	56	53	
Java				Month of April, 1922: Report of the seven provinces of Java: Cases, 413; deaths, 495.
East Java—				
Soerabaya	May 7–13	2	2	
Soerakarta—				
Keporen	May 20			Epidemic.
Madagascar:				
Tananarive Province—				
Ankestrina	May 4		1	Native village; disease stated to have been present since about Apr. 27, 1922.
Mesopotamia:				
Bagdad	Apr. 1–30	68	40	
Mexico:				
Vera Cruz	June 30			One plague-infected rat.
Peru				May 1–15, 1922: Cases, 36; deaths, 19.
Siam:				
Bangkok	Apr. 30–May 13	1	1	
Straits Settlements:				
Singapore	Apr. 30–May 29	6	7	
Union of South Africa:				
Orange Free State—				
Grootkom Farm	May 7–13			One dead plague-infected rodent found. Locality adjoins Trucart's Berg Farm, on which plague-infected mouse was found preceding week.
Rendezvous Ry. Station.	May 14–20			Plague-infected wild rodent found near.

SMALLPOX.

Arabia:				
Aden	May 7–June 10	34	12	
Asia Minor:				
Smyrna	May 14–20	2		
Bolivia:				
La Paz	Mar. 1–Apr. 30	97	16	
Brazil:				
Para	May 29–June 18	6		
Rio de Janeiro	May 14–June 3	31	7	
Sao Paulo	Apr. 10–23	2		
British East Africa:				
Kenya Colony—				
Dar es Salaam	Apr. 16–May 22	12		
Zanzibar	May 1–31	26	6	
Canada:				
Alberta—				
Calgary	June 18–24	1		
Manitoba—				
Winnipeg	May 6–June 17	3		
New Brunswick—				
Madawaska County	June 4–17	6		
Ontario—				
North Bay	June 3–17	2		
Ottawa	June 10–July 1	17		Corrected date.
Toronto	June 18–July 1	5		
Ceylon:				
Colombo	May 14–20	1		

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

Reports Received from July 1 to 21, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Chile:				
Concepcion	Mar. 14–June 5		62	
Quillon				In Concepcion Province: epidemic in May, 1922 with 60 reported cases. To June 5: Epidemic.
San Patricio	May 16–22	13		
Talcahuano	do			Present.
Temuco				Province of Cautin; epidemic, May, 1922.
China:				
Amoy	May 7–20			Present.
Antung	May 29–June 4	2		
Chungking	May 28–June 3			Present.
Foochow	May 14–20	1		
Hongkong	May 14–June 3	26	20	
Manchuria—				
Dairen	May 15–21	1	1	
Harbin	May 22–28	1		
Nanking	May 7–June 3			Do.
Shanghai	May 22–28	1		Native.
Tientsin	May 14–20			Present.
Tsingtau	May 9–15	1	1	
Chosen (Korea):				
Chemulpo	May 1–31	1		
Fusan	do	118	33	
Seoul	do	15	2	
Cuba:				
Antilla	June 18–24	1		Reported for Preston.
Cienfuegos	June 24–July 1	1		
Dominican Republic:				
San Pedro de Macoris	June 4–17	82	1	City and country.
Santo Domingo	June 18–24	3	9	Present with a few cases in city and country; no mortality; June 11–17, 1922.
Egypt:				
Port Said	June 11–17	1		
Fiume	June 13–19	1		
France:				
Paris	June 1–10	1	1	
Great Britain:				
Sheffield	May 28–June 17	5		
Southampton	June 18–24	2		
Greece:				
Saloniki	May 1–21	3		
Syra Island	May 26	12	5	
India:				
Bombay	Apr. 23–29	4	2	
Calcutta	Apr. 23–May 20	45	37	
Karachi	May 22–June 3	25	4	
Madras	May 14–June 3	91	34	
Rangoon	May 7–13	21	4	
Java:				
West Java—				
Batavia	Apr. 28–May 18	8		City and Province.
Malta	May 16–31	1		
Mesopotamia:				
Bagdad	Apr. 1–30	3	1	
Mexico:				
Chihuahua	June 22–July 2		1	
Guadalajara	May 1–31	7		
Manzanillo	June 6–25		4	Estimated cases, 4 to 10.
Mexico City	May 21–June 3	62		Including municipalities in Federal District.
Peru				May 1–15, 1922: Cases, 5; deaths, 4.
Portugal:				
Lisbon	June 4–10	17		
Spain:				
Corunna	June 11–17	1		
Seville	do	36		Week ended June 11, many new cases.
Valencia	May 21–27	2	1	
Straits Settlements:				
Singapore	Apr. 30–May 29	10	2	
Switzerland:				
Basel	May 28–June 3	1		
Berne	May 14–20	1		
Zurich	June 4–17	6		Apr. 23–29: One case.
Syria:				
Aleppo	June 4–17			Present.

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

Reports Received from July 1 to 21, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Turkey:				
Constantinople	May 21-June 17	20	5	
Union of South Africa:				
Cape Province	May 7-27			Outbreaks.
Orange Free State	do			Do.
Southern Rhodesia	May 11-31	54	1	
Transvaal	May 7-20			Do.
Virgin Islands:				
St. Thomas	June 5-18	1	1	At quarantine. From vessel from Dominican Republic.
Yugoslavia				Sept. 4-24, 1921: Cases, 11; deaths, 4.
Serbia—				
Belgrade	June 11-17	1		
On vessel:				
Schr. Fancy Me	May 28			At St. Thomas, Virgin Islands. From San Pedro de Macoris, Dominican Republic. One case removed to quarantine June 5; died, June 18.
S. S. Shelley	Apr. 19	1		At sea en route from Hongkong. Vessel left Hongkong Apr. 17. Arrived Thursday Island Quarantine, Australia, Apr. 28, 1922. Case, member of crew; type, confluent hemorrhagic.

TYPHUS FEVER.

Algeria:				
Algiers	May 1-31	16	4	
Oran	June 1-20	2	1	
Asia Minor:				
Smyrna	May 14-June 10	6		City and district.
Austria:				
Vienna	May 7-27	2		
Bolivia:				
La Paz	Mar. 1-Apr. 30	15	8	
Bulgaria:				
Sofia	May 28-June 17	4		
Chile:				
Concepcion	Apr. 11-May 29		10	
China:				
Antung	May 15-21	1		
Foochow	May 14-20	1		
Manchuria—				
Harbin	May 8-21	3		
Egypt:				
Alexandria	June 4-17	4	1	
Cairo	Mar. 19-Apr. 8	14	10	Relapsing fever, Mar. 26-Apr. 8, 1 case.
Port Said	May 28-June 3	1		
Germany				May 1-6, 1922: Five cases typhus fever at quarantine station of Osternothafen, in persons returning from Russia.
Berlin	Apr. 30-May 6		1	
Konigsberg	May 28-June 3	1		
Greece:				
Saloniki	May 1-28	23	1	
Mesopotamia:				
Bagdad	Apr. 1-30	1		
Mexico:				
Mexico City	Apr. 23-June 3	85		Including municipalities in Federal District.
Poland				Mar. 16-Apr. 29, 1922: Cases, 7,155. Recurrent typhus, cases, 5,432.
Warsaw	Apr. 23-May 20	80		Among permanent and transient residents.
Portugal:				
Oporto	May 4-10	2	1	
Rumania:				
Province—				
Bucovina	Jan. 1-31	35	13	
Chisinau	Apr. 1-30	14		Recurrent typhus: Cases, 7.
Transylvania	Jan. 1-31	16	3	

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

Reports Received from July 1 to 21, 1922—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Russia:				
Esthonia	Apr. 1-30	15		
Lettonia	do	275		Recurrent typhus: Cases, 12.
Spain:				
Seville	May 21-June 3		1	
Tunis:				
Tunis	June 4-10	2		
Turkey:				
Constantinople	May 21-June 17	12		
Union of South Africa:				
Cape Province	May 7-20			Outbreaks.
Natal	May 7-13			Do.
Transvaal	May 7-27			Do.
Yugoslavia				Aug. 7-13, 1921; 2 new cases. (1921.)
Bosnia-Herzegovina	Aug. 7-13	1		Do.
Croatia-Slavonia	Sept. 4-10	1		Do.
Voivodina	Aug. 7-13	1		Do.
From vessel:				
S. S. Smolensk	June 14	1	1	From Danzig, May 30, 1922. At embarkation detention camp, Southampton, England. Public Health Reports, June 30, 1922, p. 1610.