

PUBLIC HEALTH REPORTS

VOL. 37

FEBRUARY 10, 1922

No. 6

DEATHS FROM INFLUENZA AND PNEUMONIA COMBINED.

COMPARISON OF THE FIRST FIVE WEEKS OF THE YEARS 1919-1922, INCLUSIVE, FOR CERTAIN LARGE CITIES OF THE UNITED STATES.

The accompanying table gives the number of reported deaths from influenza and pneumonia (all forms), combined, during the first five weeks of the years 1919, 1920, 1921, and 1922, in 36 large cities of the United States.

The year 1919 witnessed a continuation of the great outbreak of influenza which began during the fall of 1918. The "recrudescence" in 1920 began during the month of January, as is evident from the table. The variation in the weekly total number of deaths during the first five weeks of 1921 was remarkably small, the "range" being only 43, from 725 to 768 deaths.

The weeks for which figures are given all ended on Saturday, the "first" weeks of the respective years being as follows: 1919, week ended January 4; 1920, ended January 10; 1921, January 8, and 1922, January 7. The figures for 1919 and 1920 were taken from the Weekly Health Index, issued by the Bureau of the Census, Department of Commerce, supplemented by reports to the Public Health Service. For 1921 and 1922 the figures are taken from reports made by the city health officers to the Public Health Service.

Blanks in the table indicate that no reports of deaths from influenza or pneumonia were received for the week. This does not always indicate that no deaths from these diseases occurred. In the fifth week of 1922 it means in most instances that the report has been delayed.

Number of deaths from influenza and pneumonia (all forms) combined.

City.	Week number.					City.	Week number.				
	First.	Second.	Third.	Fourth.	Fifth.		First.	Second.	Third.	Fourth.	Fifth.
Birmingham, Ala.:						San Francisco, Calif.:					
1922.....	8	10	14	6	13	1922.....	11	12	4	12	.....
1921.....	7	14	6	4	9	1921.....	.....	5	8	.....	7
1920.....	13	9	16	14	22	1920.....	14	26	48	59	115
1919.....	36	44	52	41	29	1919.....	194	290	310	149	59
Los Angeles, Calif.:						Denver, Colo.:					
1922.....	18	19	14	21	26	1922.....	22	11	10	17	18
1921.....	12	19	9	13	15	1921.....	25	22	23	11	16
1920.....	16	18	19	22	42	1920.....	21	18	24	49	159
1919.....	90	151	178	177	104	1919.....	65	47	35	24	29
Oakland, Calif.:						New Haven, Conn.:					
1922.....	4	5	5	.....	.....	1922.....	5	1	5	4	13
1921.....	4	3	8	7	9	1921.....	4	7	7	7	2
1920.....	4	8	20	24	55	1920.....	6	8	10	19	20
1919.....	66	92	111	67	38	1919.....	40	38	27	26	20

Number of deaths from influenza and pneumonia (all forms) combined—Continued.

City.	Week number.					City.	Week number.				
	First.	Second.	Third.	Fourth.	Fifth.		First.	Second.	Third.	Fourth.	Fifth.
Washington, D. C.:						Newark, N. J.:					
1922.....	20	22	27	27	25	1922.....	13	15	20	20	.....
1921.....	22	22	14	9	9	1921.....	18	14	15	7	13
1920.....	22	27	81	181	164	1920.....	17	14	30	55	116
1919.....	139	109	107	73	60	1919.....	72	66	57	53	60
Atlanta, Ga.:						Buffalo, N. Y.:					
1922.....	13	7	9	7	20	1922.....	6	20	13	19	21
1921.....	10	8	9	5	7	1921.....	20	18	18	20	13
1920.....	19	11	10	15	32	1920.....	10	7	19	17	67
1919.....	140	140	154	157	154	1919.....	48	119	90	123	90
Chicago, Ill.:						New York, N. Y.:					
1922.....	48	43	63	65	72	1922.....	215	263	284	302	481
1921.....	64	79	89	102	92	1921.....	235	216	204	203	199
1920.....	107	153	472	1,109	1,005	1920.....	218	261	511	1,308	1,968
1919.....	321	269	328	341	277	1919.....	753	870	998	1,193	1,153
Indianapolis, Ind.:						Rochester, N. Y.:					
1922.....	20	11	9	17	29	1922.....	5	11	12	14	6
1921.....	15	12	13	13	21	1921.....	4	3	6	8	5
1920.....	18	16	21	36	92	1920.....	13	7	12	23	50
1919.....	34	40	25	28	25	1919.....	59	26	17	21	12
Louisville, Ky.:						Syracuse, N. Y.:					
1922.....	6	12	18	7	16	1922.....	4	6	4	6	7
1921.....	6	4	5	5	2	1921.....	4	8	3	5	6
1920.....	10	10	9	18	40	1920.....	9	8	10	31	89
1919.....	22	20	21	30	20	1919.....	8	13	4	14	18
New Orleans, La.:						Cincinnati, Ohio:					
1922.....	13	14	14	13	4	1922.....	14	20	15	19	21
1921.....	18	18	21	13	12	1921.....	14	16	13	11	18
1920.....	27	27	27	32	36	1920.....	14	12	17	25	38
1919.....	94	141	202	201	125	1919.....	51	18	18	26	23
Baltimore, Md.:						Cleveland, Ohio:					
1922.....	32	25	24	26	29	1922.....	.....	.....	30	28	25
1921.....	33	20	24	18	26	1921.....	25	22	23	24	31
1920.....	20	35	24	59	122	1920.....	21	25	26	41	158
1919.....	48	75	83	150	138	1919.....	132	94	92	92	108
Boston, Mass.:						Columbus, Ohio:					
1922.....	21	17	36	28	33	1922.....	5	9	4	10	.....
1921.....	27	23	36	33	22	1921.....	8	8	12	12	13
1920.....	28	28	45	85	158	1920.....	15	9	8	22	59
1919.....	244	227	158	153	110	1919.....	15	14	10	20	19
Cambridge, Mass.:						Toledo, Ohio:					
1922.....	5	8	3	4	7	1922.....	6	9	8	12	7
1921.....	4	5	5	5	1	1921.....	.....	3	9	10	5
1920.....	8	7	8	14	22	1920.....	9	8	9	18	54
1919.....	39	22	20	16	15	1919.....	19	15	19	20	15
Fall River, Mass.:						Portland, Oreg.:					
1922.....	5	4	3	6	5	1922.....	4	7	4	6	.....
1921.....	14	5	11	4	5	1921.....	6	5	7	6	4
1920.....	7	10	5	3	5	1920.....	13	8	9	17	21
1919.....	10	18	16	14	17	1919.....	55	101	123	122	50
Lowell, Mass.:						Philadelphia, Pa.:					
1922.....	4	7	5	4	4	1922.....	73	98	87	86	85
1921.....	7	6	8	3	6	1921.....	72	83	85	101	114
1920.....	5	4	2	7	12	1920.....	55	75	108	153	289
1919.....	13	10	20	26	11	1919.....	142	194	229	259	308
Worcester, Mass.:						Providence, R. I.:					
1922.....	5	10	11	7	16	1922.....	13	8	12	17	11
1921.....	4	7	13	9	4	1921.....	14	6	5	8	14
1920.....	10	9	7	14	15	1920.....	12	13	8	14	39
1919.....	40	36	44	22	23	1919.....	47	59	62	61	35
Minneapolis, Minn.:						Nashville, Tenn.:					
1922.....	10	6	9	9	.....	1922.....	2	7	.....	.....	.....
1921.....	13	14	10	8	10	1921.....	2	8	4	.....	10
1920.....	12	10	9	63	168	1920.....	6	11	6	12	8
1919.....	7	45	24	32	31	1919.....	20	17	21	21	17
St. Paul, Minn.:						Richmond, Va.:					
1922.....	7	13	7	3	.....	1922.....	8	9	9	4	8
1921.....	9	5	9	9	.....	1921.....	5	5	13	6	5
1920.....	4	10	26	75	80	1920.....	2	9	6	21	35
1919.....	39	25	14	12	15	1919.....	50	26	34	30	28
Kansas City, Mo.:						Total:					
1922.....	15	13	14	25	25	1922.....	671	761	823	863	1,051
1921.....	17	17	19	13	14	1921.....	750	737	768	725	738
1920.....	13	29	96	120	220	1920.....	802	947	1,771	3,820	5,657
1919.....	49	50	68	45	58	1919.....	3,165	3,346	3,688	3,756	3,180
Omaha, Nebr.:											
1922.....	11	9	17	12	16						
1921.....	8	7	4	14	.....					
1920.....	8	7	13	45	62						
1919.....	25	23	17	17	11						

¹ Pneumonia (all forms) deaths only.

² Influenza deaths only.

THE TREATMENT OF CARBON MONOXIDE POISONING.

By R. R. SAYERS, Passed Assistant Surgeon, and H. R. O'BRIEN, Assistant Surgeon (R), United States Public Health Service.¹

Carbon monoxide poisoning is one of the most widely distributed and most frequent of industrial accidents. The gas is a product of incomplete combustion and is without color, odor, or taste; therefore, its presence is frequently unsuspected in many places where it exists. It is an ever-present danger about blast and coke furnaces and foundries. It may be found in a building having a leaky furnace or chimney or a gas stove without flue connection, such as a tenement, tailor shop, or boarding house. Hospitals receive a great number of victims of poisoning, whether by accident or in an attempt at suicide, from artificial illuminating gas. Persons may be affected by leaks wherever water gas is formed or used. The exhaust gases of gasoline automobiles contain from 4 to 12 per cent of carbon monoxide, and in closed garages men are not infrequently found dead beside a running motor. A similar danger may arise from gasoline engines in launches. The gas is formed also in stoke-rooms, in gun turrets on battleships, in petroleum refineries, and in the Leblanc soda process in cement and brick plants. In underground work carbon monoxide may appear as the result of shot firing, mine explosions, or mine fires, or in tunnels from automobile exhausts or from coal or oil burning locomotives.

Carbon monoxide exerts its extremely dangerous action on the body by displacing oxygen from its combination with hemoglobin. Hemoglobin, the coloring matter of the blood, normally absorbs oxygen from the air in the lungs and delivers it to the different tissues of the body. The affinity of carbon monoxide for hemoglobin is about 300 times that of oxygen. Because of this, even when only a small amount of the poisonous gas is present in the air breathed into the lungs, much of the hemoglobin is locked up in combination with carbon monoxide and so can not keep up its usual work of carrying oxygen to the tissues. These, because of the lack of oxygen, can not do their work properly. If they are smothered long enough, the tissue cells become damaged, and the injury to the cells may be permanent even if the patient survive. It has been asserted that carbon monoxide has a specific poisonous action on some tissues of the body, especially those of the nervous system, but there is little evidence in favor of this statement and much against it. Haggard and Henderson found that there was no change in the rate of growth of chick brain tissue, even when it was exposed to an atmosphere containing over 70 per cent of carbon monoxide, and it has been shown many times that animals without red blood (hemoglobin) can live in atmos-

¹In cooperation with the U. S. Bureau of Mines.

pheres containing high concentrations without apparent harmful effects. Recently this was demonstrated at the Pittsburgh experiment station of the United States Bureau of Mines, when some roaches were kept for several days in an atmosphere of over 60 per cent carbon monoxide and 20 per cent oxygen without lessening their activities.

The victim of acute carbon monoxide poisoning usually experiences the following symptoms: Yawning, sleepiness, weariness, and a feeling of constriction across the forehead; frontal headache, at first dull and intermittent, later continuous and more severe; this headache is replaced or masked by the typical headache of carbon monoxide poisoning, at the base and back of the skull, which causes the sufferer to hold his head as far back as possible in an effort to obtain relief; dizziness, nausea (feeling of sickness), and lassitude also occur. The pulse is at first normal, but later becomes full and rapid, the skin is flushed, the respiration becomes more rapid as exposure to the gas continues, and later becomes irregular. If the exposure is sufficiently long, or the concentration of carbon monoxide is sufficiently great, confusion and unconsciousness develop. As the victim recovers, he remains weak for sometime. This weakness persists especially in the muscles of his legs. A headache, sometimes very severe, confusion, and partial loss of memory accompany recovery, but pass off in time. The nausea may be sufficient to produce vomiting. All the symptoms are accentuated by exercise, eating, and stimulants. When a person is overcome by large concentrations, the symptoms follow each other rapidly and he may fall quickly unconscious. The rate at which a person is overcome and the sequence in which the symptoms appear depend on several factors, viz, the concentration of the gas; the extent of physical exertion; the state of his health and individual predisposition; and the temperature, humidity, and air movement to which he is exposed. Exercise high temperature, and great humidity, with no air movement, tend to increase respiration and heart rate, and consequently, result in more rapid absorption of carbon monoxide.

In chronic exposures, carbon monoxide poisoning produces a tired feeling, headaches, nausea, palpitation of the heart, sleeplessness, and sometimes mental dullness. Some persons develop a "tolerance" for carbon monoxide and may, after repeated exposures, be able to "stand" more of the gas, than when first exposed to it. In the treatment of the chronic form of poisoning the most important factors are the removal of the patient from further exposure to carbon monoxide, and a thorough rest. Though there are probably many more cases of the chronic form than are usually recognized, it is in the treatment of the acute form that interest is generally centered.

The first and most important thing in caring for a case of acute carbon monoxide poisoning is to get the poison out of the blood as rapidly as possible. Every moment during which oxygen is shut out of the hemoglobin adds to the chances of failure of heart and respiration. Every minute during which the tissues are supplied with only a part of their needed oxygen increases the danger of their subsequent degeneration and permanent damage. Both to save life itself and to prevent ill health in the future, it is of vital importance to eliminate carbon monoxide from the blood as rapidly as possible.

Oxygen will replace carbon monoxide in combination with hemoglobin whenever the proportion of oxygen in the lungs is overwhelmingly greater. The speed of the change depends on the relative amounts of the two gases in the lungs and on the depth and frequency of breathing. The first step is to get the victim away from the atmosphere of carbon monoxide which he is breathing; the next is to supply him with oxygen. The first may be done by getting the patient into fresh air, but only one-fifth of air is oxygen. If a tank of pure oxygen is available, it is far better to use it as the action is much faster and the aftereffects, especially the headache, are much less severe and not so prolonged. The oxygen should, if possible, be given through an inhaler similar to an anesthetic mask or the Tissot army face mask, which can be fastened over the patient's mouth and nose, or entire face. If an inhaler is not at hand, a physician may give oxygen through a nasal catheter. In the absence of any of these accessories, it can be sprayed directly from the tank about the patient's face. It should be started as soon as he is removed from the carbon monoxide or before, if possible, and should be kept up for at least 20 minutes.

It may be that when the victim is found his breathing has stopped, or is very weak and irregular. In this case one of the rescuers should begin artificial respiration at once, by the Schaefer method as follows:

Place the person ¹ on his abdomen; remove from his mouth all foreign bodies, such as false teeth, tobacco, and gum; see that the tongue is forward; turn his head to one side and rest it on his forearm, so that the mouth and nose will not come in contact with the ground, and extend the other arm forward. If the person is thin, prepare a pad of folded clothing, or blankets, and place it under the lower part of his chest. Do not make this pad too thick. Do not wait to loosen the victim's clothing, but begin artificial respiration without delay. An assistant may remove all tight clothing from the victim's neck, chest, and waist, and place blankets, hot-water bottles, safety lamps, or hot bricks, well wrapped in paper or cloth, about the person.

¹ Manual of First Aid Instruction for Miners. Bureau of Mines. 1921.

Kneel, straddling the person's thighs and facing his head. The palms of your hands are placed over the short ribs, with your thumbs parallel with the spine about 2 inches apart and your fingers spread out as much as possible, the ends of the little fingers reaching just below the last rib. With arms held straight, swing forward slowly so that the weight of your body is gradually brought to bear on the person. This operation, which should take about two seconds, must not be violent, lest the internal organs be injured. The lower part of the chest and also the abdomen are thus compressed and air is forced out of the lungs. Now, immediately swing back slowly to remove the pressure, but leave your hands in place. Through their elasticity the patient's chest walls expand and his lungs are thus supplied with fresh air. After two seconds swing forward again and repeat deliberately about 15 times a minute.

Continue if necessary for at least three hours without interruption, or until natural breathing has been restored or a physician has arrived. Even after natural breathing begins, carefully watch that it continues. If it stops, start artificial respiration again.

Although the administration of oxygen is by far the most important factor in the treatment and can not be overemphasized, other things should be done to help the patient. He should be kept *quiet* and *lying flat*, to help his weakened heart. As he gets better, he should *never* be allowed to walk about or in any way *exert* himself, for there is danger of heart failure. Heat from safety lamps, hot-water bottles, or warm bricks, rubbing the arms and legs, and keeping the patient well covered with blankets all help the circulation and aid in tiding the body over a period of low vitality. The safety lamps, hot bricks, etc., should be well wrapped in cloth or paper as a precaution against burning the patient. Other stimulants, such as hypodermics of caffein-sodium benzoate or camphor in oil, may be used only by a physician, and after he has considered the possibility of overstimulation and consequent collapse. The patient should be kept in bed for a day at least. Later he should be treated as a convalescent, being given plenty of time to rest and recuperate. Just how long this should be depends on the severity of his poisoning and should be decided by his physician.

SUMMARY OF TREATMENT.

1. Administer oxygen as *quickly* as *possible*, and in as pure form as is obtainable, preferably from a cylinder of oxygen through an inhaler mask.
2. Remove patient from atmosphere containing carbon monoxide.
3. If breathing is feeble, at once start artificial respiration by the prone posture method.
4. Keep the victim flat, quiet, and warm.
5. Afterwards give plenty of rest.

NOTES ON THE EFFICIENCY OF VARIOUS SYSTEMS OF AIR-CONDITIONING IN A MUNITION FACTORY.

By C.-E. A. WINSLOW, Professor of Public Health, Yale School of Medicine, Senior Sanitarian (R), United States Public Health Service; and LEONARD GREENBURG, Assistant Sanitary Engineer (R), United States Public Health Service.

1. INTRODUCTION.

It should be a truism that the success of any system of ventilation (or air-conditioning), natural or artificial, will depend on the intelligence with which the system is designed and the care with which it is operated. The literature of the subject is, however, notably deficient in detailed and critical study of the actual performance of such systems under the normal conditions of everyday use. The engineering journals carry elaborate accounts of the design of ventilating apparatus; but, once installed, we hear nothing more of them if they work well; whereas if they fail, the result is usually a sweeping condemnation of the whole practice of fan ventilation, without any serious attempt to discover the exact source of the difficulty.

Careful records of operating results are therefore likely to be of real value in furthering the development of the difficult and important art of air-conditioning. For this reason it seems worth while to present certain results obtained in the years 1918 and 1919 in a somewhat exhaustive study of the atmospheric conditions maintained in a small-arms plant in the State of Connecticut. The plant in question was unusually well adapted for a study of this sort. It included over 100 separate buildings, of which 24 old brick buildings 2,000 to 6,000 square feet in area, 22 larger and more modern concrete buildings, and 10 buildings of the mill construction type were surveyed in more or less detail. The greater number of the workrooms involved no special air-conditioning problems and furnished good examples of the ordinary factory workroom ventilated by windows only; but 13 of the workrooms studied were equipped with systems of fan ventilation, many of them of admirable design, while in several instances heat hazards of considerable magnitude were involved.

2. GENERAL SURVEY OF TEMPERATURE CONDITIONS IN THE PLANT.

First of all it seemed desirable to obtain an idea of the general temperature conditions maintained in the plant in the average workroom where no particularly complex problems of ventilation were involved. Studies along this line were therefore made in 100 different workrooms between February 17 and March 17, 1919. Five wet and dry bulb temperature readings were taken, at representative points in each shop, with the sling psychrometer. The distribution of the average dry-bulb temperatures and relative

humidities for each shop obtained from these readings is indicated in Table I below.

TABLE I.—*Winter temperature and relative humidity of workrooms.*

Temperature classes (degrees F.):	Percentage of work-rooms in each class.
60-64.....	5
65-69.....	27
70-74.....	53
75-79.....	11
80-84.....	4
Relative humidity classes (per cent):	
Under 21.....	4
21-25.....	27
26-30.....	17
31-35.....	14
36-40.....	12
41-45.....	13
46-50.....	4
51-55.....	6
Over 55.....	3

These figures indicate comparatively little extreme overheating, only 4 rooms out of 100 studied showing an average temperature over 80°. These four rooms were a wash shop, a bluing shop, and two browning shops, in all of which there are special sources of heat, which make it very difficult to maintain a low temperature. On the other hand, there is evidence of a general tendency to slight overheating throughout the plant. A temperature of 68° is the highest which should be generally maintained in the factory workroom; but 68 per cent of the rooms studied showed a temperature of over 69°. When it is recalled that the investigations of the New York State Commission on Ventilation showed a decrease of 15 per cent in productivity when physical work was performed at 75° (as compared with 68°), it is evident that this condition of overheating is deserving of serious attention. It is typical of the most nearly universal problem of air-conditioning—a problem which does not require for its solution the installation of any elaborate system of fan ventilation, but involves merely the systematic observation of a thermometer placed in every workroom and the intelligent regulation of heating appliances.

3. DETAILED STUDY OF ATMOSPHERIC CONDITIONS IN A WINDOW-VENTILATED WORKROOM.

In order to see whether the high temperatures observed in the window-ventilated rooms were due to the inevitable accumulation of the heat produced by the bodies of the occupants or merely to initial overheating, we made a special study of the progressive changes taking place in a typical workroom. The room selected was a paper shell inspection shop provided with no artificial ventilation. It had a total capacity of 120,790 cubic feet and was occupied

by 53 female and 10 male employees, giving an ample allowance of 1,917 cubic feet per capita. The direct heating coils had been cut off at the time our observations began, and several windows were open at the bottom. The results of our examinations, which were made between 2 and 5 p. m. on a clear day in February, are shown in Table II, and in graphic form in Figure 1.

TABLE II.—*Ventilation observations in paper shot shell inspection shop. Feb. 24, 1919.*

Time.	Heat loss, millicalories per square centimeter per second.		Psychrometer.		Per cent relative hu- midity.	CO ₂ . Parts per 10,000 of air.	Remarks.
	Kata wet.	Kata dry.	Wet.	Dry.			
<i>P. m.</i>							
2.....	13	3.3	57.5	77.5	26+	-----	Weather, clear.
2.15.....	14	3.6	54.5	76.0	21	7.8	
2.30.....	14	3.8	54.0	75.0	21	7.6	A few windows were open at bottom.
2.45.....	16	3.8	54.0	75.0	21	6.4	
3.....	16	3.8	53.0	73.5	20+	5.6	
3.15.....	15	3.8	53.0	73.0	22	8.3	Comfort vote: Slightly warm till near 5 p. m.
3.30.....	14	3.8	53.5	73.5	22	8.8	
3.45.....	15	3.9	54.5	74.0	25	7.4	
4.....	15	3.7	54.0	74.5	22	7.7	
4.15.....	15	3.8	55.0	76.0	22	8.7	
4.30.....	15	3.8	54.0	73.0	25	7.6	
4.45.....	15	4.0	53.0	73.0	22	8.9	
5.....	15	4.1	54.0	73.5	24+	6.7	

It is evident that the workroom was greatly overheated at the beginning of the work period, but that during the afternoon the natural ventilation taking place was not only sufficient to prevent a further rise but, with the gradual decrease of temperature outdoors, to produce a material lowering of the temperature of the workroom itself. The CO₂ rose slightly to between 8 and 9 parts per 10,000. It would seem in this instance that natural ventilation would have been quite adequate if means had been taken to cool the room off to 68° during the noon hour. In the absence of this precaution the temperature at 2 p. m. was 77.5° and stayed around 73° or higher for the whole afternoon. We have here an illustration of the fact that the use of a thermometer and a little common sense will solve a great many "ventilation problems."

4. DETAILED STUDY OF ATMOSPHERIC CONDITIONS IN AN ANNEALING SHOP WHERE AN INTENSIVE HEAT HAZARD WAS CONTROLLED BY FAN VENTILATION.

An interesting comparison may be drawn between the results obtained in the case described above and those observed in an annealing shop. The paper shell inspection shop could easily have been kept comfortable by a little attention to window ventilation; yet it was, as a matter of fact, notably overheated. The annealing shop, on the other hand, offers one of the most difficult problems of ventilation

in the plant under investigation; and yet this problem at the time of our observations was solved with remarkable success.

The annealing shop has a capacity of 119,160 cubic feet and contains a row of large rotary annealing furnaces on each side of the room. An annealing furnace consists of a cast-iron drum about 8 feet long, mounted horizontally in a casing, and arranged so as to revolve on large bearing wheels. A system of torches is arranged in

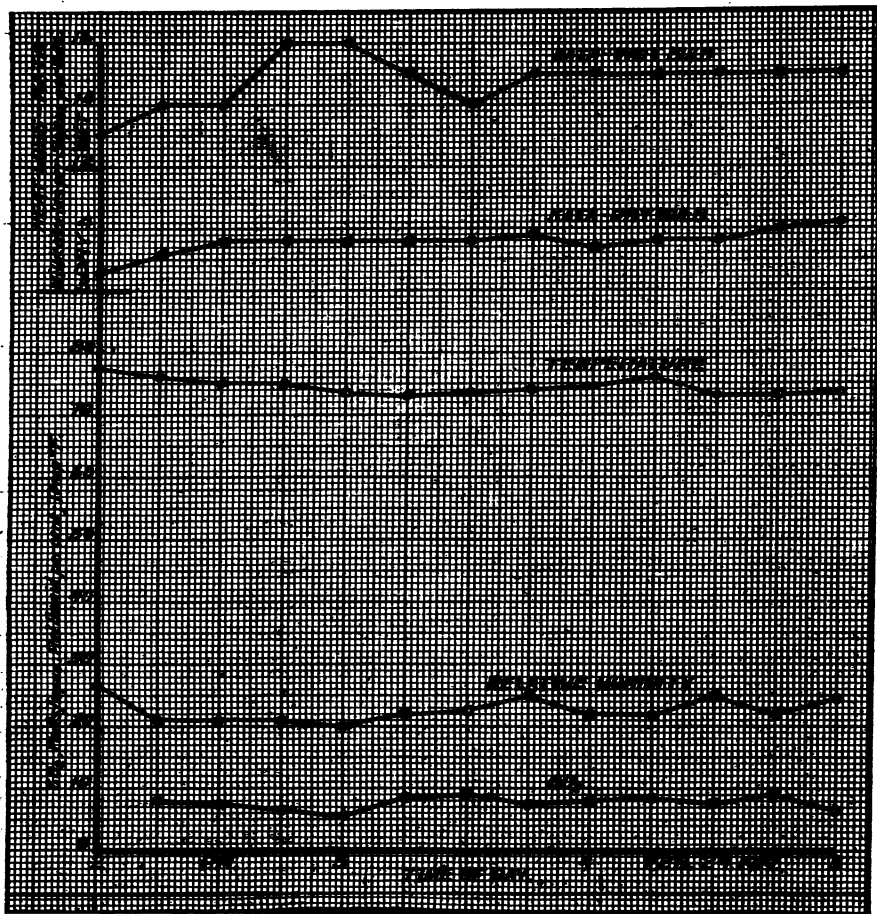


FIG. 1.—Progressive changes in atmospheric conditions in paper shot shell inspection shop. Window ventilation only.

the casing, and as the interior drum revolves, the torches (burning producer gas) heat the drum and the contained shells to the proper annealing temperature (generally about 1,200°). The shells are fed in at one end of the drum and, by means of a spiral ridge on the interior, work their way through the drum and fall out at the rear end.

The heating effect of these furnaces upon the room is naturally great, and in the summer time a very considerable heat hazard is

inevitable (see section 6 of this report). The room is, however, provided with an extensive system of fan ventilation which, when the weather is cold, is amply sufficient to keep conditions good. The system includes a plenum system delivering air to both sides of the room at the floor level and another plenum duct along the center of the ceiling. For the propulsion of the air two air washer fans are used, each having a capacity of 45,000 cubic feet per minute. The

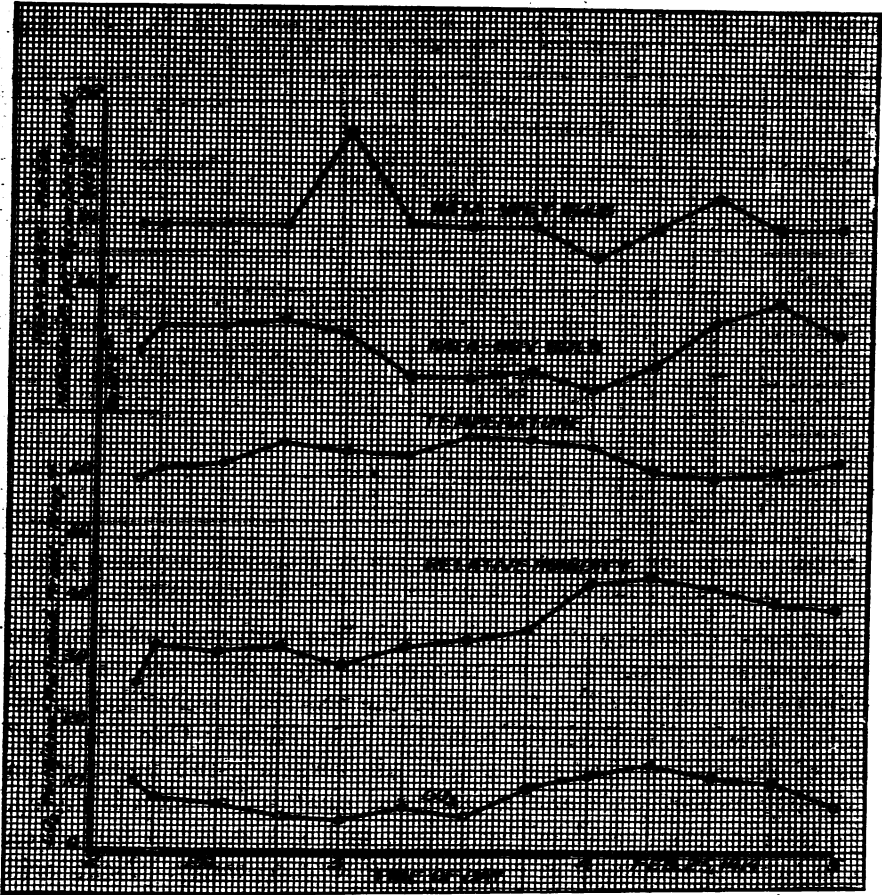


FIG. 2.—Progressive changes in atmospheric conditions in shell anneal shop. Heat hazard controlled by fan ventilation.

exhaust system consists of a series of hoods above the annealing furnaces along the sides of the room. For moving the air in this case, two fans are used; one being driven by a 25-horsepower and the other by a 20-horsepower motor.

We observed conditions in this room on a cool day in February, when the outside temperature was 44° F. on the dry bulb and 39° on the wet bulb. The results as indicated in Table III and Figure 2 showed that while the CO₂ rose at times to 10, 12, and 14 parts (no

doubt as a result of the presence of furnace gases), the dry-bulb temperature never exceeded 66.5°, and the dry kata-thermometer indicated a heat loss generally over 6 millicalories, representing almost ideal conditions at the point of observation, which was at the side of the main aisle near the center of the room. It should be noted that doors and windows were open to supplement the system of fan ventilation.

TABLE III.—*Ventilation observations in shell annealing room. Feb. 25, 1919. (Station near oven 28—middle of room to one side of center aisle.)*

Time.	Heat loss, millicalories per square centimeter per second.		Psychrometer.		Per cent relative humidity.	CO ₂ . Parts per 10,000 of air.	Remarks.
	Kata wet.	Kata dry.	Wet.	Dry.			
<i>p. m.</i>							
2.10.....	18	6.0	45.0	59.5	.27	11.0	Room atmosphere clear.
2.15.....	18	6.4	47.5	61.0	33	8.6	Comfort vote: Slightly cool.
2.30.....	18	6.4	48.0	62.0	32	7.6	Cool drafts were felt occasionally
2.45.....	18	6.5	51.0	65.5	33	5.6	throughout run.
3.00.....	21	6.3	49.0	64.0	30	4.4	Outside weather, damp, cloudy. Wet,
3.15.....	18	5.6	49.5	63.5	33+	6.4	39; dry, 41; per cent relative humid-
3.30.....	18	5.6	52.0	66.5	34+	5.5	ity, 63.
3.45.....	18	5.7	51.5	65.5	35.5	9.4	
4.00.....	17	5.4	52.5	64.5	43+	12.0	
4.15.....	18	5.8	50.0	61.0	44	14.0	
4.30.....	19	6.5	49.0	60.0	43	11.8	
4.45.....	18	6.8	49.0	61.0	40	10.8	
5.00.....	18	6.3	50.0	62.5	39+	6.6	

5. DETAILED STUDY OF ATMOSPHERIC CONDITIONS IN SHELL-WASHING SHOPS WHERE HEAT AND HUMIDITY WERE CONTROLLED BY FAN VENTILATION.

Our most extensive studies along this line were conducted in two shell-washing shops. In these workrooms brass shells are washed in order to remove the oil and grease of the previous mechanical operations. Briefly described, the operation is as follows: One "service" box of shells is emptied into a cylindrical washing-tub mounted on a slightly inclined axis, and a measured quantity of soda is added. The tubs are then revolved by power, and hot water is turned on so as to wash the shells in continuously running water. Next, acid is added (sulphuric, 2-4 per cent) and the tubs are again revolved. Soap solution is added to neutralize the acid and perhaps assist in giving the shells a polish. The shells are partially dried by continuous operation of the tubs and lastly completely dried in a hot-air drier at the center of the room.

The first of these rooms studied (Shop A), which is 53 by 146 by 12 feet, is arranged with two rows of tubs along the length of the room, one row on each side. Above each row of tubs is an exhaust duct built for the removal of the warm air and steam arising from the washing operation. In addition, the room is provided with a central duct for the supply of tempered fresh air. The air for this system is

taken in from the street about 15 feet above the sidewalk level and is then passed through a series of Vento heating coils and into the shop. The exhaust fans are multivane fans, and each of them when observed by us was running at between 350 and 355 r. p. m. The supply fan is a multivane fan, running at between 190 and 195 r. p. m. The amount of air actually delivered to, and exhausted from, the room was determined by anemometer readings taken at the face of the intake duct and at the roof openings from the supply and exhaust systems, respectively. These measurements showed a plenum supply of 1,990,000 cubic feet per hour, and a total exhaust of 1,780,000 cubic feet per hour, which, with a workroom of 84,840 net cubic feet capacity (sections partitioned off being deducted), indicates 23.5 air changes per hour. The temperature of the incoming plenum air was 70° F. dry bulb and 52° F. wet bulb.

In our studies of these shops we first made observations under normal conditions, with the fans in operation, then stopped the fans to see what would happen without artificial ventilation, and finally started the fans once more for a third series of records.

TABLE IV.—*Ventilation observations, Wash Shop A. Feb. 17, 1919.*

[Sta. near Tub 27.]

Time.	Heat loss, millicalories per square centimeter per second.		Psychrometer.		Per cent relative humidity.	CO ₂ . Parts per 10,000 of air.	Remarks.
	Kata wet.	Kata dry.	Wet.	Dry.			
<i>p. m.</i>							
1.50.....	20	4.5	63.0	82.0	33.0	5.2	
1.55.....	21	4.5	64.0	83.0	34.0	5.7	
2.....	20	4.3	64.0	83.0	34.0	9.6	
2.05.....	18	4.1	66.2	82.2	42.0		
2.10.....	21	4.3	66.0	83.5	38.0	9.8	
2.15.....	22	4.7	63.1	82.5	32.0		
2.20.....	19	4.2	65.3	83.0	38.0		
2.25.....	18	4.3	63.5	82.5	33.0	9.8	Fans off.
2.30.....	12	2.8	70.5	81.5	58.0	16.5	
2.35.....	11	2.8	69.0	80.0	57.0	17.8	
2.40.....	9	2.8	71.0	81.0	61.5		
2.45.....	11	2.7	68.3	83.0	48.0	10.1	
2.50.....	9	2.3	73.0	83.0	62.0	12.9	
2.55.....	10	2.3	75.0	84.0	66.5		
3.....	13	2.4	76.0	88.0	58.0	11.7	Fans on.
3.05.....	13	2.8	68.0	88.0	35.0	4.7	
3.10.....	14	3.0	67.0	86.0	36.5		
3.15.....	16	3.5	63.0	85.2	27.0	5.6	
3.20.....	20	3.8	62.0	85.0	25.0	11.5	
3.25.....	21	3.8	66.5	84.0	38.5	13.4	
3.30.....	18	3.9	65.0	84.5	33.0		
3.35.....	18	3.9	63.0	83.3	30.0	18.0	
3.40.....	21	3.9	64.8	84.0	34.0	12.8	
3.45.....	22	3.9	65.0	83.5	36.0		

Our experimental run in Wash Shop A was started at 1.50 p. m. on February 17, and, with the fans in operation, readings of the kata-thermometer, wet and dry bulb thermometer, and CO₂ determinations were made at a station situated on the east side center of

the room. In addition, wet and dry bulb readings were taken at four other stations throughout the room. At 2.25 p. m. the fans were stopped and observations continued as before. The relative humidity increased, and after a few minutes of operation on this basis the consensus of opinion of the four investigators was that the atmosphere of the room was decidedly uncomfortable. Several of the workmen in the room complained of the heat. At 3 p. m. the fans were again put in operation and observations continued until 3.45 p. m., when the experiment was closed.

The results of this test are shown in Table IV and have been plotted in Figure 3. The following facts are clearly shown:

1. That the room temperature before turning the fans off was less than 84° F.; that at the end of the "fans off" period this had increased to 88° ; that with the fans again in operation the temperature dropped to 83° – 84° in 35 minutes.

2. That the relative humidity increased from an average value of 35.7 per cent in the starting "fans on" period to an average value of 58.7 per cent in the "fans off" period.

3. The kata wet bulb heat loss decreased from 18 to 9 millicalories per square centimeter per second in the "fans off" period. The kata dry bulb heat loss decreased from 4.3 to 2.3 millicalories.

4. The CO_2 content of the air varied considerably during the first period of the experiment, the highest figure reached being 9.8 parts per 10,000. In the early part of the "fans off" period it reached 17.8 parts, running down to 10.1 parts at the middle of this period. At 3.35 p. m., about one-half hour after the fans were turned on, the CO_2 content again rose to 18 parts per 10,000. CO_2 is given off from the decomposition of soda ash (Na_2CO_3) during the process of washing the shells, and the determinations have, therefore, no great bearing on the efficiency of the ventilation systems, for at intervals a greater or lesser amount of CO_2 may be blown over toward the apparatus at the time of sampling.

In general, it is clearly evident that while conditions in this work-room under normal operation were by no means ideal (temperature over 80°), they would be almost unbearable without the very efficient system of ventilation which has been installed. Wet bulb temperatures of 75° and 76° and kata-thermometer heat losses below 10 millicalories for the wet and below 2.4 millicalories for the dry bulb, obtained when the fans were shut off, represent conditions which constitute in our opinion, a serious menace to health and efficiency, the combination of heat and humidity in such a shop being far more objectionable than a much higher degree of dry heat. The rise of the curve for temperature (both wet and dry bulb) and the drop for kata-thermometer heat losses during the period when the fans were shut off and their change when the fans were started again (see Fig. 3) offer eloquent testimony to the results that the system of ventilation was accomplishing.

Another wash shop studied (B) was somewhat larger (53 by 205 by 12 feet), but essentially similar in general arrangement to the first. The net cubic contents of this room were 123,324 cubic feet. . Ventilation

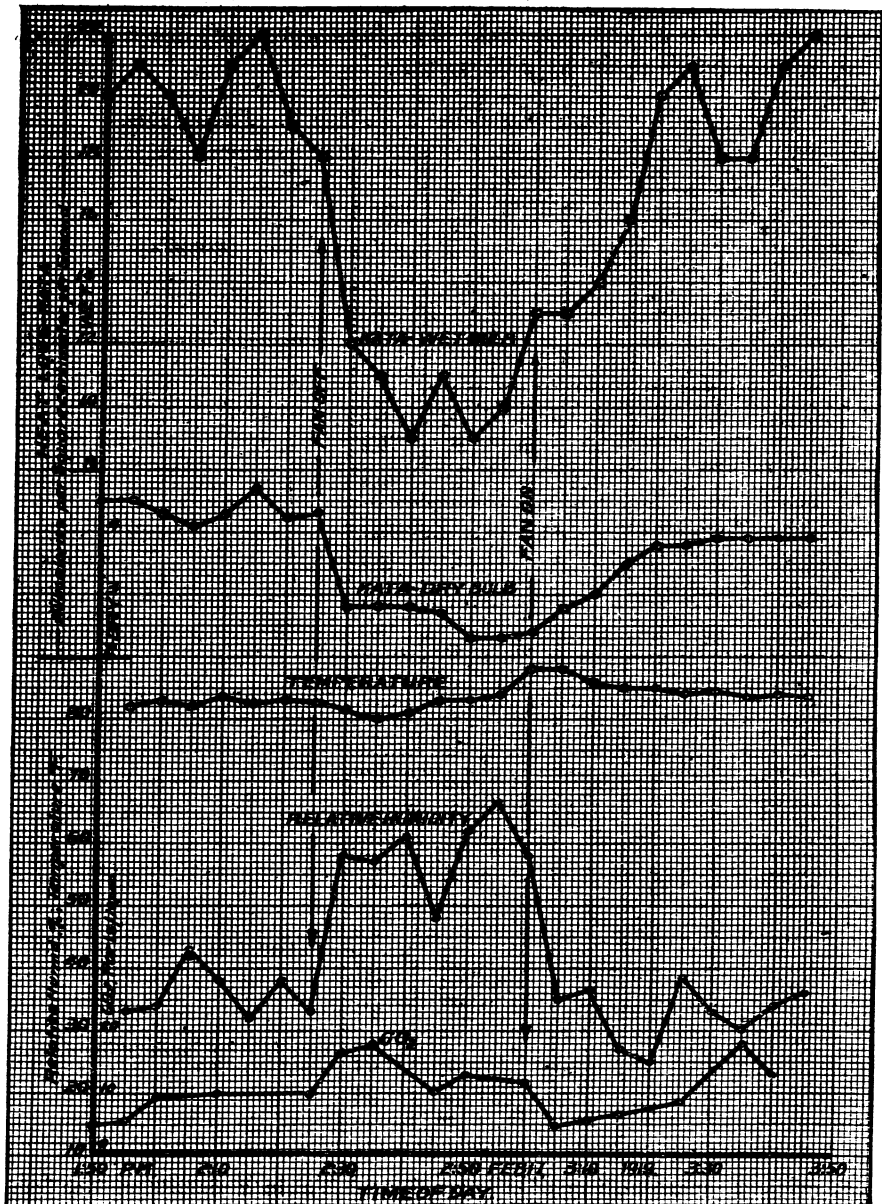


FIG. 3.—Progressive changes in atmospheric conditions in wash shop A. Effect of interrupting fan ventilation.

and heating were secured by a plenum fan (192 r. p. m.) and two exhaust fans, of which only one (309 r. p. m.) was in operation at the time of our test. According to our anemometer measurements, the

plenum supply amounted to 1,670,000 cubic feet per hour, the exhaust to 1,080,000 cubic feet per hour, giving 13.5 air changes per hour. We started our test in this room (see Table V and Fig. 4) on the morning of February 19 at 7 a. m., just as work began, with the fans in operation as above noted. The fans were shut down at 8.06 a. m. and started again at 9.05 a. m.

TABLE V.—*Ventilation observations—Wash Shop B. Feb. 19, 1919.*

Time.	Heat loss, millicalories per square centimeter per second.		Psychrometer.		Per cent relative humidity.	CO ₂ Parts per 10,000 of air.	Remarks.
	Kata wet.	Kata dry.	Wet.	Dry.			
<i>a. m.</i>							
6.50						6.8	
7.						5.9	
7.05	18	7.8	47	57	45	8.6	
7.10			54	61	63		
7.15	18	7.8	54	63	55	9.8	
7.20	17	7.7					
7.23			50.5	64	36	10.8	
7.25	21	7.8					
7.28			49.5	63.5	33.5		
7.30	17	7.0				21.7	
7.35			51	65.5	34		
7.38	15	5.9				22.8	
7.42			52	66	36		
7.45	15	5.6				15.7	
7.49			54	67	41		
7.53	14	5.2				6.7	
7.55			55	67	45		
8.	16	5.5				8.9	
8.02			55.5	69.5	40		
8.06	15	5.3					Stopped fans.
8.10			58	70	48		
8.15	16	5.2	55	68	42		
8.18		6.3	56	68	46		
8.20	17						
8.22		6.4	53	65	44		
8.25	16	5.6	57.5	67.5	54		
8.30	16	5.6	63.5	69	74	9.2	
8.35	12	5.5	66	67	95		
8.38	14	5.4	65	69.5	79		
8.43	13	5.4	65	70	77	12.2	
8.47	14	5.5	65	70	77		
8.52	13	5.1	65	71	72		
8.58	13	4.9	67	72	77	11.8	
9.03	16	5.0	65	71.5	70.5	4.3	
9.08	14	4.5	66	75	62		9.05, started fans.
9.14	14	4.5	63	77	45	7.3	
9.19	13	4.2	61	76.5	40	9.9	
9.24	14	4.5	61	78	36		
9.30	14	4.5	61.5	80	33	3.7	
9.35	14	4.5	61.5	79	35		
9.40	14	4.7	61	78	36		
9.45	17	5.4	60.5	77	34	6.5	Two of the four heating coils cut off in plenum intake.
9.50	17	5.3	59	75.5	36		
9.55	17	5.3	59.5	74.5	40	6.7	
10.	17	5.3	59.5	76	36		

A critical examination of Figure 4 and Table V discloses the following facts with reference to that portion of the test which was made prior to 8.06 a. m. (at which time the fans were shut down):

1. The dry bulb temperature rose from 57° F. at 7.05 a. m. to 69.5° at 8.02 a. m. During this same interval the relative humidity varied somewhat, but on the whole tended to decrease. The dry bulb kata-thermometer heat loss (in millicalories per square centimeter

per second) fell from 7.8 to 5.3, and the wet bulb kata-thermometer loss fell from 18 to 15.

At 8.06 the fans were shut down and observations were continued as before until 9.05. The facts derived from observations made in this "fan-off" period are as follows:

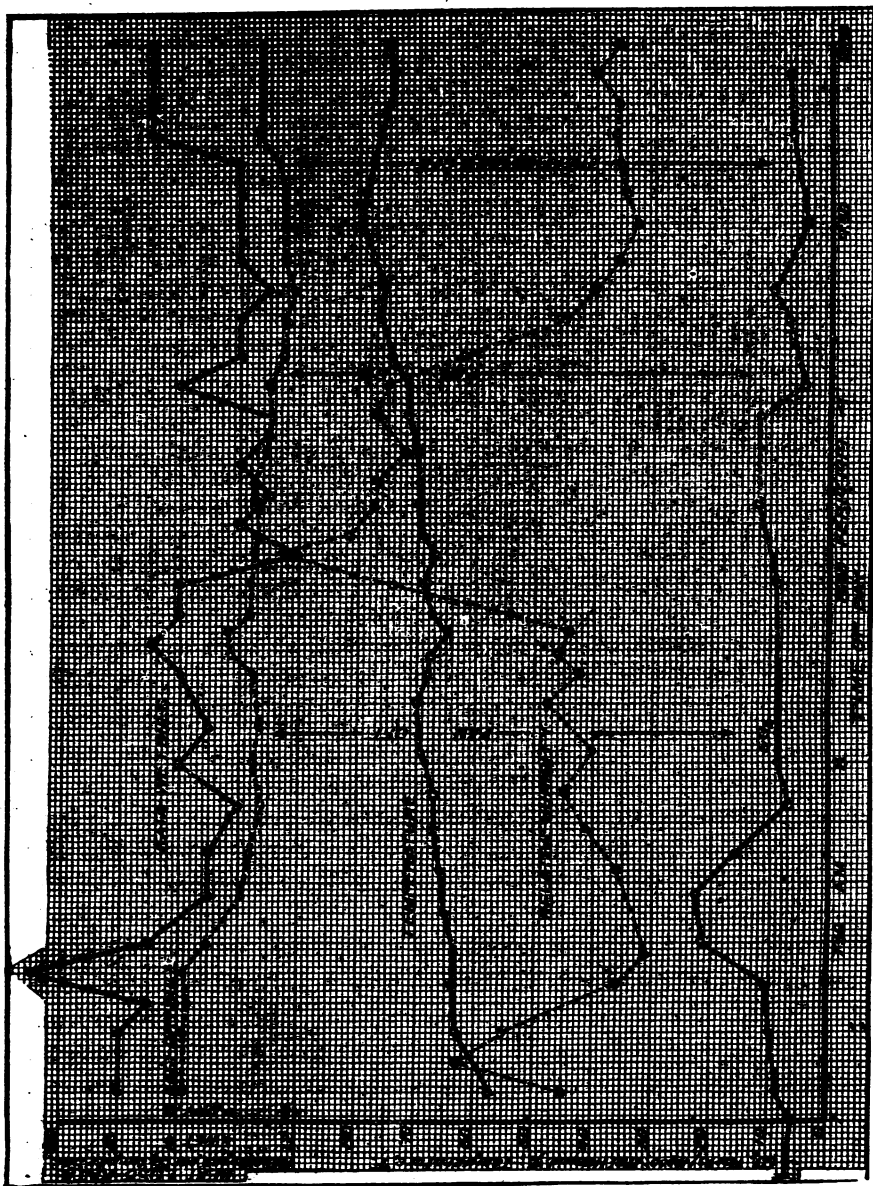


FIG. 4.—Progressive changes in atmospheric conditions in wash shop B. Effect of interrupting fan ventilation.

2. The dry bulb temperature fluctuated somewhat, the extremes being 65° and 72°, but in general continued to rise slowly. The wet bulb temperature rose rapidly from 58° at the start to 65° at the end of this period, and the relative humidity rose from 48 per cent to 70.5 per cent—at one time reaching 95 per cent. The dry bulb

kata-thermometer heat loss (in millicalories per square centimeter per second) varied slightly in this period, the extremes being 4.9 and 6.4. It will be observed, however, with the exception of the two readings taken consecutively at 8.18 and 8.22 (there may have been a local draft present at this time) that this curve is a comparatively straight line sloping slightly downward to the right, the heat loss at the beginning being about 5.3 and at the end 5.0 millicalories. The wet bulb kata-thermometer reading fluctuated considerably, the extremes being 12 and 17. It seems, however, that the general tendency of this curve was also to slope downward toward the right. In general, the room became very much more humid than it was in the first period, although conditions still remained more comfortable than in Shop A under similar conditions.

The third part of our experiment consisted in operating the fans again, thus giving us a period exactly similar to period 1. This run consisted of two parts, one from 9.05 to 9.40 a. m. (during which time four heating coils were in operation in the plenum intake chamber), and the second part from 9.40 to 10 a. m. (during which time only two of the heating coils were operating).

Considering now part one of this third period (fan on, four heating coils on), we observe the following:

3. The relative humidity dropped from 70.5 per cent to 36 per cent. The dry bulb temperature rose from 71.5° to 78° . The dry kata heat loss decreased from about 5 at start to 4.7 at end, and the wet kata heat loss remained practically constant. Judged by modern standards of ventilation, the room at this time would be considered almost as uncomfortable as it was without the use of fans. The fresh air supply had cut the relative humidity to a low value, but the temperature of the incoming air was so high as largely to nullify any advantage gained.

An examination of our data led at once to the obvious conclusion that the plenum system was supplying too much heat to the room. At 9.20 and 9.35, observations showed the temperature of the incoming plenum air to be 90° and 92° ; and at 9.40, two of the four heating coils in the plenum intake chamber were shut off and the incoming air then fell (at 9.53 and 10 a. m.) to a temperature of 80° and 81° .

Observations which were continued until 10 a. m. showed a decrease in temperature from 78° to 76° (dry bulb) and an increase in dry kata heat loss from 4.7 to 5.3 millicalories, and an increase from 14 to 17 millicalories loss by the wet kata. The workroom was still overheated (as recorded by the kata-thermometer heat loss values).

This experiment brings out (a) the remarkable reduction in the relative humidity which may be expected by the proper operation of a ventilating system; and (b) the evil effects produced by the overheating of plenum air. That reasonable comfort for the worker may be secured even under severe industrial conditions is quite apparent from the observations made during the last 20 minutes.

6. HEAT HAZARD INVOLVED IN CERTAIN PROCESSES DURING THE SUMMER TIME.

It has been shown above that some of the most intense heat-producing processes in this factory were controlled with marked success during the winter season by means of fan ventilation. In summer, however, the heat hazard involved in such processes can not be eliminated except by the installation of costly systems of cooling; and it seems worth while to put on record some of the extreme conditions observed by us in this plant during the period of warm weather.

The manufacture of small arms includes a number of processes involving exposure to high temperature, such as forging, annealing, brazing, and browning. In the browning process a large amount of moisture is discharged into the air and a high temperature is necessary in order to prevent the condensation of moisture upon the gun parts in other stages of the work, so that heat and atmospheric humidity are combined. These conditions were dealt with as far as is practicable in the plant under observation by a general plenum system of room ventilation, a special plenum system for blowing the steam away from the workers and a set of low pressure exhaust fans in the wall behind. In the brazing and forge shops the operatives are exposed not only to high temperatures but to radiant heat, the evils being mitigated in the former case by exhaust hoods over the muffler and individual fans blowing air over the workers and in the latter case by screens placed before the ovens. The shell anneal shop is in summer the most intensely overheated room in the entire plant, on account of the extremely high temperature maintained in the furnaces which it contains, the elaborate system of fan ventilation which proves so successful in winter (see sec. 4 of this report) being, of course, powerless to maintain a reasonable temperature when the outside air is warm.

In studying the summer heat hazard we installed recording thermometers (of the Tycos type) in some of the hottest rooms and obtained continuous temperature records in the shell anneal shop from May 3 to July 12, 1918 (with the exception of one 25-hour period), in the forge anneal shop from June 1 to August 15, 1918 (with the exception of one 90-hour period), in the brazing shop from May 11 to June 1, and in another forge anneal shop from August 29 to September 11. The general distribution of observations is indicated in Table VI.

TABLE VI.—*Distribution of hourly shop temperatures by 5° intervals.*

	Temperatures (degrees F.).							
	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99
Shell anneal shop:								
Number hours, May 3-July 12...	6	17	18	74	172	194	249	169
Per cent of total hours.....	0.3	1.0	1.0	4.4	10.6	11.6	14.9	10.1
Forge shop:								
Number hours, Aug. 29-Sept. 11...	10	21	23	27	43	22	35	59
Per cent of total hours.....	3.0	6.4	7.0	8.3	13.4	6.8	10.7	18.1
Forge shop:								
Number hours, June 1-Aug. 15...		23	75	185	292	371	309	211
Per cent of total hours.....		1.0	4.4	10.9	17.2	21.8	18.2	12.4
Brazing shop:								
Number hours, May 11-June 1...			19	195	116	57	57	42
Per cent of total hours.....			3.8	38.7	22.2	11.5	11.6	8.3

	Temperatures (degrees F.).								
	100-104	105-109	110-114	115-119	120-124	125-129	130-134	135	Total
Shell anneal shop:									
Number hours, May 3-July 12...	198	128	159	120	119	32	14	2	1,671
Per cent of total hours.....	11.8	7.7	9.5	7.2	7.1	1.9	0.8	0.1	100
Forge shop:									
Number hours, Aug. 29-Sept. 11...	35	11	15	10	12	2	1		326
Per cent of total hours.....	10.7	3.4	4.6	3.0	3.7	.6	.3		100
Forge shop:									
Number hours, June 1-Aug. 15...	124	67	40	7	3				1,707
Per cent of total hours.....	7.3	3.9	2.3	.4	.2				100
Brazing shop:									
Number hours, May 11-June 1...	12	4	3						505
Per cent of total hours.....	2.4	.8	.6						100

Figure 5 shows the hourly variations of atmospheric temperature in the shell anneal shop and in a forge shop on a typical June day in comparison with the corresponding outdoor temperature. It will be noted that at 6 p. m. the forge shop reached a temperature of 110° F. and the shell anneal shop a temperature of 130° F. while the air outside was at 75°. From 1 p. m. to 9 p. m. the temperature of the shell anneal shop at this point never fell below 120° F. Our recording thermometers were in all cases placed somewhat farther from the special heat sources than the position occupied by the workers, so that the results may be taken as fairly representative.

Figures 6 and 7 indicate the temperature conditions observed at 4 p. m. (near the highest temperature point reached in the diurnal cycle) for the entire period of our study in a brazing shop and a forge shop (Fig. 6) and in the shell anneal shop (Fig. 7). The temperature of the brazing shop varied at this hour between 80° and 100° and was generally about 20° above the outdoor temperature. The forge shop was even hotter, between 80° and 120°, and the shell anneal shop was usually between 100° and 120° and averaged about 40° higher than the outside air.

The vigorous air movement and the dryness of the atmosphere make conditions in this workroom less objectionable than they would be on the basis of temperature alone; but in any event, the exposure to temperatures of 120° and over must exert a serious strain upon the adaptive powers of the human organism.

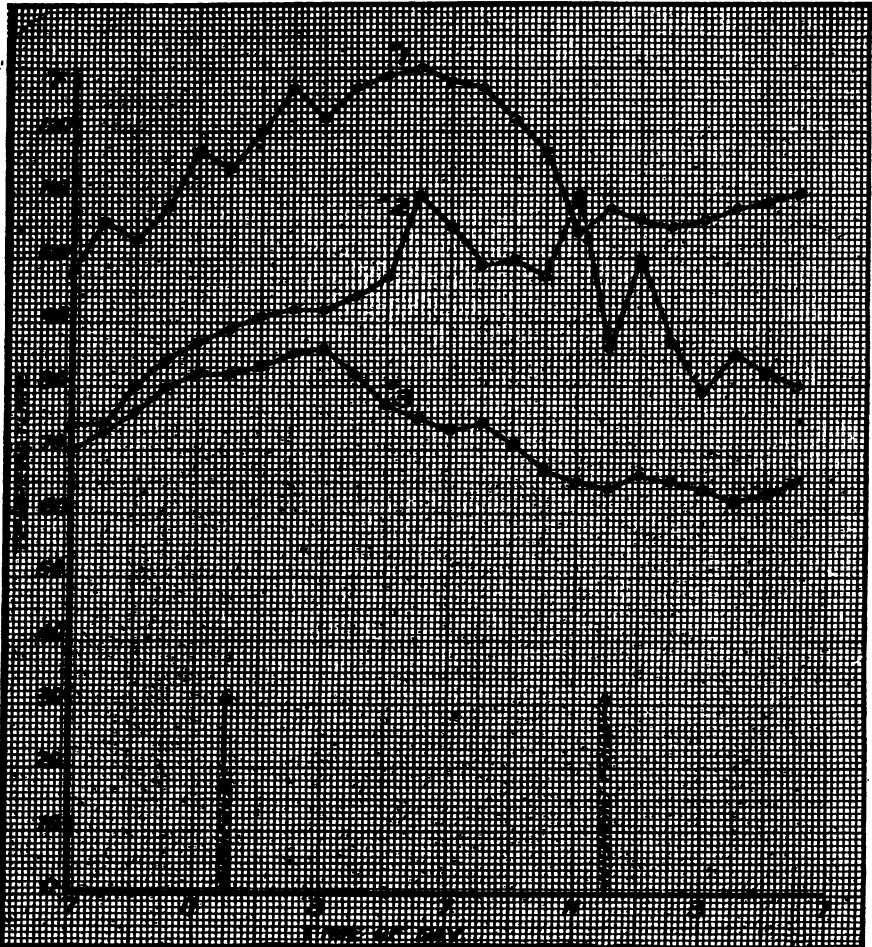


Fig. 5.—Hourly variations in temperature in shell anneal shop (curve No. 1) and forge shop (curve No. 2) compared with outside temperature (curve No. 3) on a typical June day.

7. CONCLUSIONS.

The data here reported suggest the following general conclusions, which are supported by the general experience of the writers in the study of atmospheric conditions in many other plants.

A. The commonest evil in the field of air-conditioning is the slight but highly objectionable overheating which obtains in the ordinary window-ventilated factory workrooms where there is no marked overcrowding and no special process tending to overheat or vitiate

the air. This evil can generally be controlled by routine observation of thermometers, the application of common sense to the regulation of artificial heat sources, and the use of windows before and during the shift.

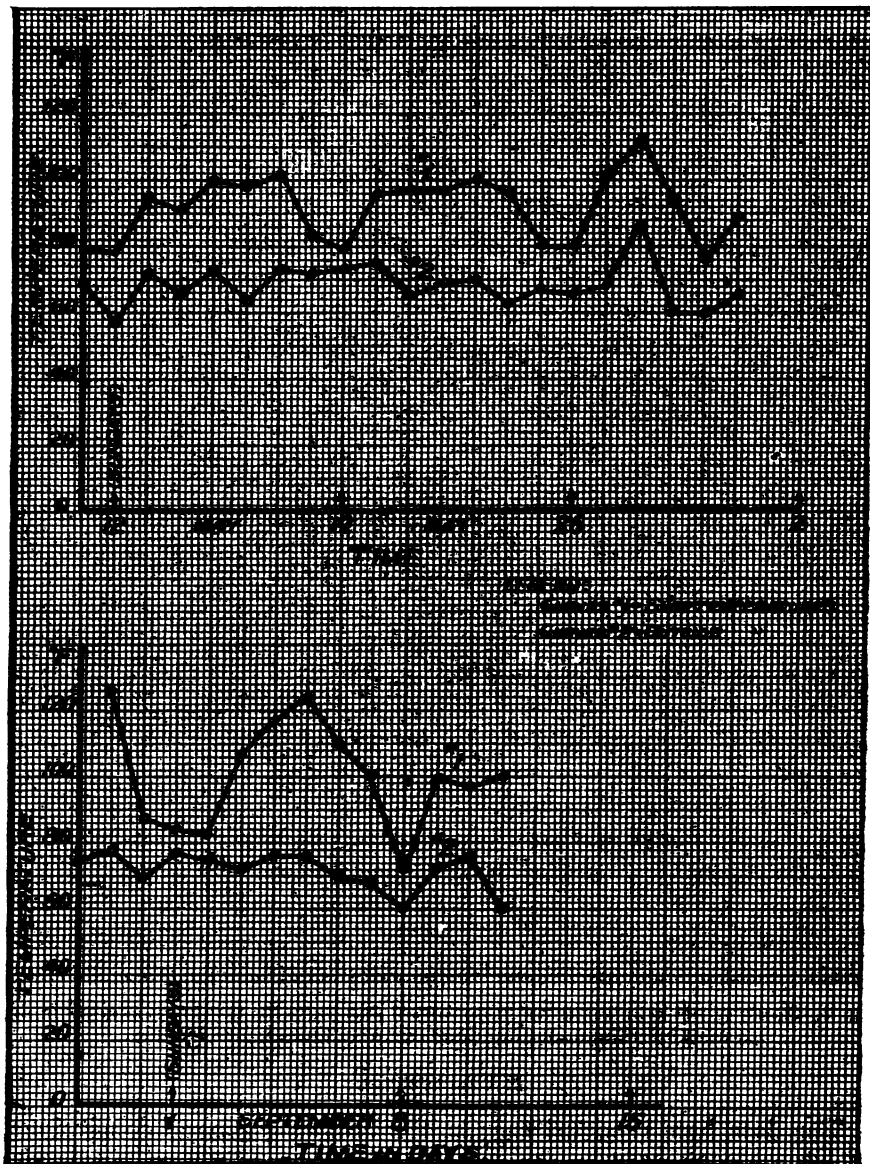


FIG. 6.—Daily variations in 4 p. m. temperature in a brazing shop (above) and in a forge shop (below) compared with outdoor temperature at the same hour.

B. Heat hazards of a high degree of intensity can be adequately controlled during cool weather by properly designed and operated systems of fan ventilation.

C. In summer time, while the hazard incident to processes involving the production of excessive heat can and should be mitigated to some extent by a system of ventilation which produces vigorous air movement, it can not be fully controlled except by special systems

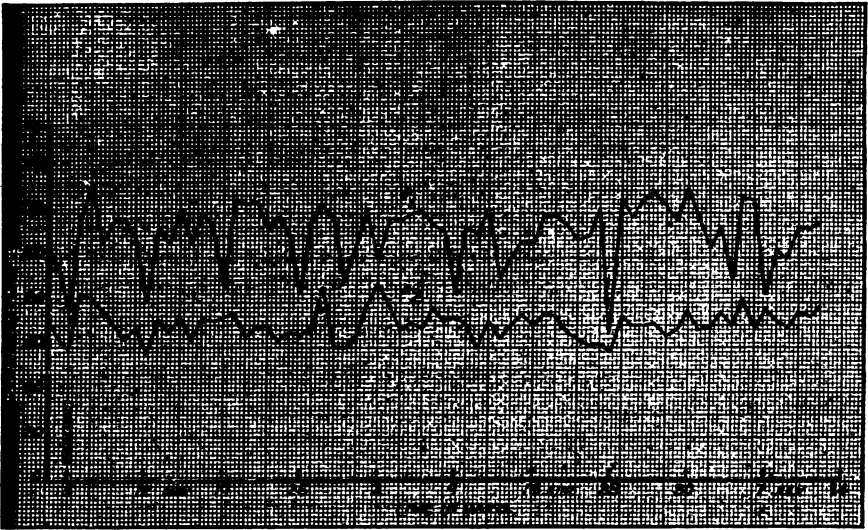


FIG. 7.—Daily variations in 4 p. m. temperature in shell anneal shop (curve No. 1) compared with outdoor temperature (curve No. 2) at the same hour.

of air cooling which would involve a prohibitive expense and must, in general, be accepted as an inevitable incident of certain industrial employments. Where this is the case, the effects of the high temperature should be minimized by short spells of work alternating with rest periods.

THE UNITED STATES LIFE TABLES.

The Department of Commerce, through the Bureau of the Census, announces that the second official publication on life tables derived from births, deaths, and populations in this country, is soon to be issued. These tables show conditions as they existed in 1890, 1901, and in 1910, thus making it possible to study the changes which have taken place in mortality during two decades.

MORTALITY VARIES WITH THE CLASS.

It is shown that mortality at practically all ages is higher among men than among women. In particular it appears that the most favorable mortality in this country is found among women living in the rural districts. The rural classes, regardless of sex, enjoy a much lower mortality for nearly the entire range of life than those living in the cities. While the expectation of life among both men and

women, in most classes has steadily increased, there is no indication of any definite lengthening of the span of life. In other words, while almost all classes of persons are living to an older average age, the limiting age of human life does not seem to have advanced.

CHANGE IN TWO DECADES.

In 1901 the expectation of life among white females at birth was about three years more than among white males, and in 1910 the excess in favor of the females had increased to almost three and one-half years. There seems to have been a general improvement for all classes for the ages up to about age 40 for men and age 50 for women, except for the Negro population. Above these ages no improvement is shown, and in some cases the mortality at the older ages in 1910 was actually less favorable than it was in 1901.

INFANT MORTALITY.

An examination of the infant mortality tables indicates a decided improvement in the infant mortality rate in most classes of the population between 1901 and 1910. The expectation of life of children born in 1910 also shows a considerable improvement over the expectation of life of children born in 1890 and 1901 in practically all classes of the population. The infant mortality in the rural districts was considerably lower than that in the urban districts in both 1901 and 1910, but the difference in favor of the rural districts was not as great in 1910 as it was in 1901, indicating that the efforts to improve infant mortality conditions in our cities are undoubtedly meeting with success.

COMPARISON WITH FOREIGN COUNTRIES.

Life tables are also given by sex for Australia, Denmark, England, France, Germany, Holland, India, Italy, Japan, Norway, Sweden, and Switzerland. They may be used to compare rates of mortality and expectations of life at any age in one country with those of any other country or with those in the United States. A comparison with these countries shows that except for France, India, and Japan, the rates of mortality among men and women are less favorable in this country than in the foreign countries above mentioned. For example, the lowest annual rate of mortality during first year of life, per 1,000 alive at beginning of age interval, is found in Norway, 81 for males and 67 for females, whereas for a similar class in this country, namely, white people, the rate is 127 for males and 105 for females. This indicates that there is still much room for improvement in this country.

The most important mortality tables used by life insurance companies in this country and in foreign countries are included in this publication.

LIFE ANNUITY AND MONETARY TABLES.

Tables of life annuities and other monetary tables at various rates of interest, based on life tables for this country, were computed for the purposes they serve in legal and business practice. The values of life annuities are frequently required in the settlement of estates, the division of wills, the determination of the measure of damages, and in connection with pension funds. Until the appearance of the United States Life Tables there were available practically no reliable life tables faithfully representing mortality conditions as they now exist in the general population of this country.

CONSTRUCTION OF LIFE TABLES.

The mathematical theory of the construction of life tables is developed in great detail and is illustrated by photographs of the actual numerical calculations made on adding machines in the construction of the life table for males in the State of New York, 1910. This portion of the text will be of great service to all those who desire to acquaint themselves with the theory of life-table construction as well as with the actual mathematical processes.

All the original statistics on births, deaths, and populations used in the construction of the life tables are given in this publication. An extensive index of 20 pages has been prepared to enable the reader to locate quickly information to be found in the text and tables.

STATEMENT OF BRITISH MINISTRY OF HEALTH REGARDING INFLUENZA.

The following is part of a statement issued by the British Ministry of Health, January 18, 1922, regarding the influenza epidemic, based on information obtained by the medical staff of the Ministry since December, 1921.

Outbreaks of influenza in England began in November, notably in the western areas of Nottinghamshire, whence it spread to towns in the south of the West Riding (where Leeds, Sheffield, and Rotherham were principally affected) and westward toward the Potteries. In the areas thus attacked early the epidemic has now materially abated or practically ceased. In London, although there was evidence of influenza in the schools about the end of November, the disease did not become generally prevalent until the middle of the following month. The northern, southern, and eastern registration districts of London have been those mainly affected. During the last fortnight the epidemic has further extended and the disease is now widely prevalent in many parts of England and Wales. In the 96 great towns, during the week ending January 14, the deaths from influenza (including bronchitis and pneumonia complicating in-

fluenza) totaled 1,240. Of this number 551 occurred in London. During the same week the deaths in London attributed to pneumonia (without mention of influenza) rose from 318 to 457, and those attributed to bronchitis from 282 to 394.

Weekly returns from the towns where the wave has now apparently spent its force suggest a duration of the epidemic in individual areas of 6 to 7 weeks. This fact, and the slackening rate of increase in London, encourage the hope that the epidemic in the metropolitan area is at or near its maximum. The appearance of epidemic influenza has been simultaneously reported from various countries on the Continent. Official statistics show that a rising incidence of influenza occurred during the last weeks of December—in Belgium at Ghent, in Norway at Christiania, in Sweden at Gothenburg and Stockholm, in Denmark at Copenhagen, and in Berlin and towns in southern Germany. The epidemic is also reported from Milan and other Italian cities, from Malta and Constantinople. No report of an influenza epidemic has been received from Paris, but the deaths from broncho-pneumonia in that city were 208 in December as compared with 126 in November. No indication has so far been obtained of unusual prevalence of influenza in America or in the Far East.

The epidemic on present evidence may be classed with those which occur with some regularity in the years which follow a great pandemic. It bears the same relation in time to the pandemic of 1918-19 as the recrudescence of 1895 bore to the severe epidemic of 1892—the most fatal of the three waves which affected London in the pandemic period 1889-1892. As compared with the 1918-19 period the number of persons now being attacked is smaller and the severity of the disease is usually much less. In this connection the figures already given may be compared with those of the week of maximum incidence in 1918, when there were 7,557 deaths in the 96 great towns, 2,458 of which occurred in London.

Epidemic influenza varies notoriously not only in its severity but in the symptoms by which it is characterized. In ordinary cases during the present prevalence the attack takes the form of two or three days fever. The acute catarrh of an ordinary heavy cold is by no means general. The most frequent symptoms are sudden onset, headache, pain in the back and legs, and congestion of the throat, with some bronchial catarrh and an irritating and very persistent cough. Other forms which have been described are attacks akin to those of a mild cold, but followed by severe general depression, and a gastro-intestinal form. In the latter, nausea, occasional vomiting, and diarrhea, pain and tenderness in the abdomen, particularly in the epigastric region, and often a great deal of gastro-intestinal flatulence with offensive stools, are conspicuous symptoms. The occurrence of spotty rashes on the face and attacks of giddiness have also been

described. Accounts of persons fainting or falling in the streets in consequence of sudden onset of influenza have been much exaggerated.

Most of the deaths attributed to influenza have been due to pulmonary complications, although these complications in the young adult and persons of early middle age are occurring far less frequently than in the pandemic years of 1918-19. The clinical evidence points to a somewhat severe incidence among very young children and a heavier fatality in persons at advanced ages. According to the latest weekly return available for London, more than one-third of the deaths attributed to influenza occur in persons over 65, who constitute about 6 per cent of the population.

The advice which was given to the public on the precautions to be taken against influenza in the Ministry's memorandum of December, 1919, is generally applicable to the present outbreak, and little can be added to it. Stress may again be laid on the importance of persons attacked by influenza at once going home to bed, keeping warm, and obtaining necessary medical and nursing treatment. Special care should be taken to guard against the risk of bronchopneumonia in young children, who, when attacked by influenza, should be kept at home in a warm room until the symptoms are over. In all cases during convalescence precautions should be taken against chill and unnecessary exposure. It is also important that persons with acute colds should take all ordinary precautions against conveying massive infection to others when coughing and sneezing.

MEASURES AGAINST INFLUENZA IN ZURICH, SWITZERLAND.

The following statements were obtained from the municipal medical officer of Zurich, Switzerland:

Influenza was made notifiable in Switzerland, August 23, 1921. From December 1, 1921, to January 16, 1922, 139 cases of this disease have been reported in Zurich. In view of the general outbreak of influenza in various parts of Europe, especially in Germany and later in Switzerland, the health department of the Canton of Zurich, on January 3, 1922, issued a circular of warning.

In order that the municipal medical authorities may be kept as thoroughly informed as possible in regard to the progress of the disease, physicians are required either to report each case when it comes under their observation or to make weekly reports on forms supplied by the cantonal health department.

The weekly report must cover all new cases arising during that week, and the cases must be tabulated under three age groups, viz:

- (a) Patients under 15 years of age;
- (b) Patients between 15 and 45 years of age; and
- (c) Patients over 45 years of age.

In order to get some data on the question of immunity, a statement is required giving information as to whether or not the patient has had influenza before.

The progress of the disease is so rapid that it is necessary to take promptly all possible precautions.

The medical authorities of Zurich have prescribed the following regulations:

1. Healthy persons are urgently advised to absent themselves from crowded places because of the danger of infection there existing. Especially are parents and guardians warned against the great danger of infection to which young people are exposed by visiting pleasure resorts, dancing classes, etc. All meetings not of an urgent character should, for the present, be postponed.

2. There should be no exposed coughing or sneezing in the direction of others. A handkerchief, or at least a hand, should be held before the nose and mouth.

There should also be no spitting on the floor or ground, no unnecessary hand shaking, no moistening of the fingers with the lips when wrapping food articles in packing paper, when delivering tickets, when turning pages of books or periodicals in reading rooms, or when counting bank notes, etc.

3. Persons infected with grippe (even light cases) and grippe suspects, persons with coughs or colds, and persons not yet entirely recovered from grippe must, as long as they are feverish or have coughs and colds, remain away from their places of employment, as well as from churches, theaters, meetings, restaurants, moving picture shows, shops, schools, libraries, barber shops, and street cars.

Persons in whose homes grippe exists should, as far as possible, keep away from those who are ill and their rooms. They may go to their places of business as long as they feel well, but as soon as they begin to feel sick they must remain at home and consider themselves grippe suspects until the suspicion has been proved to be without foundation.

4. Business managers, street car personnel, etc., are authorized to remove from their places of business, from street cars, etc., persons who seem to be grippe suspects or persons who cough and sneeze in a conspicuous manner, especially if they make themselves obnoxious by violating the prohibition against coughing or sneezing in the direction of others.

In its own interest the public is requested to give aid and support to responsible persons and officials in the performance of their duties.

5. Whoever violates the rules laid down in items 2 and 3, or who obstructs others in enforcing them, is subject to the penalties prescribed in the decree of the city council. If a violation of the regulations results in a spreading of the disease, as an additional punishment the case will be referred to the criminal judge under paragraph 223 of the Penal Code.

COURT HOLDS THEATER TO BE A "PUBLIC BUILDING."

The Supreme Court of Utah has decided¹ that a theater is a "public building" within the terms of the statutes giving the State board of health power to prescribe regulations for the sanitation of public buildings, railway coaches, and sleeping cars.

DEATHS DURING WEEK ENDED JAN. 28, 1922.

Summary of information received by telegraph from industrial insurance companies for week ended Jan. 28, 1922, and corresponding week, 1921. (From the Weekly Health Index, Jan. 31, 1922, issued by the Bureau of the Census, Department of Commerce.)

	Week ended Jan. 28, 1922.	Corresponding week, 1921.
Policies in force.....	48, 706, 556	45, 742, 171
Number of death claims.....	9, 153	8, 915
Death claims per 1,000 policies in force, annual rate.....	9. 8	10. 2

Deaths from all causes in certain large cities of the United States during the week ended Jan. 28, 1922, infant mortality, annual death rate, and comparison with corresponding week of 1921. (From the Weekly Health Index, Jan. 31, 1922, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population July 1, 1921.	Week ended Jan. 28, 1922.		Annual death rate per 1,000, corre- sponding week, 1921.	Deaths under 1 year.		Infant mor- tality rate, week ended Jan. 28, 1922. ³
		Total deaths.	Death rate. ¹		Week ended Jan. 28, 1922.	Corre- sponding week, 1921.	
Total.....	27, 483, 800	7, 276	13. 8	13. 8	958	1, 072	.....
Akron, Ohio.....	4 208, 435	35	8. 8	5. 7	2	6	21
Albany, N. Y.....	115, 071	25	11. 3	16. 3	4	4	90
Atlanta, Ga.....	207, 473	61	15. 3	15. 6	7	11	.....
Baltimore, Md.....	750, 864	227	15. 8	15. 8	34	43	96
Birmingham, Ala.....	186, 133	43	12. 0	12. 3	6	6	.....
Boston, Mass.....	757, 634	226	15. 6	14. 9	35	32	94
Bridgeport, Conn.....	4 143, 555	34	12. 4	12. 9	10	7	125
Buffalo, N. Y.....	519, 608	135	13. 5	12. 1	25	28	98
Cambridge, Mass.....	110, 444	27	12. 7	16. 5	8	4	146
Camden, N. J.....	119, 672	34	14. 8	17. 4	3	10	46
Chicago, Ill.....	2, 780, 655	596	11. 2	13. 5	85	124	.....
Cincinnati, Ohio.....	403, 418	145	18. 7	14. 9	9	14	60
Cleveland, Ohio.....	831, 138	157	9. 9	11. 7	22	33	57
Columbus, Ohio.....	245, 358	68	14. 5	16. 2	6	7	63
Dallas, Tex.....	165, 282	56	17. 7	14. 2	8	10	.....
Dayton, Ohio.....	4 152, 559	31	10. 6	8. 2	5	3	85
Denver, Colo.....	263, 152	97	19. 2	15. 3	10	7	.....
Detroit, Mich.....	1, 070, 450	208	10. 1	11. 2	53	50	102
Fall River, Mass.....	120, 668	32	13. 8	17. 3	6	11	84
Fort Worth, Texas.....	111, 423	16	7. 5	.....	3	.....	.....
Grand Rapids, Mich.....	141, 197	24	8. 9	14. 0	5	3	83
Houston, Tex.....	144, 340	37	13. 4	11. 2	7	2	.....
Indianapolis, Ind.....	325, 632	99	15. 9	14. 9	12	11	91
Jersey City, N. J.....	302, 788	95	16. 4	12. 9	16	11	102
Kansas City, Kans.....	103, 584	38	19. 1	18. 1	4	3	92
Kansas City, Mo.....	336, 157	126	19. 5	14. 3	21	12	.....
Los Angeles, Calif.....	615, 160	213	18. 1	14. 0	15	17	62
Louisville, Ky.....	236, 083	79	17. 4	16. 8	10	5	108
Lowell, Mass.....	113, 737	39	17. 9	18. 8	9	9	151
Memphis, Tenn.....	165, 656	63	19. 8	24. 2	10	5	.....
Milwaukee, Wis.....	465, 386	91	10. 1	11. 8	14	16	68

¹ State v. Swanson Theater Circuit, 202 Pac., 544.

² Annual rate per 1,000 population.

³ Deaths under 1 year per 1,000 births—based on deaths under 1 year for the week and estimated birth; for 1921. Cities left blank are not in the registration area for births.

⁴ Enumerated population Jan. 1, 1920.

Deaths from all causes in certain large cities of the United States during the week ended Jan. 28, 1922, infant mortality, annual death rate, and comparison with corresponding week of 1921. (From the Weekly Health Index, Jan. 31, 1922, issued by the Bureau of the Census, Department of Commerce.)

City.	Estimated population July 1, 1921.	Week ended Jan. 28, 1922.		Annual death rate per 1,000, corresponding week, 1921.	Deaths under 1 year.		Infant mortality rate, week ended Jan. 28, 1922.
		Total deaths.	Death rate.		Week ended Jan. 28, 1922.	Corresponding week, 1921.	
Minneapolis, Minn.....	392,815	79	10.5	12.9	9	12	49
Nashville, Tenn.....	122,036	29	12.4	16.7	2	7	.....
New Bedford, Mass.....	125,012	26	10.8	13.3	7	9	104
New Haven, Conn.....	167,007	59	18.4	13.7	5	4	61
New Orleans, La.....	394,657	131	17.3	17.7	11	15	.....
New York, N. Y.....	5,751,867	1,523	13.8	13.5	213	217	82
Newark, N. J.....	424,885	113	13.9	12.4	19	14	84
Norfolk, Va.....	121,260	28	12.0	12.9	7	6	124
Oakland, Calif.....	226,472	41	9.4	12.2	2	5	25
Omaha, Nebr.....	197,066	50	13.2	12.2	7	14	75
Paterson, N. J.....	137,463	44	16.7	15.6	6	4	92
Philadelphia, Pa.....	1,866,212	551	15.4	15.8	64	72	76
Pittsburgh, Pa.....	602,452	157	13.6	14.0	23	31	74
Portland, Oreg.....	264,859	56	11.0	12.4	4	5	40
Providence, R. I.....	239,645	75	16.3	12.2	10	9	79
Richmond, Va.....	175,686	48	14.2	17.2	6	7	73
Rochester, N. Y.....	305,229	66	11.3	13.3	12	13	92
St. Louis, Mo.....	756,164	202	13.4	13.9	11	25	.....
St. Paul, Minn.....	237,781	62	13.6	9.0	8	2	75
Salt Lake City, Utah.....	121,395	32	13.7	15.0	3	8	45
San Francisco, Calif.....	520,546	174	17.4	16.6	6	11	35
Seattle, Wash.....	4315,312	60	9.9	9.2	5	4	42
Spokane, Wash.....	104,442	38	19.0	17.5	5	2	107
Springfield, Mass.....	135,877	35	13.4	8.4	4	5	60
Syracuse, N. Y.....	177,265	53	15.6	14.1	9	7	108
Toledo, Ohio.....	253,696	63	12.9	15.2	4	7	39
Trenton, N. J.....	122,760	51	21.7	10.6	4	4	61
Washington, D. C.....	437,571	141	16.8	15.2	15	23	86
Wilmington, Del.....	113,408	30	13.8	22.1	5	6	97
Worcester, Mass.....	184,972	47	13.2	14.7	3	9	33
Yonkers, N. Y.....	103,324	17	8.6	4.5	.....	3	.....
Youngstown, Ohio.....	139,432	38	14.2	14.2	5	8	66

* 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 Feb. 4, 1922.

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

ALABAMA.		CALIFORNIA—continued.	
	Cases.	Smallpox:	Cases.
Cerebrospinal meningitis.....	4	Bakersfield.....	15
Chicken pox.....	29	Kern County.....	11
Diphtheria.....	8	San Jose.....	13
Hookworm disease.....	19	Santa Clara County.....	20
Influenza.....	26	Scattering.....	37
Malaria.....	7	Typhoid fever.....	8
Pellagra.....	2		
Pneumonia.....	13	COLORADO.	
Scarlet fever.....	4	(Exclusive of Denver.)	
Smallpox.....	30	Chicken pox.....	43
Tetanus.....	1	Diphtheria.....	39
Tuberculosis.....	10	Impetigo contagiosa.....	1
Typhoid fever.....	8	Influenza.....	4
		Lethargic encephalitis.....	2
ARKANSAS.		Measles.....	1
Cerebrospinal meningitis.....	1	Mumps.....	5
Chicken pox.....	68	Pneumonia.....	23
Diphtheria.....	4	Scarlet fever.....	71
Influenza.....	192	Smallpox.....	54
Malaria.....	16	Tuberculosis.....	75
Measles.....	3	Typhoid fever.....	5
Pellagra.....	5		
Pneumonia.....	2	CONNECTICUT.	
Scarlet fever.....	15	Cerebrospinal meningitis.....	1
Smallpox.....	4	Chicken pox.....	80
Trachoma.....	2	Diphtheria:	
Tuberculosis.....	6	Bridgeport.....	9
Typhoid fever.....	5	Hartford.....	10
Whooping cough.....	2	New Haven.....	13
		Scattering.....	40
CALIFORNIA.		German measles.....	10
Cerebrospinal meningitis:		Influenza.....	109
Los Angeles.....	5	Lethargic encephalitis.....	1
San Francisco.....	1	Measles:	
Diphtheria.....	185	Glastonbury.....	17
Influenza.....	92	Groton.....	9
Lethargic encephalitis:		Hartford.....	17
Los Angeles.....	1	Mansfield.....	9
San Francisco.....	5	New Haven.....	31
Measles.....	13	Stamford.....	15
Scarlet fever.....	129	West Hartford.....	15
		Scattering.....	12

CONNECTICUT—continued.

	Cases.
Mumps.....	20
Ophthalmia neonatorum.....	2
Pneumonia (lobar).....	35
Polomyelitis.....	1
Scarlet fever:	
New Haven.....	12
Scattering.....	77
Smallpox.....	12
Tuberculosis (all forms).....	67
Typhoid fever.....	4
Whooping cough.....	40

DELAWARE.

Chicken pox.....	21
Diphtheria.....	3
Influenza.....	7
Malaria.....	1
Measles.....	7
Pneumonia.....	13
Scarlet fever:	
Wilmington.....	61
Scattering.....	21
Tuberculosis.....	5
Typhoid fever.....	1

FLORIDA.

Diphtheria.....	17
Influenza.....	15
Malaria.....	4
Ophthalmia neonatorum.....	2
Pneumonia.....	2
Scarlet fever.....	6
Smallpox.....	4
Typhoid fever.....	22

GEORGIA.

Cerebrospinal meningitis.....	2
Chicken pox.....	25
Conjunctivitis (infectious).....	1
Diphtheria.....	18
Dysentery (amebic).....	1
Dysentery (bacillary).....	1
German measles.....	2
Hookworm disease.....	22
Influenza.....	74
Malaria.....	9
Measles.....	7
Pellagra.....	3
Pneumonia.....	42
Scarlet fever.....	24
Septic sore throat.....	3
Smallpox.....	28
Tuberculosis (pulmonary).....	16
Typhoid fever.....	1
Whooping cough.....	2

ILLINOIS.

Cerebrospinal meningitis:	
Chicago.....	4
Peoria.....	1
Diphtheria:	
Chicago.....	171
Scattering.....	135
Influenza.....	108
Lethargic encephalitis—Chicago.....	2
Pneumonia.....	322

ILLINOIS—continued.

Scarlet fever:	Cases.
Chicago.....	157
Robinson.....	10
Scattering.....	195
Smallpox:	
Herrin.....	10
Mercer County—Eliza Township.....	14
Peoria.....	15
Scattering.....	26
Typhoid fever.....	16
Whooping cough.....	53

INDIANA.

Cerebrospinal meningitis:	
Huntington County.....	1
Diphtheria.....	119
Scarlet fever.....	104
Smallpox.....	21
Typhoid fever.....	5

IOWA.

Cerebrospinal meningitis:	
Des Moines.....	1
Diphtheria.....	60
Scarlet fever.....	88
Smallpox.....	47

KANSAS.

Cerebrospinal meningitis.....	1
Chicken pox.....	103
Diphtheria.....	94
German measles.....	1
Influenza.....	364
Measles.....	5
Mumps.....	29
Pneumonia.....	107
Polomyelitis.....	1
Scarlet fever.....	171
Smallpox.....	63
Tuberculosis.....	34
Typhoid fever.....	4
Whooping cough.....	5

LOUISIANA.

Diphtheria.....	37
Influenza.....	10
Polomyelitis.....	1
Scarlet fever.....	17
Smallpox.....	17
Typhoid fever.....	8

MAINE.

Chicken pox.....	27
Diphtheria.....	12
Influenza.....	97
Measles.....	6
Mumps.....	4
Pneumonia.....	21
Scarlet fever.....	44
Smallpox.....	1
Tuberculosis.....	3
Typhoid fever.....	2
Whooping cough.....	10

MARYLAND.¹

	Cases.
Cerebrospinal meningitis.....	1
Chicken pox.....	79
Diphtheria.....	54
German measles.....	1
Influenza.....	110
Measles.....	116
Mumps.....	63
Pneumonia (all forms).....	118
Scarlet fever.....	107
Smallpox.....	1
Trachoma.....	1
Tuberculosis.....	32
Typhoid fever.....	10
Whooping cough.....	7

MASSACHUSETTS.

Cerebrospinal meningitis.....	1
Chicken pox.....	182
Conjunctivitis (suppurative).....	9
Diphtheria.....	227
German measles.....	6
Influenza.....	398
Lethargic encephalitis.....	1
Measles.....	397
Mumps.....	128
Ophthalmia neonatorum.....	11
Pellagra.....	1
Pneumonia (lobar).....	154
Scarlet fever.....	223
Septic sore throat.....	3
Tetanus.....	1
Trachoma.....	2
Tuberculosis (all forms).....	139
Typhoid fever.....	3
Whooping cough.....	75

MINNESOTA.

Cerebrospinal meningitis.....	1
Chicken pox.....	10
Diphtheria.....	88
Influenza.....	2
Measles.....	25
Pneumonia.....	5
Scarlet fever.....	213
Smallpox.....	33
Tuberculosis.....	56
Typhoid fever.....	1

MISSISSIPPI.

Cerebrospinal meningitis.....	2
Diphtheria.....	29
Scarlet fever.....	4
Smallpox.....	34
Typhoid fever.....	8

MONTANA.

Cerebrospinal meningitis:	
Miles City.....	1
Diphtheria.....	9
Influenza.....	1
Poliomyelitis—Greycliff.....	1
Scarlet fever.....	19
Smallpox.....	50
Typhoid fever.....	2

NEBRASKA.

	Cases.
Chicken pox.....	51
Diphtheria:	
Omaha.....	11
Scattering.....	20
Influenza.....	6
Measles:	
Adams County.....	22
Fremont.....	12
Glenvil.....	9
Hastings.....	54
Lincoln.....	10
Omaha.....	30
Scattering.....	6
Mumps.....	11
Pneumonia.....	2
Scarlet fever:	
Hastings.....	8
Seward County.....	8
Scattering.....	85
Smallpox:	
Litchfield.....	9
Scattering.....	10
Tuberculosis.....	10
Typhoid fever.....	1
Whooping cough.....	2

NEW JERSEY.

Cerebrospinal meningitis.....	4
Chicken pox.....	165
Diphtheria.....	146
Influenza.....	426
Malaria.....	1
Measles.....	189
Pneumonia.....	300
Poliomyelitis.....	1
Scarlet fever.....	321
Typhoid fever.....	6
Whooping cough.....	114

NEW MEXICO.

Chicken pox.....	11
Diphtheria.....	15
Influenza.....	10
Measles.....	2
Mumps.....	5
Pneumonia.....	10
Scarlet fever:	
Albuquerque.....	8
Raton.....	9
Scattering.....	7
Septic sore throat.....	1
Smallpox.....	1
Tuberculosis.....	33
Typhoid fever.....	5
Whooping cough.....	4

NEW YORK.

(Exclusive of New York City.)

Cerebrospinal meningitis.....	1
Diphtheria.....	238
Influenza.....	691
Lethargic encephalitis.....	1
Measles.....	279
Pneumonia.....	477

¹ Week ended Friday.

NEW YORK—continued.

	Cases.
Scarlet fever.....	350
Typhoid fever.....	10
Whooping cough.....	178

NORTH CAROLINA.

Cerebrospinal meningitis.....	1
Chicken pox.....	172
Diphtheria.....	49
German measles.....	3
Measles.....	13
Poliomyelitis.....	1
Scarlet fever.....	65
Septic sore throat.....	14
Smallpox.....	55
Typhoid fever.....	9
Whooping cough.....	97

OREGON.

Chicken pox.....	4
Diphtheria:	
Portland.....	20
Scattering.....	16
Influenza.....	31
Mumps.....	13
Pneumonia.....	10
Scarlet fever.....	11
Smallpox:	
Portland.....	43
Scattering.....	17
Tuberculosis.....	5
Typhoid fever.....	2
Whooping cough.....	3

SOUTH DAKOTA.

Chicken pox.....	6
Diphtheria.....	6
Influenza.....	1
Measles.....	8
Pneumonia.....	10
Scarlet fever.....	24
Smallpox.....	34

TEXAS.

Cerebrospinal meningitis.....	2
Diphtheria.....	64
Influenza.....	57
Measles.....	46
Pellagra.....	3
Pneumonia.....	64
Scarlet fever.....	24
Smallpox.....	114
Typhoid fever.....	9

VERMONT.

Chicken pox.....	33
Diphtheria.....	2
Influenza.....	7
Measles.....	4

VERMONT—continued.

	Cases.
Mumps.....	31
Pneumonia.....	4
Scarlet fever.....	37
Typhoid fever.....	2
Whooping cough.....	36

WASHINGTON.

Chicken pox.....	57
Diphtheria:	
Everett.....	9
Scattering.....	36
German measles.....	2
Influenza.....	176
Measles.....	7
Mumps.....	34
Pneumonia.....	4
Poliomyelitis—Spokane.....	1
Scarlet fever.....	25
Smallpox:	
Aberdeen.....	19
Spokane.....	15
Tacoma.....	11
Scattering.....	18
Tuberculosis.....	17
Typhoid fever.....	1
Whooping cough.....	21

WEST VIRGINIA.

Diphtheria.....	13
Scarlet fever.....	11
Smallpox.....	4
Typhoid fever.....	1

WISCONSIN.

Milwaukee;	
Cerebrospinal meningitis.....	1
Chicken pox.....	43
Diphtheria.....	26
Influenza.....	3
Measles.....	2
Pneumonia.....	12
Scarlet fever.....	23
Smallpox.....	6
Tuberculosis.....	11
Typhoid fever.....	1
Whooping cough.....	35
Scattering:	
Chicken pox.....	114
Diphtheria.....	73
German measles.....	3
Influenza.....	21
Measles.....	19
Pneumonia.....	4
Scarlet fever.....	145
Smallpox.....	60
Tuberculosis.....	54
Typhoid fever.....	2
Whooping cough.....	37

Delayed Reports for Two Weeks Ended Jan. 28, 1922.

ALABAMA. ¹		KENTUCKY—continued.	
	Cases.		Cases.
Chicken pox.....	58	German measles.....	2
Diphtheria.....	11	Influenza.....	69
Hookworm disease.....	75	Lethargic encephalitis—Jefferson County.....	1
Influenza.....	3	Malaria.....	1
Malaria.....	12	Measles:	
Ophthalmia neonatorum.....	3	Franklin County.....	13
Pneumonia.....	6	Jefferson County.....	232
Scarlet fever.....	14	Kenton County.....	29
Smallpox.....	41	Scattering.....	15
Tuberculosis.....	10	Mumps.....	15
Typhoid fever.....	14	Pneumonia.....	108
		Scabies.....	3
		Scarlet fever.....	34
		Septic sore throat.....	2
		Smallpox:	
		Fulton County.....	10
		Graves County.....	10
		Jefferson County.....	3
		Warren County.....	8
		Scattering.....	11
		Tonsillitis.....	3
		Trachoma.....	4
		Tuberculosis:	
		Jefferson County.....	29
		Scattering.....	13
		Typhoid fever.....	14
		Whooping cough.....	15

DISTRICT OF COLUMBIA.

Cerebrospinal meningitis.....	1
Chicken pox.....	101
Diphtheria.....	44
Influenza.....	11
Measles.....	9
Scarlet fever.....	34
Smallpox.....	2
Tuberculosis.....	48
Typhoid fever.....	3
Whooping cough.....	22

KENTUCKY.

Cerebrospinal meningitis—Russell County.....	1
Chicken pox.....	35
Diphtheria:	
Davies County.....	9
Jefferson County.....	55
Scattering.....	52

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.	Polioomyelitis.	Scarlet fever.	Smallpox.	Typhoid fever.
1921.										
Alabama (December).....		196	9	197	2	11	1	72	45	78
Hawaii (December).....	1	16	4		27			4		19
Iowa (December).....	1	256			7		5	529	170	
Wyoming (November).....		49			6			15	43	7
Wyoming (December).....		37	6		6			27	27	6

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922.

ANTHRAX.

City.	Cases.	Deaths.
Pennsylvania:		
Philadelphia.....	1	

¹ For week ended Jan. 28.

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922 - Continued.

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 pre- vious years.	Week ended Jan. 21, 1922.		City.	Median for pre- vious years.	Week ended Jan. 21, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Colorado:				New Jersey:			
Pueblo.....	0	.....	1	Elizabeth.....	0	1	.....
Illinois:				Newark.....	0	.....	1
Chicago.....	3	2	1	New York:			
Indiana:				New York.....	6	4	.....
Indianapolis.....	0	.....	1	Poughkeepsie.....	0	1	1
La Fayette.....	0	.....	1	Ohio:			
Maryland:				Cincinnati.....	0	.....	1
Baltimore.....	0	1	.....	Columbus.....	0	1	1
Massachusetts:				Oregon:			
Boston.....	0	1	1	Portland.....	0	.....	1
Lowell.....	0	1	1	Pennsylvania:			
Worcester.....	0	1	.....	Philadelphia.....	1	2	3
Michigan:				Rhode Island:			
Saginaw.....	0	1	1	Providence.....	0	2	1
Minnesota:				Texas:			
Faribault.....	.....	1	.....	Dallas.....	0	1	1
St. Paul.....	0	1	.....	Virginia:			
Montana:				Richmond.....	0	1	1
Great Falls.....	0	1	.....	West Virginia:			
				Charleston.....	0	1	1

DIPHTHERIA.

See p. 311; also Telegraphic weekly reports from States, p. 299, and Monthly summaries by States, p. 303.

INFLUENZA.

City.	Cases.		Deaths, 1922.	City.	Cases.		Deaths, 1922.
	1921 ¹	1922			1921 ¹	1922	
Alabama:				Kansas:			
Birmingham.....	.....	.....	2	Parsons.....	1	.....	.....
Mobile.....	.....	.....	1	Topeka.....	.....	29	.....
California:				Kentucky:			
Berkeley.....	1	3	.....	Covington.....	.....	1	.....
Long Beach.....	1	.....	.....	Lexington.....	1	.....	.....
Los Angeles.....	2	3	1	Louisiana:			
Oakland.....	.....	1	.....	Baton Rouge.....	2	.....	.....
Sacramento.....	1	3	1	New Orleans.....	.....	1	2
San Diego.....	.....	1	.....	Maryland:			
San Francisco.....	8	3	.....	Baltimore.....	38	15	.....
Colorado:				Cumberland.....	1	2	.....
Denver.....	.....	.....	1	Massachusetts:			
Connecticut:				Belmont.....	.....	1	.....
Meriden.....	.....	5	.....	Boston.....	3	2	2
Waterbury.....	7	1	.....	Cambridge.....	1	1	.....
District of Columbia:				Haverhill.....	1	2	.....
Washington.....	2	4	3	Lawrence.....	1	.....	.....
Florida:				Pittsfield.....	.....	1	1
Tampa.....	.....	.....	1	Worcester.....	2	.....	.....
Georgia:				Michigan:			
Atlanta.....	2	3	.....	Detroit.....	3	5	1
Augusta.....	.....	2	.....	Missouri:			
Illinois:				Kansas City.....	3	.....	.....
Alton.....	.....	.....	1	St. Louis.....	1	.....	.....
Chicago.....	22	12	3	Montana:			
Danville.....	1	.....	.....	Missoula.....	.....	1	.....
Oak Park.....	1	.....	.....	New Jersey:			
Rock Island.....	1	.....	.....	Kearny.....	.....	2	.....
Indiana:				Montclair.....	1	.....	.....
Logansport.....	.....	.....	1	Newark.....	8	16	.....
				Trenton.....	1	.....	2

¹ Week ended Jan. 22, 1921.

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922—Continued.**INFLUENZA—Continued.**

City.	Cases.		Deaths, 1922.	City.	Cases.		Deaths.
	1921 ¹	1922			1921 ¹	1922	
New York:				Pennsylvania:			
Albany.....		6		Philadelphia.....	10	2	3
Binghamton.....	6			South Dakota:			
Coboes.....	1			Sioux Falls.....	3		
Hudson.....	1			Texas:			
Jamestown.....	2	1		Dallas.....	2		4
Mount Vernon.....	3			Vermont:			
New York.....	84	110	15	Rutland.....		1	
Port Chester.....		1	1	Virginia:			
Saratoga Springs.....	4			Richmond.....	6		
Ohio:				Roanoke.....	2		
Akron.....		4		Washington:			
Cincinnati.....	2	3	1	Seattle.....		1	
Cleveland.....	1	4		West Virginia:			
Columbus.....	2			Huntington.....			1
Dayton.....		1		Morgantown.			
Hamilton.....	1			Wisconsin:			
Mansfield.....	1			Appleton.....	1		
Norwood.....		1	1				
Toledo.....			2				

¹ Week ended Jan. 22, 1921.**LEPROSY.**

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

LETHARGIC ENCEPHALITIS.

California:			Massachusetts:		
Berkeley.....	2	1	Peabody.....	1	1
San Francisco.....	1	1	Nebraska:		
			Omaha.....		1

MALARIA.

Alabama:			Massachusetts:		
Tuscaloosa.....	1		Haverhill.....	1	
Florida:			Missouri:		
Tampa.....	5		Kansas City.....	1	1
Georgia:			New Jersey:		
Augusta.....	1		Trenton.....	1	
Louisiana:			Tennessee:		
New Orleans.....	7	1	Memphis.....		1

MEASLES.

See p. 311; also Telegraphic weekly reports from States, p. 299, and Monthly summaries by States, p. 303.

PELLAGRA.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Florida:			Oklahoma:		
Tampa.....		1	Oklahoma.....		1
Georgia:			South Carolina:		
Atlanta.....		5	Charleston.....		1
Louisiana:			Tennessee:		
New Orleans.....	1		Memphis.....		1
New York:			Texas:		
New York.....		1	Dallas.....	1	
North Carolina:					
Rocky Mount.....		1			

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922—Continued.

PNEUMONIA (ALL FORMS).

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Indiana—Continued.		
Birmingham.....		12	Muncie.....		4
Mobile.....		1	South Bend.....		2
Montgomery.....		1	Terre Haute.....		4
Arizona:			Iowa:		
Tucson.....		2	Burlington.....	6	2
Arkansas:			Council Bluffs.....		3
Fort Smith.....		4	Kansas:		
Hot Springs.....		1	Fort Scott.....		2
Little Rock.....	1		Hutchinson.....	2	
California:			Kansas City.....	10	
Berkeley.....		2	Topeka.....	6	2
Long Beach.....		1	Wichita.....		11
Los Angeles.....	40	13	Kentucky:		
Oakland.....		5	Covington.....		3
Pasadena.....	4		Lexington.....		2
Riverside.....	1		Louisville.....		18
Sacramento.....	5	4	Louisiana:		
San Diego.....	2		New Orleans.....		12
San Francisco.....	13	4	Maine:		
Santa Ana.....	3	1	Bangor.....	6	
Santa Cruz.....		1	Bath.....	4	
Stockton.....		2	Lewiston.....		3
Colorado:			Sanford.....	1	
Colorado Springs.....	4		Maryland:		
Denver.....		9	Baltimore.....	52	24
Pueblo.....		2	Cumberland.....	4	
Connecticut:			Massachusetts:		
Bridgeport.....	9	3	Arlington.....	3	2
Fairfield.....		1	Belmont.....		1
Greenwich.....	2		Boston.....		34
Hartford.....		1	Braintree.....	1	
Manchester.....	2		Brockton.....	2	
New Haven.....		5	Brookline.....		1
New London.....		2	Cambridge.....	10	3
Stonington.....		1	Chelsea.....		1
Waterbury.....		5	Chicopee.....		2
Delaware:			Easthampton.....	1	
Wilmington.....		6	Everett.....		2
District of Columbia:			Fall River.....		3
Washington.....		24	Gardner.....	1	
Florida:			Greenfield.....	2	
Tampa.....	2	1	Haverhill.....	2	
Georgia:			Holyoke.....		1
Albany.....	1		Leominster.....	1	
Atlanta.....		9	Lowell.....		5
Augusta.....	4		Lynn.....	4	2
Brunswick.....		1	Malden.....	3	1
Rome.....	4		Medford.....	1	
Savannah.....		3	Melrose.....	1	
Valdosta.....		1	Methuen.....		1
Illinois:			New Bedford.....		4
Alton.....	1		Newburyport.....		1
Aurora.....		1	Newton.....		3
Blue Island.....		1	North Adams.....		1
Champaign.....	2		Quincy.....	2	1
Chicago.....	194	60	Salem.....	1	
Cicero.....	4	2	Springfield.....		3
Decatur.....	2	1	Taunton.....	1	
East St. Louis.....	1		Wakefield.....		1
Elgin.....		1	Waltham.....	1	
Evanston.....	3		Watertown.....		3
Freeport.....	4	1	Westfield.....	1	
Galesburg.....		2	Winthrop.....	1	
Jacksonville.....		5	Worcester.....	24	11
La Salle.....	2		Michigan:		
Mattoon.....		1	Ann Arbor.....	3	
Oak Park.....	3	2	Battle Creek.....	4	
Pekin.....	2		Detroit.....	87	29
Springfield.....		4	Flint.....		1
Indiana:			Hamtramck.....	1	
Crawfordsville.....		2	Highland Park.....	7	1
Fort Wayne.....		1	Ironwood.....		1
Gary.....		2	Jackson.....		1
Hammond.....		3	Kalamazoo.....	3	2
Huntington.....		2	Marquette.....	2	1
Indianapolis.....		9	Pontiac.....	3	
Kokomo.....		3	Port Huron.....		
La Fayette.....		1	Saginaw.....	2	
Logansport.....		2	Sault Ste. Marie.....	2	1

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922 - Continued.

PNEUMONIA (ALL FORMS)—Continued.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Minnesota:			New York—Continued.		
Duluth.....		2	Watertown.....		1
Minneapolis.....		9	White Plains.....	5	
St. Paul.....		7	Yonkers.....	6	3
Missouri:			North Carolina:		
Independence.....		1	Charlotte.....	1	
Kansas City.....	29	14	Raleigh.....		1
St. Joseph.....		5	Wilmington.....		2
Springfield.....		2	Winston-Salem.....		2
Montana:			Ohio:		
Billings.....	2	1	Akron.....	7	
Great Falls.....		1	Ashtabula.....		2
Nebraska:			Barberton.....	3	
Lincoln.....		2	Canton.....		3
Omaha.....		17	Cincinnati.....		14
Nevada:			Cleveland.....	54	30
Reno.....	1		Columbus.....		4
New Hampshire:			Dayton.....	1	
Berlin.....		1	East Cleveland.....	2	
Manchester.....		2	Fremont.....	1	
Nashua.....		1	Hamilton.....		1
New Jersey:			Lima.....		2
Atlantic City.....		1	Mansfield.....		3
Bayonne.....	1		Newark.....		1
Bloomfield.....	4		Niles.....		1
East Orange.....	3		Springfield.....		2
Elizabeth.....		6	Toledo.....		6
Garfield.....	2		Youngstown.....		6
Harrison.....	1		Zanesville.....		1
Hoboken.....		7	Oklahoma:		
Jersey City.....	5		Oklahoma.....		4
Kearny.....	3	1	Oregon:		
Montclair.....	2	1	Portland.....		4
Morristown.....	6	1	Pennsylvania:		
New Brunswick.....		3	Philadelphia.....	102	84
Newark.....	72	20	Rhode Island:		
Orange.....		3	Pawtucket.....		2
Passaic.....	2	1	Providence.....		12
Paterson.....	2		South Carolina:		
Perth Amboy.....		1	Charleston.....		4
Plainfield.....	3	1	Tennessee:		
Summit.....	1		Memphis.....		11
Trenton.....	39	10	Texas:		
West Hoboken.....		1	Austin.....		1
West Orange.....	8		Beaumont.....		1
New Mexico:			Dallas.....		7
Albuquerque.....		1	Fort Worth.....		4
New York:			Galveston.....		1
Albany.....	22		Houston.....		3
Binghamton.....	2		Waco.....		1
Buffalo.....	19	13	Utah:		
Cohoes.....	1		Salt Lake City.....		5
Elmira.....	4	1	Vermont:		
Fulton.....	1		Burlington.....	1	
Hornell.....	2	1	Rutland.....	1	
Ithaca.....	3	1	Virginia:		
Jamestown.....	5		Alexandria.....	6	3
Little Falls.....		1	Lynchburg.....		2
Middletown.....	4		Norfolk.....		5
Mount Vernon.....	8	1	Petersburg.....		2
Newburgh.....		1	Richmond.....		9
New York.....	533	269	Roanoke.....	3	2
Niagara Falls.....	1		West Virginia:		
North Tonawanda.....	1		Bluefield.....		3
Ogdensburg.....		1	Charleston.....		1
Olean.....		2	Clarksburg.....		1
Pekskill.....	2		Huntington.....		3
Port Chester.....	3		Wheeling.....		3
Poughkeepsie.....	7	2	Wisconsin:		
Rochester.....	22	12	Beloit.....		1
Rome.....	4		Kenosha.....	1	
Schenectady.....	2	1	Wyoming:		
Syracuse.....	9	4	Casper.....	2	1
Troy.....	7	2			

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922—Continued.

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 Jan. 21, 1922.		City.	Median for previous years.	Week ended Jan. 21, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Illinois:				Pennsylvania:			
Galesburg.....	0	.....	1	Philadelphia.....	0	1	.....
Springfield.....	0	2	.....	Washington:			
Massachusetts:				Spokane.....	0	1	.....
Cambridge.....	0	1	.....	Tacoma.....	0	1	.....
Missouri:							
St. Louis.....	0	1	.....			

RABIES IN ANIMALS.

City.	Cases.	City.	Cases.
Georgia:		North Carolina:	
Albany.....	1	Winston-Salem.....	1
New Jersey:			
Morristown.....	1		

SCARLET FEVER.

See p. 311; also Telegraphic weekly reports from States, p. 299, and Monthly summaries by States, p. 303.

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 Jan. 21, 1922.		City.	Median for previous years.	Week ended Jan. 21, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Iowa:			
Birmingham.....	0	1	.....	Burlington.....	0	2	.....
Mobile.....	0	5	.....	Cedar Rapids.....	2	1	.....
Arkansas:				Council Bluffs.....	4	1	.....
Hot Springs.....	0	2	.....	Davenport.....	1	4	.....
California:				Des Moines.....	4	1	.....
Bakersfield.....	0	17	.....	Iowa City.....	0	1	.....
Berkeley.....	0	7	.....	Mason City.....	2	1	.....
Long Beach.....	1	1	.....	Muscatine.....	0	5	.....
Los Angeles.....	2	3	.....	Waterloo.....		1	.....
Oakland.....	0	5	.....	Kansas:			
Riverside.....	0	1	.....	Hutchinson.....	0	18	.....
Santa Cruz.....	0	1	.....	Kansas City.....	4	8	.....
Stockton.....	0	2	.....	Parsons.....	1	1	.....
Colorado:				Wichita.....	0	2	.....
Colorado Springs.....	2	1	.....	Kentucky:			
Denver.....	11		1	Louisville.....	0	5	.....
Georgia:				Michigan:			
Augusta.....		3	.....	Ann Arbor.....	1	1	.....
Savannah.....	0	3	.....	Detroit.....	8	1	.....
Illinois:				Highland Park.....	0	2	.....
Centralia.....	0	3	.....	Jackson.....	1	1	.....
Chicago.....	2	3	.....	Minnesota:			
Galesburg.....	1	1	.....	Austin.....		1	.....
Indiana:				Duluth.....	0	3	.....
Fort Wayne.....	1	4	.....	Faribault.....		2	.....
Indianapolis.....	5	1	.....	Hibbing.....	0	1	.....
Kokomo.....	0	1	.....	Minneapolis.....	24		.....

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922—Continued.

SMALLPOX—Continued.

City.	Median for pre- vious years.	Week ended Jan. 21, 1922.		City.	Median for pre- vious years.	Week ended Jan. 21, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Minnesota—Continued.				Tennessee:			
St. Paul	21	23	.....	Memphis	3	1	.....
Winona	0	1	.....	Texas:			
Missouri:				Dallas	6	2	.....
Kansas City	5	9	7	Galveston	0	1	.....
St. Louis	2	7	.....	Houston	1	1	.....
Montana:				Utah:			
Great Falls	2	7	.....	Salt Lake City	3	10	.....
New York:				Virginia:			
Niagara Falls	0	3	.....	Alexandria	0	1	.....
North Carolina:				Danville	0	3	.....
Winston-Salem	1	1	.....	Washington:			
North Dakota:				Aberdeen	1	18	.....
Fargo	1	1	.....	Bellingham	0	6	.....
Ohio:				Everett	0	1	.....
Alliance	0	1	.....	Seattle	5	3	.....
Cincinnati	1	1	.....	Spokane	21	5	.....
Cleveland	5	1	.....	Tacoma	1	9	.....
Columbus	1	1	.....	Walla Walla	1	2	.....
Dayton	1	7	.....	Yakima	3	5	.....
Fremont	0	5	.....	West Virginia:			
Springfield	0	14	.....	Bluefield	1	2	.....
Oklahoma:				Wisconsin:			
Oklahoma	6	4	.....	Manitowoc	1	4	.....
Oregon:				Milwaukee	7	7	.....
Portland	4	40	.....	Superior	1	24	.....
Pennsylvania:				Wausau	0	2	.....
Chester	0	1	.....	Wyoming:			
Harrisburg	0	1	.....	Casper		8	.....
Rhode Island:							
Providence	0	3	.....			

TETANUS.

City.	Cases.	Deaths.	City.	Cases.	Deaths.
Alabama:			Indiana:		
Mobile		1	Fort Wayne		1
California:			Massachusetts:		
San Francisco	1	.....	Leominster	1	1
Florida:			Texas:		
Tampa		1	Fort Worth	1	1
Illinois:					
Chicago		1			

TUBERCULOSIS.

See p. 311; also Telegraphic weekly reports from States, p. 299.

CITY REPORTS FOR WEEK ENDED JAN. 21, 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 Jan. 21, 1922.		City.	Median for previous years.	Week ended Jan. 21, 1922.	
		Cases.	Deaths.			Cases.	Deaths.
Alabama:				Montana:			
Birmingham.....	1	1		Great Falls.....	0	2	
Mobile.....	0		1	New Jersey:			
Arkansas:				East Orange.....	0	1	
Hot Springs.....	0	2		Morristown.....	0	1	
North Little Rock.....	0	1		Newark.....	0	1	
California:				Paterson.....	0	1	
Los Angeles.....	3	3		New Mexico:			
Sacramento.....	0	1		Albuquerque.....			1
Connecticut:				New York:			
Bristol.....	0	1		Buffalo.....	2	3	
Delaware:				New York.....	10	3	
Wilmington.....	0	2		Rochester.....	0	1	
District of Columbia:				Syracuse.....	0	2	
Washington.....	2	1		Ohio:			
Florida:				Cincinnati.....	1	1	
Tampa.....		3		Cleveland.....	1	1	
Illinois:				Lorain.....	0	1	
Chicago.....	4	6	1	Springfield.....	0		1
Mattoon.....	0	1		Toledo.....	1		1
Springfield.....	0	1		Oklahoma:			
Indiana:				Oklahoma.....	0	1	
Huntington.....	0	1	1	Oregon:			
Indianapolis.....	1	1		Portland.....	1		1
Iowa:				Pennsylvania:			
Council Bluffs.....	0	2		Beaver Falls.....	1	1	
Kansas:				Canonsburg.....	0	1	
Wichita.....	0	1		Johnstown.....	0	1	
Louisiana:				Norristown.....	0	1	
New Orleans.....	2	9	2	Philadelphia.....	4	2	
Maryland:				Pittsburgh.....	1	1	
Baltimore.....	6	3	2	South Carolina:			
Massachusetts:				Charleston.....	0	1	1
Brockton.....	0	1		Tennessee:			
Brookline.....	0		1	Knoxville.....	0	3	
Lynn.....	0	1		Virginia:			
Malden.....	0	2		Norfolk.....	1		1
Springfield.....	0		1	Richmond.....	0	1	
Michigan:				Roanoke.....	0	2	
Detroit.....	4	2	3	West Virginia:			
Minnesota:				Huntington.....	0	1	1
Minneapolis.....	2	1		Wisconsin:			
St. Paul.....	0		2	Appleton.....	0	1	
Missouri:							
Kansas City.....	0	1					
St. Louis.....	2	1	1				

TYPHUS FEVER.

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

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922—Continued.

DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Alabama:										
Anniston.....	17,734		1							
Birmingham.....	178,270	62	5	1			4		6	9
Mobile.....	60,151	23	2							1
Montgomery.....	43,464	9	3						2	
Arizona:										
Tucson.....	20,292	20		1						8
Arkansas:										
Fort Smith.....	28,811	15			1		3			3
Hot Springs.....	11,685	8	2							1
Little Rock.....	64,997		1				3		1	
North Little Rock.....	14,048									
California:										
Alameda.....	28,806	10	2	1	3		5			
Bakersfield.....	18,639	9			1				1	4
Berkeley.....	55,896	10	7	1	3		3			
Eureka.....	12,923	4	6							
Long Beach.....	55,593	20	6	1			3			2
Los Angeles.....	576,673	179	75	5	3		21		36	29
Oakland.....	216,361	60	38	7	1		7		3	6
Passadena.....	45,354	9	2				1		2	3
Richmond.....	16,843	0	1							
Riverside.....	19,341	13	3						2	2
Sacramento.....	65,857	22	17		1		1		5	5
San Bernardino.....	18,721	8			1				1	2
San Diego.....	74,693	32	2				11		8	3
San Francisco.....	508,410	155	68	8	4		11		25	9
Santa Ana.....	15,485	5	1				2			
Santa Barbara.....	19,441	6								
Santa Cruz.....	10,917	3			1					
Stockton.....	40,296	14	12				5	1		
Colorado:										
Colorado Springs.....	30,105	12	3				1		12	5
Denver.....	256,369	84						1		11
Pueblo.....	42,908	9	1				3			2
Connecticut:										
Bridgeport.....	143,538	42	12	2	1		5	1	2	2
Bristol.....	20,620	5					1		1	1
Fairfield (town).....	11,475	3	1		1					
Greenwich (town).....	22,123		2		1		1			
Hartford.....	138,036	29	17	1	9		3		8	4
Manchester (town).....	18,370	4			1		1			
Meriden (city).....	29,842		2		1		6		1	
Milford (town).....	10,193	4	2				2			1
New Haven.....	162,519	45	16		10		9		2	2
New London.....	25,688	15			3		1			1
Norwalk.....	27,700	5							1	1
Stonington (town).....	10,236	2							1	1
Waterbury.....	91,410	22	6	1	1		4		1	3
Delaware:										
Wilmington.....	110,168	28	2				38			1
District of Columbia:										
Washington.....	437,571	150	22	2	6		10		22	19
Florida:										
Tampa.....	51,252	31					1			4
Georgia:										
Albany.....	11,555	1		1			1			
Atlanta.....	200,616	69	7	2			4			4
Brunswick.....	14,413	5								
Macon.....	52,995		2		2		3			
Rome.....	13,252		2				3			
Savannah.....	83,252	30					1		5	5
Valdosta.....	10,783	5							1	2
Idaho:										
Boise.....	21,393	3					4			
Pocatello.....	15,001	2								
Illinois:										
Alton.....	24,682	8	3				1		1	
Aurora.....	36,397	15	5		6		1		1	3
Bloomington.....	28,725	8					2		2	
Centralia.....	12,491	7					2			
Champaign.....	15,873		1				1			
Chicago.....	2,701,705	661	151	19	99		121	6	230	37
Chicago Heights.....	19,653	5								1
Cicero.....	44,695	12	6				1			1

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922 -Continued.
DIPHTHERIA, MEASLES, SCARLET FEVER, AND TUBERCULOSIS—Continued.

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.		
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Illinois—Continued.											
Decatur.	43,818	8	2				1				
East St. Louis.	66,740	18	3				2			2	
Elgin.	27,454	11									
Evanston.	37,215	9					1				
Forest Park.	10,768				4		1				
Freeport.	19,669	8	5	1					1	1	
Galesburg.	23,834	13	2							1	
Jacksonville.	15,713	16	2				4				
Kewansee.	16,026	3					2				
La Salle.	13,050	1	1								
Mattoon.	13,552	7	2				2			1	
Oak Park.	39,830	10	3		2		3				
Pekin.	12,086						2				
Rock Island.	35,177	7	1						1	1	
Springfield.	59,183	27	4				1	1	4	3	
Indiana:											
Anderson.	29,767	2	5		2		1				
Clinton.	10,962		2				1				
Crawfordsville.	10,139	4	1								
Elkhart.	24,277	3	11		1						
Fort Wayne.	36,549	21	7				1		10		
Frankfort.	11,585	2									
Gary.	55,378	13	1							1	
Hammond.	36,004	12	2				7			1	
Huntington.	14,000	4									
Indianapolis.	314,194	91	26	2	1		9		3	6	
Kokomo.	30,067	9	1		1						
La Fayette.	22,486	7									
Logansport.	21,626	7	1		1		1				
Mishawaka.	15,195	4									
Muncie.	36,624	9	3				4				
South Bend.	70,983	12	1								
Terre Haute.	66,083	21	4	1			4				
Iowa:											
Burlington.	24,057	11					1		1	1	
Cedar Rapids.	45,566		2				1				
Council Bluffs.	36,162	10	2	1							
Davenport.	56,727						2				
Des Moines.	126,468		1				8				
Dubuque.	39,141		2				2				
Iowa City.	11,267		1								
Marshalltown.	15,731						2				
Mason City.	20,065	4					3				
Muscatine.	16,068	2					1				
Ottumwa.	23,003						4				
Sioux City.	71,227		8				3				
Waterloo.	36,230		4		1		7	1			
Kansas:											
Atchison.	12,630		2				3				
Coffeyville.	13,452	3	2						1		
Fort Scott.	10,693	7	4	1					1	1	
Hutchinson.	23,298		2				4		1		
Kansas City.	101,177		8				6				
Lawrence.	12,456	0	1				1				
Leavenworth.	16,912		3				2		1		
Parsons.	16,028	7					3				
Salina.	15,085	4	2				8				
Topeka.	50,022	15	11	1			2		1		
Wichita.	72,128	26	9				9		2	2	
Kentucky:											
Covington.	57,121	22	1		3				4	1	
Lexington.	41,534	15	2		1					2	
Louisville.	234,891	76	24	2	120		3		14	4	
Owensboro.	17,424		1						2		
Paducah.	24,735		4				1				
Louisiana:											
New Orleans.	387,219	151	17	1			11		25	11	
Maine:											
Auburn.	16,985	3					1		1	1	
Bangor.	25,978		1				1				
Bath.	14,731	0									
Biddeford.	18,008	9								1	
Lewiston.	31,791	8	4				4		1		
Sanford.	10,691	0									

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922—Continued.

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

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Maryland:										
Baltimore.....	733,826	236	52	1	125		67	1	25	22
Cumberland.....	29,837	9	3				2		2	
Massachusetts:										
Adams.....	12,967	5					4			1
Amesbury.....	10,036	3					1			
Arlington.....	18,665	6			2				3	1
Attleboro.....	19,731	8	2		1				1	1
Balmon.....	10,749	2			1		2			
Beverly.....	22,561	8	2		1		3		1	
Boston.....	748,060	257	68	5	65		61	2	38	15
Braintree.....	10,580	1	3				1		1	
Brockton.....	66,138	14	32		2		6		6	
Brookline.....	37,748	8	1				1			
Cambridge.....	109,694	30	3		11		9		4	3
Chelsea.....	43,184	7	1				2		2	1
Chicopee.....	36,214	7	1				1		1	
Clinton.....	12,979	2					1			
Danvers.....	11,108								1	
Dedham.....	10,792	2							1	
Easthampton.....	11,261		1				2			
Everett.....	40,120	6	3		2		1		1	1
Fall River.....	120,485	31	4	2	1		3		2	1
Framingham.....	17,033	4	1							1
Gardner.....	16,971	2	1				2		1	
Greenfield.....	15,462	2			5		3			
Haverhill.....	53,884	15	6	1					1	
Holyoke.....	60,203	16	2	1	3				2	1
Leominster.....	19,744	6					1			
Lowell.....	112,479	24	4	1			2		4	
Lynn.....	99,148	28	4	2	3		5		5	
Malden.....	49,103	10	6	1	1		9	1		
Medford.....	39,038	9	1		14		4			
Melrose.....	18,204	4	1		1					
Methuen.....	15,189	5			11		3			1
New Bedford.....	121,217	34	6				17	1	6	5
Newburyport.....	15,618	4								
Newton.....	46,054	15	6				4			1
North Adams.....	22,282	7					7			
Northampton.....	21,951	6					1		1	
Peabody.....	19,552	5			7				1	
Pittsfield.....	41,751	16	1				2		7	3
Plymouth.....	13,045	0								
Quincy.....	47,876	6			7		2		2	
Salem.....	42,529	12	2				3		1	
Somerville.....	93,091	28	3		13		4			
Southbridge.....	14,245	1					1			
Springfield.....	129,563	28	2		3		4		6	4
Taunton.....	37,137	9					2		5	
Wakefield.....	13,025	7	2		1		1			
Waltham.....	30,915	3	2		16		6		1	
Watertown.....	21,457	7	2		2					1
Webster.....	13,258	1					1		1	
Westfield.....	18,604	3								
Weymouth.....	15,057	4		1						
Winthrop.....	15,455				1					
Woburn.....	16,574	0								
Worcester.....	179,754	50	6		2		13		5	2
Michigan:										
Alpena.....	11,101						6			
Ann Arbor.....	19,516	20	5				3			
Battle Creek.....	36,164		3				7			
Benton Harbor.....	12,233	0	1							
Detroit.....	993,739	219	98	6	159	3	79	2	44	17
Flint.....	91,599	20	15	3			5			
Hamtramck.....	45,615	10	6	1	3				1	
Highland Park.....	46,499	7	6	1	4		1		2	1
Ironwood.....	15,739	7					1			
Jackson.....	48,374	13	8				6	1		
Kalamazoo.....	48,858	14	12				18		3	1
Marquette.....	12,718	2					2			
Pontiac.....	34,673	4	1				2			
Port Huron.....	25,944	10								
Saginaw.....	61,903	12	3	1	1		3		1	
Sault Ste. Marie.....	12,096	5					1			1

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922—Continued.

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

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Minnesota:										
Austin	10, 118	3								
Duluth	98, 917	15	11		1		13			1
Faribault	11, 080	4					1		2	1
Hibbing	15, 080		6				1			
Mankato	12, 469						5			
Minneapolis	380, 582	80	32	1	10		50	1	33	5
Rochester	13, 722	19					2			
St. Cloud	15, 873		2				5			
St. Paul	234, 595	57	2		1		23		17	5
Virginia	14, 022								1	
Winona	19, 143		2				2			
Missouri:										
Independence	11, 686	5								
Joplin	29, 855								1	
Kansas City	324, 410	95	15	1	1		6		10	8
St. Joseph	77, 939	32	4				5			1
St. Louis	772, 897	239	68	1			23		27	18
Springfield	39, 631	15								
Montana:										
Anaconda	11, 668									1
Billings	15, 100	3	1				7		1	2
Great Falls	24, 121	8	2	1						
Missoula	12, 668	9					1			
Nebraska:										
Lincoln	54, 934	12	4		7		2		2	
Omaha	191, 601	72	6	1	13		4			2
Nevada:										
Reno	12, 016	0								
New Hampshire:										
Berlin	16, 104	4								
Dover	13, 029	2			2					
Keene	11, 210	4					1			
Manchester	78, 384	24	1		2					4
Nashua	28, 379	10	1	1						
New Jersey:										
Asbury Park	12, 400	2					3		1	
Atlantic City	50, 682	14					2		1	
Bayonne	76, 754		5		1		3		4	
Belleville	15, 060						9		1	
Bloomfield	22, 019	4	2				3		1	
East Orange	50, 710	9			1		10			
Elizabeth	95, 682		5		1		12		2	
Englewood	11, 627	3					3			
Garfield	19, 381	2	1				2		2	
Harrison	15, 721						5			
Hoboken	68, 166	22	2	1	3		1			2
Jersey City	297, 864		20		66		25		10	
Kearney	26, 724	10	1				3		2	
Montclair	28, 810	5	1		1		3			
Morristown	12, 548	12					4		1	
New Brunswick	32, 779	11	1				3			
Newark	414, 216	132	35	3	68	2	71		33	12
Orange	33, 268	12	2				9		4	1
Passaic	63, 824	10	3		1		6			1
Paterson	135, 866		6		20		3		5	
Perth Amboy	41, 707	12	5	1	3		2		1	1
Phillipsburg	16, 923	3	3							
Plainfield	27, 700	5	1		1		4			
Rahway	11, 042									
Summit	10, 174	5	1				2			
Trenton	119, 289	53	8	2	2		6		11	4
Union	20, 651		2				1			
West Hoboken	40, 068	8	2		4		1		4	
West New York	29, 925	5	3		1		1			
West Orange	15, 573	2	2	1						
New Mexico:										
Albuquerque	15, 157	13					4	1		2
New York:										
Albany	113, 344		12		6		1		3	
Auburn	36, 192	14	3	1			1		1	
Binghamton	66, 800	13	5				9			
Buffalo	500, 775	118	32	5	3		28	1	15	8
Cohoes	22, 987	8					2			1
Elmira	45, 335	11	4		4					

CITY REPORTS FOR WEEK ENDED JAN. 21, 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.										
Fulton.....	13,043	5	1							
Geneva.....	14,648	6								
Hornell.....	15,025	2			6				1	
Ithaca.....	17,004	7			1		4		1	1
Jamestown.....	38,917	15	9		19		3		1	
Little Falls.....	13,029	6								
Lockport.....	21,908	6	1				1		1	
Middletown.....	18,420	1								
Mount Vernon.....	42,726	15	1				5		1	
Newburgh.....	30,366	10							1	
New York.....	5,621,151	1,581	260	27	621	16	323	7	1238	102
Niagara Falls.....	50,760	13	5	1			20			2
North Tonawanda.....	15,482	2	3				1			
Ogdensburg.....	14,609	6	3							1
Olean.....	20,506	6								
Peekskill.....	15,868	1							2	1
Plattsburg.....	10,909	4								
Port Chester.....	16,573	4	2				1			
Poughkeepsie.....	35,000	12	2		15				1	
Rochester.....	295,750	61	18	1	4		5		9	5
Rome.....	26,341	7	4		1					1
Saratoga Springs.....	13,181	5	1						1	
Schenectady.....	88,723	21	13		1		10		3	1
Syracuse.....	171,717	41	20	1	2		22		4	2
Troy.....	72,013	27	1						3	3
Watertown.....	31,285	9							1	
White Plains.....	21,031	5	1		2		1		2	1
Yonkers.....	100,226	19	4				10			1
North Carolina:										
Charlotte.....	46,338	9	4						1	
Greensboro.....	19,861	3								
Raleigh.....	24,418	13	3							2
Rocky Mount.....	12,742	7								
Salisbury.....	13,884	4								1
Wilmington.....	33,372	18								
Winston-Salem.....	48,395	14	2				9		2	2
¹ Pulmonary tuberculosis only										
North Dakota:										
Fargo.....	21,961	0	1		1		1			
Grand Forks.....	14,010		1							
Ohio:										
Akron.....	208,435	33	8		11		17		3	
Alliance.....	21,603	3					1			
Ashtabula.....	22,082	7	1	1						
Barberton.....	18,811	6	2							
Bucyrus.....	10,425	5								
Canton.....	87,091	14	15	1	1		7			
Cincinnati.....	401,247	133	20	2	49		9		12	15
Cleveland.....	796,836	199	34	3	85		69	2	44	16
Columbus.....	237,031	68	11	1			4		4	2
Dayton.....	152,559	32	4				3		2	
East Cleveland.....	27,292	7								
Findlay.....	17,021	2			1					
Fremont.....	12,468	2					1			
Hamilton.....	39,675	9	2	1			2			2
Lancaster.....	14,706	3		1						
Lima.....	41,306	8	5						3	
Lorain.....	37,295		2		10		5			
Mansfield.....	27,824	13	2	1	2		1			1
Marion.....	27,891		5				1			
Martins Ferry.....	11,634		1							
Middletown.....	23,594	4	1						2	1
Newark.....	26,718	5	12				2			
New Philadelphia.....	10,718		4				1			
Niles.....	13,080	3								
Norwood.....	24,966	3	1						1	
Piqua.....	15,044	7							1	1
Salem.....	10,305	2					7			
Springfield.....	60,840	17	10		2		1			1
Steubenville.....	28,508	10					1			
Toledo.....	243,109	76	21	2			5		1	9
Youngstown.....	132,358	37	8	1	3		5			1
Zanesville.....	29,569	9	1				4			1

CITY REPORTS FOR WEEK ENDED JAN. 21, 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.
Oklahoma:										
Oklahoma.....	91,258	25	3				4		2	3
Oregon:										
Portland.....	258,288	67	21				5		8	2
Pennsylvania:										
Allentown.....	73,562		5				5		2	
Altoona.....	60,331		1		2					
Ambridge.....	12,730				1					
Berwick.....	12,181				3					
Bethlehem.....	50,358		2				1			
Bradford.....	15,535						1			
Butler.....	23,778		1		1					
Canonsburg.....	10,632		1				1			
Carlisle.....	10,916		1							
Carnegie.....	11,516		1							
Carrick.....	10,504		1							
Chambersburg.....	13,171		1							
Charlertoi.....	11,516		1							
Coatesville.....	14,515						1			
Connellsville.....	13,804		1		1					
Dubois.....	13,681		2							
Duquesne.....	19,011		2				6		1	
Easton.....	33,813		2				1			
Erie.....	93,372		6				7		7	
Farrell.....	15,586				3					
Harrisburg.....	75,917		3		4		2			
Hazleton.....	32,277		2							
Jeanette.....	10,627		1		3					
Johnstown.....	67,327		5		1		11		3	
Lancaster.....	53,150		16		1		11			
Lebanon.....	24,643		2				2			
McKeesport.....	45,975		2		2		1		1	
McKee's Rocks.....	16,713		5				2			
Mahanoy City.....	15,569						1			
Meadville.....	14,568		1							
Monessen.....	18,179		2				3			
Mount Carmel.....	17,469						1			
Nanticoke.....	22,614		1				1			
New Castle.....	44,838		3		1		4			
New Kensington.....	11,967				3		1			
Oil City.....	21,274						2			
Olyphant.....	10,236				1					
Philadelphia.....	1,823,158	558	67	6	20		174	3	65	43
Pittsburgh.....	388,193		26		22		52		21	
Pittston.....	18,497		1							
Pottstown.....	17,431		1				14			
Pottsville.....	21,876				7		1		1	
Punxsutawney.....	10,311						1			
Reading.....	107,784		3		2		1			
Scranton.....	137,783		5				6		5	
Sharon.....	21,747				12		2			
Shenandoah.....	24,726		1				1			
Steelton.....	13,428						2			
Sunbury.....	15,721				8					
Uniontown.....	15,692						3			
Warren.....	14,256		2		1		1		1	
Washington.....	21,480		1		2		3			
West Chester.....	11,717		4		1		1			
Wilkes-Barre.....	73,833		4		21		1		1	
Williamsport.....	36,198		1				1			
York.....	47,512		3		2					
Rhode Island:										
Cranston.....	29,407	4								
Cumberland (town).....	10,077		1							
East Providence (town).....	21,793		3							
Newport.....	30,255	8	7				7			
Pawtucket.....	64,248	21	3				1			
Providence.....	237,595	74	7				4		4	
South Carolina:										
Charleston.....	67,957	28	3				3			5
Columbia.....	37,524						1			
Greenville.....	23,127	6					1			1
South Dakota:										
Sioux Falls.....	25,176	10	2				1			

CITY REPORTS FOR WEEK ENDED JAN. 21, 1922—Continued.

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

City.	Popula- tion Jan. 1, 1920, subject to correction.	Total deaths from all causes.	Diphtheria.		Measles.		Scarlet fever.		Tuber- culosis.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
Tennessee:										
Chattanooga.....	57,895		1				1			
Knoxville.....	77,818								3	3
Memphis.....	162,351	17	8		1		25		9	4
Texas:										
Austin.....	34,876	23		1						1
Beaumont.....	40,422	10								
Corpus Christi.....	10,522	4								
Dallas.....	158,976	48	3	1	22	1	1		6	6
Fort Worth.....	108,482	13	3				2	1	2	1
Galveston.....	44,255	7	2							
Houston.....	138,076		11				5	1		3
Waco.....	38,500	11	1				1		1	1
Utah:										
Salt Lake City.....	118,110	39	5	1			5		1	2
Vermont:										
Barre.....	10,008						1			
Burlington.....	22,779	5					4			
Rutland.....	14,954	5								
Virginia:										
Alexandria.....	18,060	3	3							
Danville.....	21,539	6			3			1		
Lynchburg.....	29,956	8					1			2
Norfolk.....	115,777		3					2		1
Petersburg.....	31,002	14						1		
Richmond.....	171,667	57	9		36		5	1	4	7
Roanoke.....	50,842	16	4		1					2
Washington:										
Everett.....	27,644		10		1		2			
Seattle.....	315,652		4		4		7			
Spokane.....	104,437		4							
Tacoma.....	96,965		5				1		2	
Walla Walla.....	15,503		3				1			
Yakima.....	18,539				2		2			
West Virginia:										
Bluefield.....	15,282	4	1							
Charleston.....	39,608	16	1		1					2
Clarksburg.....	27,899	8	2				2		1	
Fairmont.....	17,851		4				2		1	
Huntington.....	50,177	21								2
Martinsburg.....	12,515				1		1			
Morgantown.....	12,127		3				3			1
Moundsville.....	10,669	4			3		1			
Wheeling.....	54,322	19	3	1			1			2
Wisconsin:										
Appleton.....	19,561		6				1			
Ashland.....	11,334								9	
Beloit.....	21,284	6	1				6			
Eau Claire.....	20,880				1					
Fond du Lac.....	23,427	5	4						1	
Green Bay.....	31,017	6	5				1			
Janesville.....	18,293	3					1		2	
Kenosha.....	40,472	7	7	1	1					1
Madison.....	38,379		1				2			
Milwaukee.....	457,147		24		3		26		15	
Oshkosh.....	33,162	8					1			1
Racine.....	58,593	8	1				8		3	1
Sheboygan.....	30,955		4						4	
Superior.....	39,624	8	2				11			
Waukesha.....	12,558		2		1		1			
Wausau.....	18,661						1		1	
West Allis.....	13,765						1			
Wyoming:										
Casper.....	11,447	7							2	
Cheyenne.....	13,829	2					3			

FOREIGN AND INSULAR.

AUSTRALIA.

Plague—New South Wales—Queensland.

Plague has been reported in Australia as follows:

New South Wales—Sydney.—During the week ended December 3, 1921, 2 cases with 1 death.

Queensland—Brisbane.—During the three weeks ended December 24, 1921, 6 cases with 5 deaths; total, August 22 to December 24, 1921, cases 39, deaths 25. *Cairns.*—Week ended December 10, 1921, 2 cases with 1 death. *Ipswich.*—Week ended December 17, 1921, 1 fatal case.

Plague-Infected Rodents.

New South Wales—Sydney.—On December 7 and 13, 1921, the finding of 2 plague rats, each, was reported. Plague rats have been reported found from September 11 to December 13, 1921.

Queensland—Brisbane.—Week ended December 10, 1921, 9 rats; weeks ended December 17 and 24, 4 rats each. *Cairns.*—Two weeks ended December 24, 2 rats and 1 mouse. *Hinchinbrook (Ingham).*—December 10 to 24, 5 rats.

CANADA.

Influenza—Prescott, Ontario.

Under date of January 28, 1922, severe colds with influenza symptoms and some cases of pneumonia were reported prevalent at Prescott, Ontario, Canada.

CUBA.

Communicable Diseases—Habana—Provinces.

Communicable diseases have been reported in Habana and Provinces as follows:

Habana.

Disease.	Jan. 14-20, 1922.		Remain- ing under treat- ment Jan. 20, 1922.
	New cases.	Deaths.	
Chicken pox.....	4	.....	4
Diphtheria.....	6	1	4
Leprosy.....	.....	.....	10
Malaria.....	26	2	142
Poliomyelitis (infantile paralysis).....	1	.....	.....
Scarlet fever.....	15	.....	220
Smallpox.....	1	.....	21
Typhoid fever.....	6	.....	226

¹ From the interior, 20.

² From the interior, 1.

³ From the interior, 18.

Provinces.

Province.	New cases reported Dec. 4-10, 1921.								
	Chick-en pox.	Diph-theria.	Malaria.	Measles.	Paraty-phoid fever.	Polio-my-elitis (infan-tile pa-ralysis).	Scarlet fever.	Small-pox.	Ty-phoid fever.
Camaguey.....		1	42			4		43	2
Habana.....	2	2	25	5			6		9
Matanzas.....		1	3	1		1			1
Oriente.....		2	112					108	12
Pinar del Rio.....			17		2				3
Santa Clara.....		2	4		5	2			9
Total.....	2	8	203	6	7	7	6	151	36

Quarantine Against British Honduras Removed.

Under date of January 24, 1922, quarantine measures on account of yellow fever against arrivals from British Honduras were declared removed at ports in the Republic of Cuba.

ECUADOR.**Plague—Introduction and Diffusion—Guayaquil.**

The following summary of plague occurrence and measures of plague eradication in Guayaquil was received under date of December 22, 1921, from official sources:

Bubonic plague first appeared at Guayaquil, Ecuador, February 10, 1908, having been introduced by maritime route. The progress and diffusion of the disease were stated as follows: *Increased prevalence.*—Years 1909, 1913, 1916, and 1920. *Decreased prevalence.*—Years 1910, 1911, 1912, 1914, 1915, 1917, 1919. The maximum and minimum points attained by the epidemic were shown in the years 1909 with 903 cases and 320 deaths, and in 1919 with 66 cases and 22 deaths, respectively.

The average seasonal prevalence of plague was stated to be well determined. In Guayaquil, plague increases invariably during the period from October to March, that is, beginning in the latter months of the dry season and ending in the latter part of the rainy season. It is believed that the large quantity of rain water washes the sewers abundantly and dislodges the rats which are carried into the river so that when the dry season begins the number of rats has greatly diminished.

Rat Extermination—Improvements in Building Construction.

The campaign against rats was stated to have been actively carried on at Guayaquil during the year 1921, the actual numbers of rats taken being shown as follows: January 5,998 rats; February, 5,441;

March, 5,807; April, 6,355; May, 7,973; June, 12,311; July, 14, 201; August, 15,285; September, 17,691; October, 18,895; November, 20,324. Rat poisoning was stated to have given good results in sewers, markets, and grain warehouses on the river beach, where the Norwegian rat was stated to abound.

By regulation, double coverings have been ordered to be removed from walls, also ceilings from intermediate floors, and the wooden main floors, which are required to be replaced with concrete. New constructions are required to be rat proof. The intensification of the measures carried on against plague since the beginning of July, 1921, shows the following results for the second half of the year 1921: July, 1 plague case; August, 2 cases; September, 6 cases; October, 6 cases; November, 11 cases; December, 2 cases (first 15 days).

GREAT BRITAIN.

Typhus Fever—Glasgow.

A case of typhus fever was reported during the week ended December 31, 1921, at Glasgow, Scotland. The patient had been a resident of Glasgow for 17 years. The source of infection was stated not to have been determined. No spread of the disease occurred.

JAVA.

Plague—November, 1921.

During the month of November, 1921, plague was reported present in the seven Provinces of the islands of Java and Madoera, with 763 reported fatal cases.

MESOPOTAMIA.

Smallpox—November, 1921.

An outbreak of smallpox with high mortality, especially among children, was reported in Mesopotamia during the month of November, 1921. The number of reported cases was 93, with 43 deaths.

PERU.

Plague—Dec. 1-15, 1921.

During the two weeks ended December 15, 1921, 15 cases of plague with 10 deaths were reported in Peru, occurring in Huacho, Huarmey, Huaura, Lima, Lurin, Païta, Salaverry, Sechura, and Sullana.

PORTUGAL.

Plague—Lisbon—December, 1921.

Under date of January 11, 1922, information has been received of the occurrence at Lisbon, Portugal, during the month of December, 1921, of a case of plague, with fatal termination December 15, 1921. It was stated that no infection had been found in rats.

SIBERIA.**Typhus Fever—Extension of Infection into China.**

Under date of January 23, 1922, typhus fever was stated to be seriously prevalent in the western districts of Siberia and to be extending into the Maritime Provinces of China, probably along the line of railway. It was proposed to establish immediately delousing stations along the railway from Manchuria Station westward.

SWITZERLAND.**Influenza—Basel.**

During the week ended December 31, 1921, 442 cases of influenza were reported at Basel, Switzerland. (Population, 142,574.)

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.**Reports Received During Week Ended Feb. 10, 1922.¹****CHOLERA.**

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Madras.....	Dec. 11-17.....	2	1	
Rangoon.....	Dec. 4-10.....	7	6	
Siam:				
Bangkok.....	Nov. 20-26.....	3	3	

PLAGUE.

Place.	Date.	Cases.	Deaths.	Remarks.
Australia:				
New-South Wales—				
Sydney.....	Nov. 27-Dec. 3....	2	1	Dec. 7-13 92 Four plague rats.
Queensland—				
Brisbane.....	Dec. 12-24.....	6	5	Total, Aug. 22-Dec. 24, 1921: Cases, 39; deaths, 25. Plague rats, Dec. 4-24, 1921: 17.
Cairns.....	Dec. 4-10.....	2	1	Dec. 11-24, 1921: 2 plague rats, 1 mouse.
Hinchinbrook (Ingham)				Dec. 10-24, 1921: 5 plague rats.
Ipswich.....	Dec. 11-17.....	1	1	
China:				
Hongkong.....	Nov. 20-Dec. 17...	6		
Ecuador:				
Guayaquil.....				July-Dec. 15, 1921: Cases, 28.
Egypt.....				Jan. 1-Dec. 31, 1921: Cases, 356; deaths, 153.
City—				
Alexandria.....	Dec. 30.....	1		
Suez.....	Dec. 28-31.....	5	3	
India.....				Dec. 4-10, 1921: Cases, 1,321; deaths, 1,011.
Karachi.....	Dec. 18-24.....	1	1	
Madras.....	Dec. 11-17.....	1	1	
Madras Presidency.....	do.....	365	250	
Rangoon.....	Dec. 4-10.....	11	12	
Indo-China:				
Saigon.....				Nov. 27-Dec. 10, 1921: Plague rodents found, 5.
Java.....				In the Islands of Java and Madoera, Nov. 1-30, 1921: Cases, 763; deaths, 763.
East Java—				
Soerabaya.....	Oct. 30-Dec. 3.....	5	6	

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

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

Reports Received During Week Ended Feb. 10, 1922—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Peru.....				Dec. 1-15, 1921: Cases, 15; deaths, 10; in Huacho, Huarney, Huaura, Lima, Lurin, Paite, Salaverry, Sechura, and Sullana.
Portugal: Lisbon.....	Dec. 15.....	1	1	

SMALLPOX.

Brazil: Rio de Janeiro.....	Nov. 27-Dec. 24...	7		
Canada: Ontario— Fort William and Port Arthur.....	Jan. 15-21.....	1		
Hamilton.....	Jan. 22-28.....	1		
Kingston.....	Jan. 17-23.....	3		
Sault Ste. Marie.....	Jan. 15-21.....	1		
Chile: Concepcion.....	Nov. 23-Dec. 19.....		22	
Talcahuano.....	Dec. 18-24.....	1		
Valparaiso.....	Nov. 27-Dec. 31.....		60	
China: Amoy.....	Dec. 11-17.....		1	
Chungking.....	Dec. 4-10.....			Present.
Hankow.....	Dec. 25-31.....	1		From river steamer; imported.
Harbin.....	Dec. 5-11.....	2		
Hongkong.....	Dec. 3-17.....	3		
Mukden.....	Dec. 25-31.....			Present.
Nanking.....	Dec. 11-17.....			Do.
Tientsin.....	do.....	2		In mission hospital.
Cuba: Antilla.....	Jan. 15-21.....	5	1	Dec. 4-10, 1921: Cases, 151; in 2 Provinces.
Dominican Republic: Santo Domingo.....				Jan. 9-16, 1922: 1,745 cases estimated in surrounding country.
India: Bombay.....	Dec. 4-10.....	1		
Calcutta.....	Dec. 11-17.....	9	6	
Karachi.....	Dec. 18-24.....	7	3	
Madras.....	Dec. 11-17.....	34	8	
Japan: Taiwan Island.....	Dec. 14-20.....	1	1	
Java: West Java— Batavia (city).....	Dec. 9-15.....	2	3	Province, cases, 10; 1 death.
Mesopotamia: Bagdad.....	Nov. 1-30.....	93	43	
Mexico: Guadalajara.....	Dec. 1-31.....	3		
Mexico City.....	Dec. 11-21.....	19		
Peru: Lima.....	Nov. 1-30.....		2	
Portugal: Lisbon.....	Nov. 27-Dec. 31.....	36	7	
Spain: Huelva.....	Nov. 1-30.....		1	
Malaga.....	Dec. 1-31.....		24	
Seville.....	Jan. 8-14.....		1	
Straits Settlements: Singapore.....	Nov. 27-Dec. 10.....	20	6	
Tunis: Tunis.....	Jan. 1-7.....		1	
Union of South Africa: Cape Province.....	Nov. 12-Dec. 10.....			Outbreaks.
Transvaal.....	do.....			Do.

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

Reports Received During Week Ended Feb. 10, 1922—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers.....	Dec. 1-31.....	2		
Oran.....	Dec. 21-31.....	1		
Chile:				
Concepcion.....	Nov. 22-Dec. 4.....		2	
China:				
Harbin.....	Dec. 5-18.....	4		Jan. 23, 1922: Reported extending from Soviet Russia, along railway line to maritime Provinces.
Egypt:				
Alexandria.....	Dec. 25-31.....	1	1	
Germany:				
Hamburg.....	Dec. 11-17.....	4		
Great Britain:				
Glasgow.....	Dec. 25-31.....	1		
Mesopotamia:				
Bagdad.....	Nov. 1-30.....	2	2	
Mexico:				
Mexico City.....	Dec. 11-21.....	67		Including municipalities in Federal District.
San Luis Potosi.....	Jan. 15-21.....			Present.
Siberia.....				Jan. 23, 1922: Present in western districts.
Turkey:				
Constantinop'le.....	Dec. 25-31.....	5		
Union of South Africa:				
Cape Province.....	Nov. 13-Dec. 10.....			Outbreaks: 1 death in European at Jansenville, Dec. 6, 1921.
Natal.....	Nov. 19-Dec. 10.....			Outbreaks; stated to be prevalent in Newcastle district only.
Orange Free State.....	Nov. 13-Dec. 3.....			Outbreaks.

Reports Received from Dec. 31, 1921, to Feb. 3, 1922.

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India.....				Oct. 2-23, 1921: Deaths, 15,017.
Bombay.....	Oct. 30-Nov. 5.....	1		
Calcutta.....	Oct. 23-Dec. 10.....	54	43	
Karachi.....	Nov. 6-12.....		1	
Rangoon.....	Oct. 1-Dec. 3.....	14	9	
Indo-China:				
Saigon.....	Nov. 6-12.....	1	1	
Java:				
West Java—				
Batavia.....	Nov. 1-7.....	2	2	At Lebak.
Philippine Islands:				
Manila.....	Nov. 13-Dec. 22.....	26	9	
Poland.....				Aug. 14-Sept. 10, 1921. Cases, 4; deaths, 1.
Siam:				
Bangkok.....	Oct. 23-29.....	1		

PLAGUE.

Asia Minor:				
Smyrna.....	Nov. 27-Dec. 3.....	1	1	
Australia:				
New South Wales—				
Sydney.....				Nov. 6-19, 1921: Plague rats reported found at distance from wharves.
Queensland—				
Brisbane.....	Oct. 30-Dec. 3.....	21	13	Plague-infected rats, 36. Total cases of plague, Aug. 23-Nov. 26, 1921, 23; deaths, 18. (Corrected report.) Jan. 21, 1922: Cases, 2.
Cairns.....	Oct. 30-Nov. 26.....	4	2	6 plague rats.
Cooktown.....	Oct. 30-Nov. 5.....	1		Pestis minor.
Ingham.....	Nov. 6-12.....			9 plague rats.
Inisfail.....				Nov. 27-Dec. 3, 1921: 1 plague rat.
Port Douglas.....	Nov. 13-19.....	1	1	
Townsville.....	Nov. 20-Dec. 3.....	2	2	Total cases, 27; deaths, 18.

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

Reports Received from Dec. 31, 1921, to Feb. 3, 1922—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Azores:				
St. Michael Island.....				Nov. 27-Dec. 31, 1921: Cases, 23; deaths, 9.
Arrifes.....	Dec. 25-31.....	1	1	Present.
Feneas d'Ajuda.....	Nov. 27-Dec. 3.....			
Ribeira Grande.....	Nov. 13-Dec. 10.....	19	8	
Livramento.....	Dec. 4-10.....	2		Vicinity of Ponta Delgada.
Ponta Delgada.....	do.....	1		
Brazil:				
Bahia.....	Oct. 30-Dec. 3.....	6	7	
British East Africa:				
Uganda.....	Aug. 1-Sept. 30....	85	58	Reports of inspectors, deaths, 142; reports of chiefs, deaths, 641.
Ceylon:				
Colombo.....	Oct. 30-Dec. 10....	6	5	Oct. 30-Dec. 10, 1921: Rodent plague, 5.
Ecuador:				
Guayaquil.....	Nov. 16-Dec. 15....	7	3	Rats examined, 2,958; found infected, 90.
Egypt:				Jan. 1-Dec. 29, 1921: Cases, 350; deaths, 147.
City—				
Alexandria.....	Dec. 5-28.....	6	2	
Port Said.....	Dec. 20.....	1		
Suez.....	Nov. 22-Dec. 29....	11	6	
Province—				
Kenah.....	Dec. 1.....	1	1	Septicemic.
India:				Oct. 23-Nov. 26, 1921: Cases, 5,597; deaths, 4,411.
Bombay.....	Oct. 23-Dec. 3.....	4	3	
Karachi.....	Nov. 6-Dec. 10.....	2	2	
Madras Presidency.....	Nov. 13-Dec. 10....	1,398	987	
Rangoon.....	Oct. 1-Nov. 26.....	63	58	
Indo-China:				
Saigon.....				Nov. 6-26, 1921: Rodent plague, 2.
Italy:				
Catania.....	Nov. 27.....	1	1	Total, Oct. 16-Nov. 27, 1921: Cases, 8 (of which 1 doubtful); deaths, 5.
Naples (Province)—				
Torre Annunziata.....	Oct. 22-Dec. 27....	2		17 miles from city of Naples.
Venice.....	Oct. 27.....	1		
Mauritius (Island):	Oct. 30-Nov. 5.....	37	31	
Mesopotamia:				
Bagdad.....	Oct. 1-31.....	1	1	
Mexico:				
Tampico.....				Dec. 18-31, 1921: Infected rodents found, 5; total, Jan. 1-Dec. 31, 1921; infected rodents, 322; Jan. 1-21, 1922; 5 plague-infected rodents.
Vera Cruz.....				One infected rodent caught Dec. 5, 1921.
Peru				Nov. 17-30, 1921: Cases, 48; deaths, 12. Occurring in Callao, Huacho, Huaras, Lima, Magdalena Vieja, Paíta, Salaverry, and Seehura.
Portuguese West Africa:				
Angola—				
Loanda.....	Oct. 9-Nov. 5.....		2	
Rhodes (Island) (Aegean Sea).....	Oct. 13.....	3	1	
Siam:				
Bangkok.....	Oct. 23-Nov. 5.....	1	1	
Straits Settlements:				
Singapore.....	Nov. 6-12.....	2	2	
Syria:				
Beirut.....	Oct. 9-Nov. 20....	10	4	
Union of South Africa:				
Orange Free State—				
Bothaville.....	Nov. 19.....			Plague-infected mouse found.
Hoopstad.....	Dec. 4-10.....	1		In native herd boy.

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

Reports Received from Dec. 31, 1921, to Feb. 3, 1922—Continued.

SMALLPOX.

Place.	Date.	Cases.	Deaths.	Remarks.
Bolivia:				
La Paz.....	Aug. 1-Oct. 31....	42	28	
Brazil:				
Bahia.....	Nov. 6-Dec. 10....	3		
Rio de Janeiro.....	Nov. 13-26.....	4	2	
Sao Paulo.....	Oct. 31-Nov. 20....	2		
British East Africa:				
Uganda.....	Aug. 1-Sept. 30....	7		Reports of inspectors, cases, 4.
Canada:				
Manitoba—				
Winnipeg.....	Nov. 20-Dec. 3....	2		
New Brunswick—				
Charlotte County.....	Dec. 11-17.....	2		Dec. 17, 1921: 31 cases previously reported, occurring at Andersonville and Blacks Harbor. Dec. 18-24, 1921: Cases, 3. Dec. 25-31, 1921: Cases, 2.
St. Stephen.....	Dec. 11-31.....	3		
Restigouche County.....	Dec. 11-17.....	1		
York County.....	Dec. 11-17.....	1		
Ontario—				
Fort William and Port Arthur.....	Jan. 1-7.....	2		
Kingston.....	Jan. 16-20.....	2		
Niagara Falls.....	Dec. 11-24.....	2		
Ottawa.....	do.....	17		
Do.....	Jan. 1-14.....	11		
Toronto.....	Dec. 11-24.....	4		
Do.....	Jan. 1-21.....	33		
Windsor.....	Jan. 8-14.....	1		
Quebec—				
Montreal.....	Dec. 11-24.....	1		
Saskatchewan—				
Regina.....	Jan. 1-7.....	1		
Saskatoon.....	Dec. 1-18.....	6		
Ceylon:				
Colombo.....	Nov. 27-Dec. 3....	1		Port case.
Chile.....				Nov. 15-21, 1921: Diffused in southern Provinces; not epidemic.
Concepcion.....	Nov. 15-21.....			Present. In vicinity, at Hualqui, cases 32; deaths 5. Dec. 4-17, 1921: Present.
Coronel.....	Nov. 15-Dec. 17....			Present.
Curanilahue.....	Nov. 15-21.....	4		
Talcahuano.....	Nov. 15-Dec. 10....	5		
Temuco.....	Nov. 15-21.....	9		
Valparaiso.....	Oct. 23-Nov. 26....		34	
China:				
Amoy.....	Nov. 16-Dec. 10....		3	Nov. 23-29, 1921: Present.
Antung.....	Nov. 23-Dec. 18....	4	1	
Chungking.....	Nov. 6-Dec. 3.....			Present.
Foochow.....	Nov. 6-Dec. 10....			Do.
Hankow.....	Nov. 13-Dec. 3.....			Do.
Harbin.....	Nov. 14-27.....	3		
Mukden.....	Nov. 20-Dec. 17....			Do.
Nanking.....	Nov. 20-Dec. 3.....			Do.
Shanghai.....	Oct. 31-Dec. 25....	64	140	Cases, foreign: Deaths, Chinese and foreign. Jan. 14, 1922: Conditions serious.
Colombia:				
Cartagena.....	Nov. 22-23.....		1	
Cuba:				
Antilla.....	Dec. 12-31.....	3		At Preston.
Do.....	Jan. 8-14.....	5		
Czechoslovakia:				
Prague.....	Dec. 18-24.....		42	
Dominican Republic:				
San Pedro de Macoris.....	Nov. 20-Dec. 24....	27		Estimate of about 500 cases of smallpox in the district of Macoris; of this amount 53 within the city limits.
Santo Domingo.....	Nov. 15-Dec. 5.....			In district 401 cases estimated. Dec. 17-24, 1921: Present in vicinity.
Fiume.....				Dec. 27, 1921-Jan. 2, 1922: Cases, 2.
Ecuador:				
Guayaquil.....	Nov. 16-Dec. 15....	4		And vicinity.
Egypt:				
Alexandria.....	Nov. 26-Dec. 2.....	1	1	
Port Said.....	Dec. 20-26.....	1		
Finland.....				Nov. 16-30, 1921: 1 case.

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

Reports Received from Dec. 31, 1921, to Feb. 3, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Haiti:				
Cape Haitien.....	Dec. 11-24.....	8		
Port au Prince.....	Dec. 11-31.....			Present.
India:				Oct. 2-8, 1921: Deaths, 28.
Bombay.....	Oct. 23-Nov. 12.....	1	1	
Calcutta.....	Nov. 13-Dec. 10.....	13	10	
Karachi.....	Nov. 11-17.....	17	3	
Madras.....	Nov. 13-Dec. 10.....	66	21	
Rangoon.....	Oct. 1-Nov. 19.....	2	2	
Italy:				
Genoa.....	Nov. 10-20.....	1		
Messina—				
Messina.....	Nov. 28-Dec. 4.....	1		
Pettineo.....	Nov. 14-Dec. 4.....	2		
Japan:				
Taiwan Island.....	Dec. 1-10.....	1		
Java:				
West Java—				
Bandoeng.....	Nov. 18-Dec. 8.....	2		
Batavia.....	do.....	2	2	
Buitenzorg.....	Nov. 25-Dec. 8.....	7	1	13 cases with 3 deaths not locally stated.
Krawang.....	Nov. 18-24.....	1		
Lebak.....	Nov. 18-Dec. 8.....	7	4	
Pandegang.....	Nov. 25-Dec. 1.....	1	1	
Tangerang.....	Nov. 18-Dec. 8.....	5	1	
Mesopotamia:				
Bagdad.....	Oct. 1-31.....	24	7	
Mexico:				
Chihuahua.....	Dec. 5-11.....		1	
Guadalajara.....	Nov. 1-30.....	3		
Mexico City.....	Nov. 20-Dec. 10.....	32		
San Luis Potosi.....	Dec. 18-24.....		2	
Do.....	Jan. 8-14.....		2	
Torreón.....	Dec. 1-31.....	134		
Panama:				
Ancon.....				Admitted to hospital by transfer from Panama, Nov. 30, 1921, 1 case. Arrived on sailing vessel from a village on south coast.
Chiriqui Province.....	Dec. 22.....			Present.
Panama.....	Dec. 14.....	1		On Dec. 21, 1921: 1 additional case from country district of Sabanas, admitted to hospital. Total admissions Jan. 1-Dec. 21, 1921, 207.
Poland.....				Aug. 14-Oct. 8, 1921: Cases, 161; deaths, 33. Exclusive of Brest-Litovsk, Minsk, and Wilno districts.
Portugal:				
Lisbon.....	Nov. 13-26.....	12	5	
Portuguese East Africa:				
Lourenço Marques.....	Oct. 1-Nov. 5.....	2	4	
Portuguese West Africa:				
Angola—				
Loanda.....	Oct. 9-Nov. 3.....		3	
Russia:				
Estonia.....	Oct. 1-31.....	20		
Latvia.....	do.....	31		Corrected report.
Serbia:				
Belgrade.....	Oct. 2-Nov. 26.....	16	4	
Siam:				
Bangkok.....	Oct. 23-Nov. 5.....	1		
Spain:				
Huelva.....	Oct. 1-31.....		1	
Malaga.....	Nov. 1-30.....		36	
Seville.....	Nov. 16-Dec. 31.....		7	
Straits Settlements:				
Singapore.....	Nov. 6-26.....	15	2	
Switzerland:				
Glarus, Canton.....	Dec. 10.....			Epidemic. In vicinity.
Zurich.....	do.....	2		
Syria:				
Adana.....	Dec. 18-24.....			Present.
Aleppo.....	do.....			Do.
Beirut.....	Oct. 9-Nov. 13.....	5	2	Do.
Diarbekir.....	Dec. 18-24.....			Do.
Mersina.....	do.....			Do.
Ouria.....	do.....			Do.

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

Reports Received from Dec. 31, 1921, to Feb. 3, 1922—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Tunis:				
Tunis.....	Nov. 26-Dec. 23...	17	15	
Turkey:				
Constantinople.....	Nov. 27-Dec. 24...	20	4	
Union of South Africa:				
Cape Province.....	Nov. 5-19.....			Outbreaks.
Natal.....	Oct. 23-Nov. 12.....			Do.
Orange Free State.....	Oct. 23-29.....			Do.
Transvaal.....	Oct. 23-Nov. 19.....			Do.
Yugoslavia.....				July 24-30, 1921: Cases, 26.

TYPHUS FEVER.

Algeria:				
Algiers.....	Nov. 1-30.....	1		
Austria:				
Vienna.....	Dec. 4-10.....	2		
Bolivia:				
La Paz.....	Aug. 1-Oct. 31.....	83	65	
Bulgaria:				
Sofia.....	Dec. 18-24.....	1		
Chile:				
Valparaiso.....	Oct. 23-Nov. 26.....		6	
China:				
Harbin.....	Nov. 7-Dec. 4.....	5		
Egypt:				
Alexandria.....	Nov. 19-25.....	2		
Cairo.....	Oct. 1-Nov. 4.....	7	3	
Mesopotamia:				
Bagdad.....	Oct. 1-31.....		7	
Mexico:				
Mexico City.....	Nov. 20-Dec. 10.....	133		
San Luis Potosi.....	Dec. 18-24.....		1	Dec. 25-31, 1921: Present.
Do.....	Jan. 8-14.....			Present.
Poland.....				Aug. 14-Oct. 8, 1921: Cases, 1,431; deaths, 105. Exclusive of Brest-Litovsk, Minsk, and Wilno districts.
Russia:				
Estonia.....	Oct. 1-31.....	14		
Latvia.....	do.....	87		
Serbia:				
Belgrade.....	Oct. 2-Nov. 26.....	3	2	
Turkey:				
Constantinople.....	Nov. 20-Dec. 24.....	14		
Union of South Africa:				
Cape Province.....				Oct. 23-Nov. 12, 1921: Outbreaks.
East London.....	Oct. 30-Nov. 5.....	1		
Natal.....	Nov. 5.....			Outbreak.
Venezuela:				
Maracaibo.....	Dec. 20-26.....		1	
Yugoslavia.....				July 24-30, 1921: Cases, 10.

YELLOW FEVER.

Mexico.....				Year 1921: Cases, 115; deaths, 53.
Colima (State).....				Total: Cases, 7; deaths, 4.
Colima.....	Oct. 27.....	4	3	
Manzanillo.....	Aug. 21.....	3	1	
Jalisco (State).....				Total: Cases, 13; deaths, 7.
Guadalajara.....	Nov. 1-30.....	1	1	Imported.
Puerta Vallarta (Las Penas).....	Oct. 5.....	11	5	Dec. 19, 1921: Present.
Tonila.....	Aug. 31.....	1	1	
Quintana Roo (Territory)—				
Payo Obispo.....	Aug. 8.....	1	1	
Sinaloa (State).....				Total: Cases, 13; deaths, 9.
Cullacan.....	Sept. 17.....	4	1	
Guamuchil.....	Oct. 10.....	1		
Mazatlan.....	Aug. 21.....	1	1	Imported.
Palmar de los Leales.....	Sept. 30.....	12	7	
Tamaulipas (State).....				Total: Cases, 1; deaths, 1.
Tampico.....	Jan. 11.....	1	1	

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

Reports Received from Dec. 31, 1921, to Feb. 3, 1922—Continued.

YELLOW FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico—Continued.				
Vera Cruz (State).....	.....	.....	.....	Total: Cases, 75; deaths, 31.
Alamo.....	June 21.....	4	1	Oil camp.
Alvarado.....	July 3.....	1	1	
Barra de Penn.....	July 18.....	1	1	
Cordoba.....	Sept. 22.....	5	3	
Cosamalcoapam.....	July 18.....	14	6	
Nogales.....	Oct. 28.....	1	1	
Orizaba.....	.....do.....	1	.....
Papantla.....	Jan. 14.....	6	3	
Providencia.....	Oct. 28.....	3	.....
Purga.....	Feb. 7.....	1	1	
Rancho de Santa Rosa.....	Oct. 8.....	2	.....
Rancho "El Jaguey".....	Sept. 14.....	2	2	
San Pablo (Papantla).....	Sept. 12.....	1	.....
San Ildefonso.....	Oct. 17.....	2	.....
Tierra Blanca.....	Sept. 24-Nov. 12..	4	3	
Tlacotalpan.....	Sept. 14.....	1	1	
Tuxpan.....	Jan. 3.....	8	2	
Vera Cruz.....	Jan. 15.....	18	7	Two of these cases imported. Dec. 20-26, 1921: Cases, 1; deaths, 1. Imported.