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## AN EPIDEMIC OF A SEVERE PNEUMONITIS IN THE BAYOU REGION OF LOUISIANA

### II. CLINICAL FEATURES OF THE DISEASE

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The purpose of this report is to present the clinical findings in an epidemic of a severe pneumonitis with a high mortality occurring in the bayou region of Louisiana between December 1942 and May 1943. A total of 19 cases in white adults of French descent was studied. The clinical picture presented is based on the study by the authors of 4 patients during their illness; data on the remaining cases were obtained from attending physicians. All surviving patients were kept under observation for a year following recovery.

The onset of the disease was mild, with headache, general malaise, backache, and chilly sensations as the first symptoms. They appeared after an incubation period of 6 to 19 days and persisted throughout the illness. The temperature usually rose from 99° to 101° F. on the first day to 103° to 105° F. between the fourth and seventh days; concurrently, pulse and respiratory rates gradually increased. Pneumonitis was demonstrable on the third day of illness by X-ray or physical examination but without symptoms referable to the chest. Despite the high fever and pneumonitis the patients appeared and felt remarkably well. During the second week the volume of the pneumonitic process increased in the affected lobes and often extended to the other lobes of the lung; meanwhile the temperature remained high and the pulse and respiratory rates rapid. In this stage of the disease episodes of "collapse" were not infrequent. Without premonitory signs, the patient became weak and listless, the pulse rapid and thready, and cyanosis occurred or, if already present, became intense. Either death occurred or, if the patient rallied, a series of such episodes was not uncommon, followed by either recovery or death. After each episode there was an increase in the

respiratory rate which did not invariably parallel a demonstrable extension of the pneumonitis.

There was a long period of acute illness marked by high fever, delirium, episodes of "collapse," and rapid pulse and respiratory rates. Cough productive of bloody mucoid sputum developed in severe cases late in the first or second week of disease. Death, if it occurred, was usually between the seventh and fourteenth days of illness. Recovery was indicated by a gradually subsiding temperature and pulse rate. The improvement in the respiratory rate lagged far behind that in temperature and pulse. Convalescence was slow and extended over a period of months.

*Skin.*—No rash or purpura was present at any time.

*Eyes, ears, nose, mouth, and throat.*—Eyes and ears were negative. Epistaxis occurred at intervals in case 10 from the third to the fifth day of illness. Small painful ulcers on the buccal mucosa were observed in case 19 on the fifth day. Four patients complained of a mild sore throat (cases 15, 17, 18, 19).

*Chest.*—Five patients complained of moderate chest pain at some time during illness (cases 3, 6, 7, 11, 17). Abnormalities in the chest were found only by auscultation or X-ray. Fine crepitant râles were present over the involved areas, unique in their high pitch, not accentuated but rather decreased by coughing. No patient developed pleurisy or empyema.

*X-ray pictures.*—The following two cases showed findings typical of all X-rayed—eight in number (described by Dr. R. A. Brown, New Orleans):

*Case 18 (fatal) (figs. 1 and 2).*—The X-ray film taken on the third day of illness shows a well-circumscribed homogeneous density  $1\frac{1}{2} \times 3$  cm. in the midzone at the third anterior rib level of the right lung. The remaining lung fields are clear. A film taken on the seventh day shows an increase in the size of the density in the right lung field to  $3 \times 9$  cm. There is another homogeneous density  $4 \times 6$  cm. in the outer zone from the fifth to the seventh anterior rib level fusing with a less dense shadow extending to the diaphragm. The left lung field shows a strandlike area of mottling extending from the upper horn of the left hilum out to the midzone in the first anterior interspace level. There is also another homogeneous density  $4 \times 6$  cm. in the outer zone at the third to the fifth anterior rib level, with another small density below this level.

*Case 19 (nonfatal) (figs. 3, 4, 5).*—The X-ray film taken on the fourth day of illness shows a fairly homogeneous, poorly circumscribed density  $9 \times 5$  cm. extending from the fourth anterior rib level in the inner zone toward the mid- and outer zones on the right side. The other lung field is clear. The film taken on the eighth day of illness shows an increase in this area of density to  $11\frac{1}{2} \times 8\frac{1}{2}$  cm., with the remaining lung fields clear. The X-ray taken on the fifteenth day of illness shows that the area of pneumonitis had almost cleared, and both lung fields were completely clear when X-rayed on the twenty-sixth day.

*Cough and sputum:*—Cough was usually not present until the end of the first week or in the second week of illness. It was never severe.

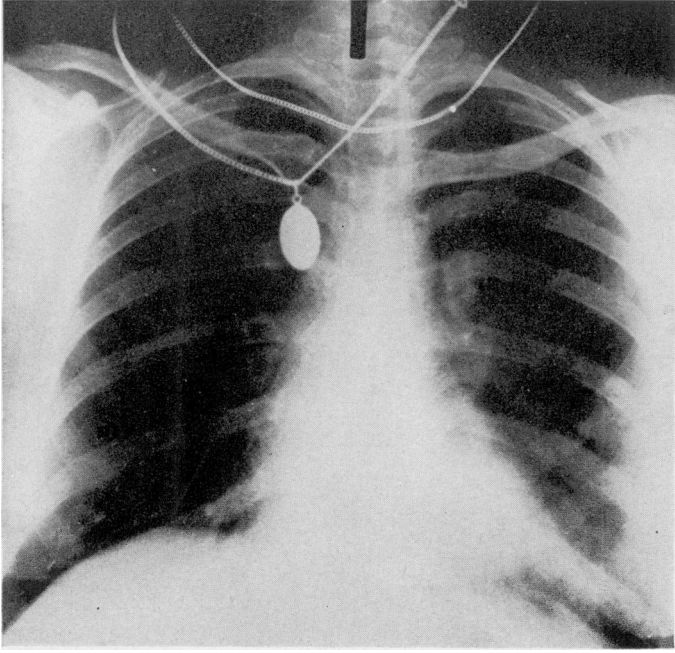


FIGURE 1.—X-ray picture of chest of Case 18 on third day of illness.

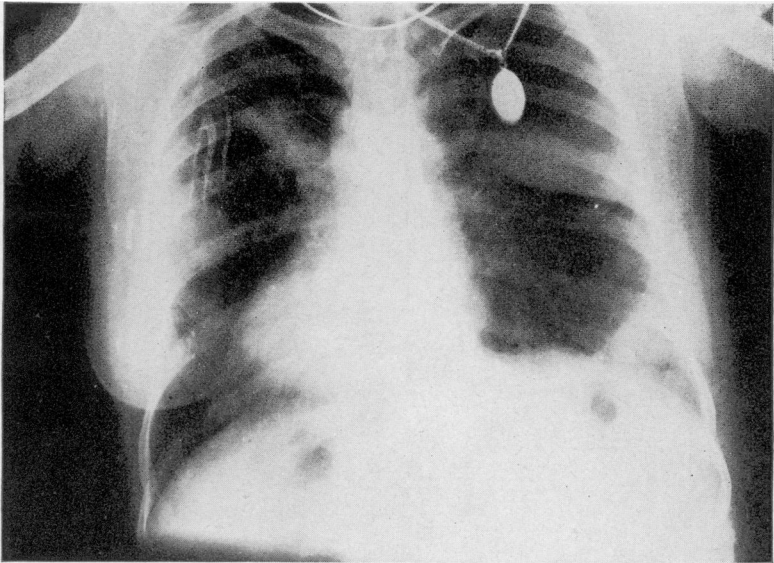


FIGURE 2.—X-ray picture of chest of Case 18 on seventh day of illness.

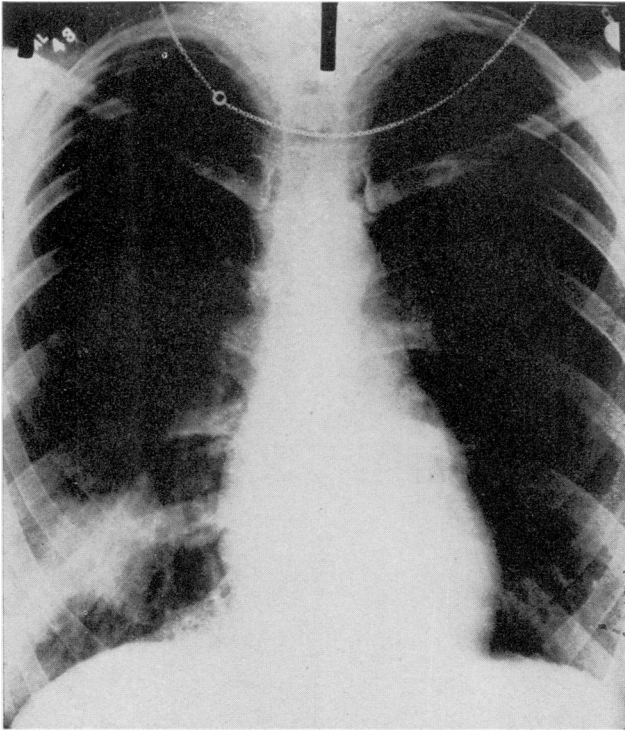


FIGURE 3.—X-ray picture of chest of Case 19 on fourth day of illness.

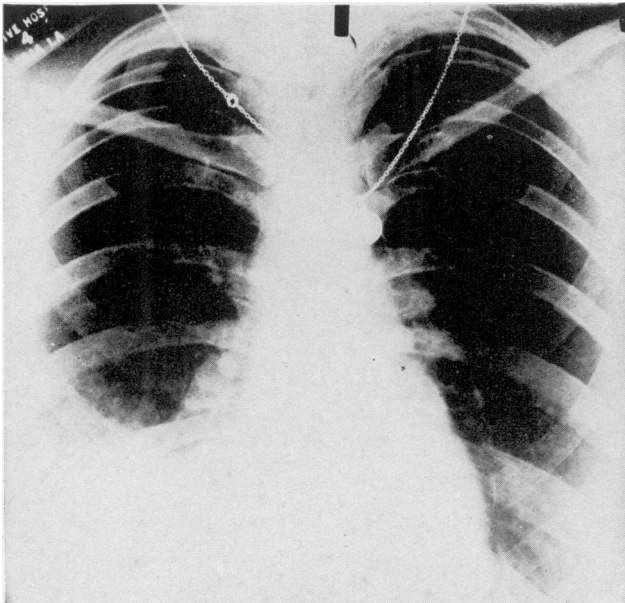


FIGURE 4.—X-ray picture of chest of Case 19 on eighth day of illness.

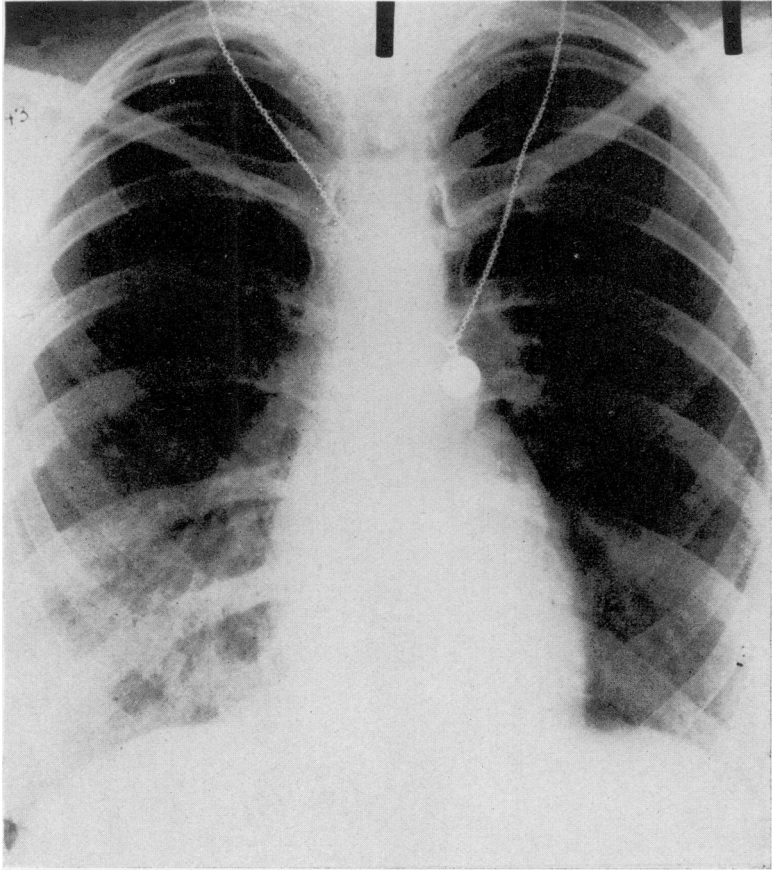


FIGURE 5.—X-ray picture of chest of Case 19 on fifteenth day of illness.

Blood-streaked or rusty, mucoid, thick, tenacious sputum was raised, usually late in the illness.

*Gastrointestinal tract.*—Nausea and vomiting occurred in six cases beginning on the second day and only after therapy with a sulfonamide. Abdominal pain was uncommon, occurring in only two cases: case 10 developed an epigastric pain on the ninth day just prior to a collapse; case 6 complained of abdominal pain just prior to a miscarriage on the thirty-third day of illness. Abdominal distention occurred and persisted in five cases, requiring constant treatment. Diarrhea did not occur; it was necessary to resort to enemas or cathartics.

*Genitourinary system.*—Negative.

*Circulatory system.*—"Collapse" at some time during the illness was common, marked by a sudden feeling of weakness followed by a rapid pulse of small volume, increased respiratory rate, and shallow breathing. The blood pressure in case 7 on the tenth day of illness, shortly after a "collapse" was 120/75. Case 8 had a blood pressure of 104/60 on the ninth day of illness when she was in a critical condition. Cyanosis occurred in all but five cases, either before, during, or after a "collapse," from the fourth to the thirty-first day of illness, occurring more frequently and earlier in fatal cases than in nonfatal ones.

*Nervous system.*—A common early symptom was a dull to severe headache which usually persisted throughout the illness. It was partially relieved by treatment with aspirin or codeine. Delirium or coma was present in 13 cases, beginning sometime between the fifth and twenty-first days. The delirium varied from a mild to a wild maniacal form requiring restraint and medication to effect control. Three cases had amnesia for the period of illness. A definite serious mental unbalance occurred in 2 cases, one of which regained her mental balance 3 months after convalescence. The other was not completely mentally competent after 1 year. Two individuals went through a period of depression and a change in personality which gradually cleared up over a period of months, though they continued to be easily upset emotionally. No paralysis or other unfavorable motor manifestation was noted.

*Pulse, temperature, and respiration.*—These are given in detail in figures 6 to 12. It will be noted that the temperature is of septic, fluctuating type. This is considered a characteristic of the disease and is probably not due to therapy with antipyretics. The fluctuations of temperature were accompanied by "chilly" sensations rather than severe chills. Respirations became rapid and shallow as the disease progressed, with resultant respiratory distress. Oxygen administered to nine cases improved the depth of respiration but did not affect the rate. The pulse rate during a "collapse" was rapid

and poor in quality. Digitalization was not effective in improving the quality of the pulse and in case 18 resulted in a partial heart block.

*Laboratory examinations:*

*Blood.*—Blood studies were available on seven cases and are given in detail in the case reports which follow. The leucocyte counts ranged from 4,720 to 16,000. The differential counts were normal.

*Urine.*—Essentially negative with a transient glycosuria present in two cases on days when the patients did not receive glucose intravenously.

*Therapy.*—Sulfathiazole, sulfapyridine, and sulfadiazine were all given adequate trial with no therapeutic effect. Convalescent plasma and whole blood were used in case 17 and case 18 late in the disease without effect; however, in case 19 it may have modified the disease. Pooled nonimmune plasma was given four cases at some time in their illness. It was used repeatedly in case 19 in addition to convalescent blood and plasma. This form of treatment did not receive adequate trial, but in view of the "recurring collapses," adequate and repeated use of nonimmune plasma, if immune plasma is not available, would be of interest. Other therapy was symptomatic.

*Case 1.*—Mrs. M., age 48 (patient of Dr. Y. Ardoin). Became ill at her rural home December 4, 1942. Onset of illness was abrupt, with a severe headache, chills, and high fever. The clinical condition became worse, and on December 12, 1942, the ninth day of illness, she was transferred by ambulance to the Ville Platte sanatorium. A diagnosis of pneumonia was made and treatment with sulfathiazole initiated. Her temperature, pulse, and respiration from the ninth day of illness until death are given in figure 6. Aside from general bodily discomfort, her main complaint was recurrent chills followed by profuse perspiration. Nausea and vomiting occurred on the tenth day of illness. A cough which developed on the thirteenth day produced a thick, mucoid, bloody sputum. On the fourteenth day, between 12 p. m. and 1 a. m., her condition suddenly grew worse. Respiration became rapid and very shallow, the pulse rate increased to 134, and she became cyanotic and comatose. A sudden drop in temperature occurred. She was placed in an oxygen tent and given caffeine sodium benzoate and digitalis intramuscularly. By 2:40 a. m. her color and respiration improved, but she remained unconscious until death the following day at 4:15 p. m.

*Laboratory findings*

<i>Date</i>	<i>White blood cells</i>	<i>Red blood cells</i>	<i>Hemoglobin (percent)</i>
Dec. 12, 1942 -----	12, 600	4, 050, 000	80
Dec. 13, 1942 -----	10, 300	-----	-----
Dec. 14, 1942 -----	14, 400	4, 480, 000	-----

*Urine.*—Examination December 12, 1942, was negative. A Widal agglutination test December 13, 1942 was also negative.

*Therapy:*

*Sulfathiazole.*—Seventeen gm. of sulfathiazole were given orally from the ninth to the eleventh day, with an additional 5 gm. administered on the fourteenth and fifteenth day of illness—total, 22 gm.

*Aspirin.*—Ten grains of aspirin were given per day from December 12 to 15, 1942. A single dose of 5 gr. was given on December 15 and 16.

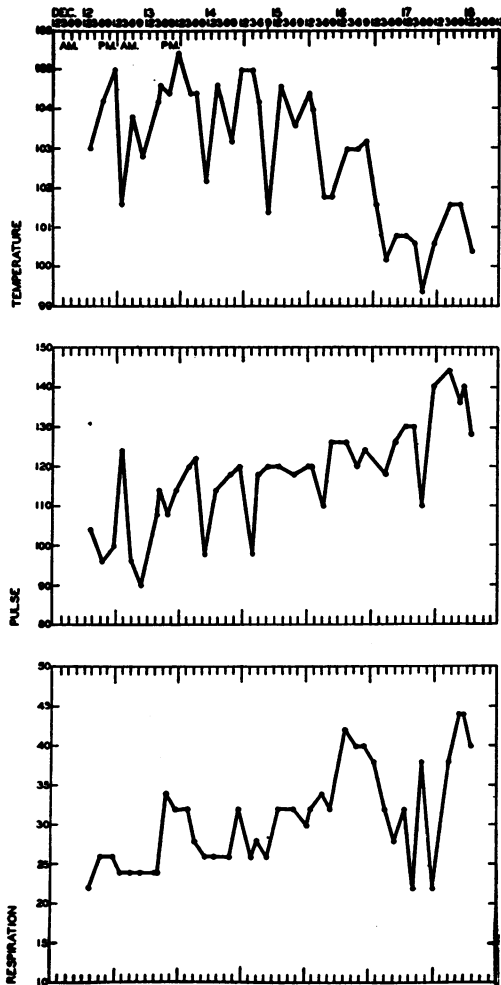


FIGURE 6.—Case 1. Temperature, pulse, and respiration from December 12, 1942, the ninth day of illness, until death on December 18.

**Case 2.**—Miss L. B., nurse, age 23 (patient of Dr. Y. Ardoin). Became ill on December 24, 1942, with symptoms of general malaise and a headache. She was admitted to the sanatorium on the third day of illness (December 26) with a temperature of 100.8° F. Treatment with sulfathiazole was begun immediately. Temperature, pulse, and respiration are given in figure 7. She complained of severe headache, chills, fever, and profuse perspiration throughout her illness. Nausea and vomiting began on the fourth day of illness and persisted. For an interval of 24 hours on the sixth and seventh days of illness her temperature dropped below 103° F, probably the effect of 50 gr. of quinine given from the fourth through the sixth day of illness following a laboratory report of *Plasmodium malariae* in her blood. An X-ray taken on the tenth day showed a homogeneous density involving the entire lower lobe of the left lung and a mottling suggestive of an early pneumonitis in the base of the right lung. On the tenth day a cough developed, with a thick, mucoid, blood-tinged sputum from the thirteenth day until death. At 7:40 p. m. on the eleventh day, the pulse suddenly became of poor



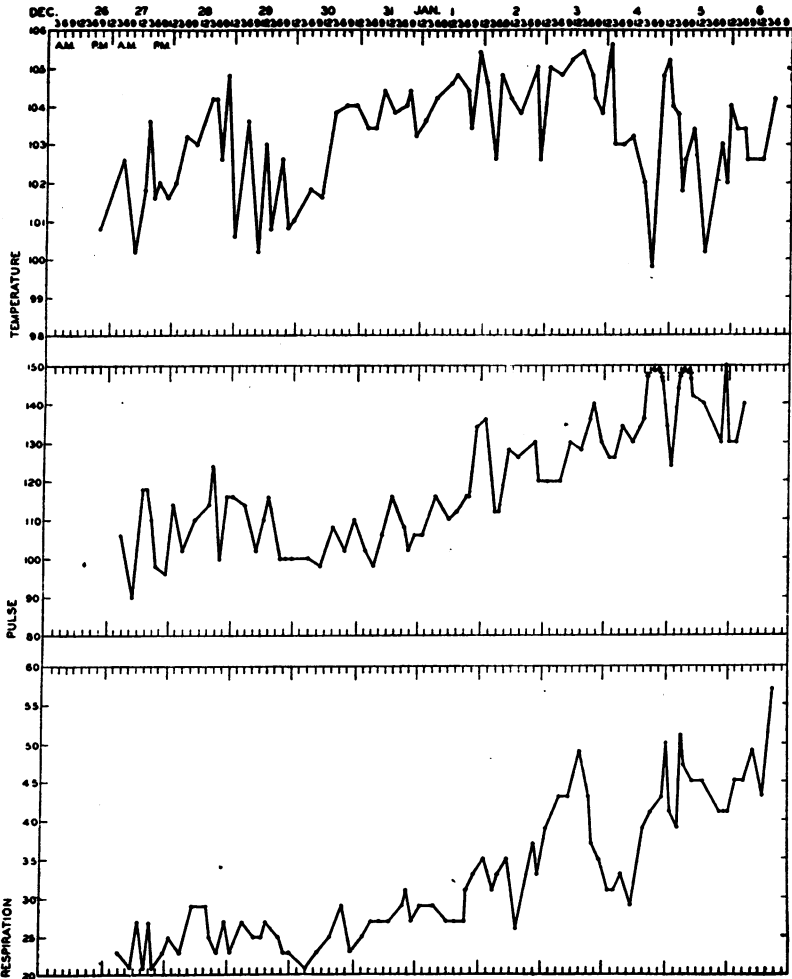


FIGURE 7.—Case 2. Temperature, pulse, and respiration from December 26, 1942, the third day of illness, until death on January 6, 1943.

quality, respiration became shallow and labored, and a marked cyanosis developed. She was placed in an oxygen tent, which partially relieved the respiratory distress. She became comatose during this episode and for the remainder of her illness was delirious, requiring physical restraint in addition to medication with morphine and amytol. At 9:45 p. m. on the last day of illness her pulse became barely perceptible, she expectorated a large quantity of bloody frothy sputum, became deeply cyanotic, and died after 14 days of illness.

*Laboratory findings*

Date	White blood cells	Red blood cells	Hemoglobin (percent)
Dec. 28, 1942	9,500	4,600,000	85
Jan. 2, 1943	6,500	4,300,000	
Jan. 4, 1943	10,800	5,080,000	

*Plasmodium malariae*.—Reported present in a blood smear on December 12, 1942.

*Urine*.—Three specimens taken on December 27 and 30, 1942, and on January 3, 1943, were essentially negative.

**Therapy:**

**Sulfathiazole.**—A total of 18 gm. of sulfathiazole was given orally from the third through the sixth day of illness. An additional 25 gm. were given from the eighth through the twelfth day.

**Sulfapyridine.**—Four grams of sulfapyridine were given on the last day.

**Aspirin.**—Five grains of aspirin were given at approximately 8-hour intervals except on December 26, 1942, January 5, 1943, and January 6, 1943.

**Digitalis.**—Given intramuscularly every 4 hours the last 2 days of illness.

**Case 7.**—Miss O., age 23 (patient of Dr. Y. Ardoin). Became ill on January 20, 1943, with severe headache and backache in the lower lumbar region. She was admitted to the sanatorium on that day with a temperature of 101.6° F. She had repeated chills followed by an elevation of temperature and profuse perspiration. Treatment with sulfathiazole was begun immediately, 1 gm. every 4 hours orally. On the second day of illness she became nauseated and vomited. Treatment with codeine and later morphine was without effect. On the fourth day of illness she was given 1,000 cc. of 10 percent glucose intravenously because of the vomiting. This was repeated on the fifth, sixth, and seventh days but the nausea and vomiting persisted. Sulfadiazine was substituted for sulfathiazole on the fourth day; 4 gm. orally were given initially, followed by 1 gm. every 4 hours. On the sixth day of illness a sudden transitory elevation of pulse and respiratory rate occurred with no perceptible clinical change (fig. 8). The following day she complained of chest pain and began to cough, raising a mucoid, bloody sputum. On the eighth day of illness between 1 and 3 p. m. she complained of feeling very weak, became listless, and perspired profusely. Her pulse became weak and of poor volume. She was treated for "collapse" and given digitalis intramuscularly. Her pulse improved about 3 p. m. During this period her temperature dropped to 99° F. and there was a corresponding temporary drop in pulse and respiratory rates, which returned to their previously high levels after this acute episode. Late on the eighth day abdominal distention developed and was treated with enemas and rectal tube. Her condition remained critical. She was seen by a consultant (Dr. K.) at 1 a. m. on the tenth day. At this time her blood pressure was 120/75. Two and one-half grams of sulfadiazine were given intravenously and repeated 18 hours later.

On the afternoon of the tenth day a chest film showed a large area of increased density in the midzone of the right lung field. A fan-shaped density extended from the hilum toward the periphery in the midzone of the left lung field between the second and sixth interspaces. The patient continued raising bloody sputum. She was irrational and at times in wild delirium. Respiratory stimulants were used as supportive measures. Early in the twelfth day of illness the patient suddenly became cyanotic. She was placed in an oxygen tent, which gave some temporary relief, but the cyanosis persisted in spite of the oxygen therapy. The patient experienced recurrent episodes in which the pulse became weak and she appeared on the verge of death, her condition improving only temporarily. On the twelfth and thirteenth days of illness she was given 1 unit (250 cc.) of normal plasma each day. In her delirium the patient was constantly picking things out of the air. The temperature began to subside and the pulse rate decreased during the thirteenth day, but there was no particular improvement in respiratory rate. In spite of the change, her general clinical condition at this time was the poorest in her illness.

On the morning of the fourteenth day the patient's condition improved, but by noon it again deteriorated. She received another unit (250 cc.) of blood plasma. There was a marked improvement in both pulse and temperature.

The respiration continued labored and shallow. On the fifteenth day the administration of sulfadiazine was discontinued. An attempt was made on this day to discontinue the use of the oxygen tent, but the respiration then became so labored that its use was continued. The patient remained irrational. She

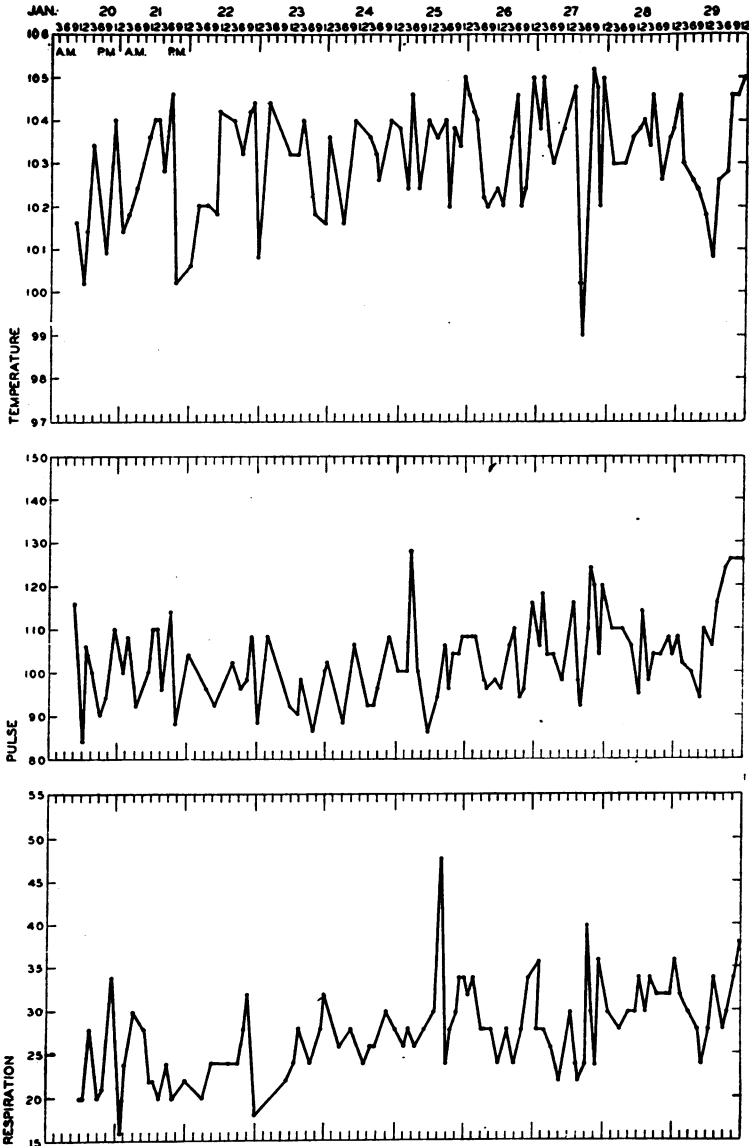


FIGURE 8.—Case 7. Temperature, pulse, and respiration from January 20, 1943, the first day of illness, until February 8, the twentieth day of illness. Temperatures from February 3 to 8 are rectal temperatures.

continued to raise a blood-streaked, thick, tenacious sputum. Her condition slowly improved between the eighteenth and twenty-third days of illness. The fever subsided, the pulse rate decreased, and the pulse became of good quality.

The slowest improvement was in the respiratory rate, which gradually became lower but could hardly be considered normal until about the twenty-third day of illness. The last elevation of temperature observed was 99.2° F. on February 22, the thirty-third day of illness. She was allowed to get up for the first time on

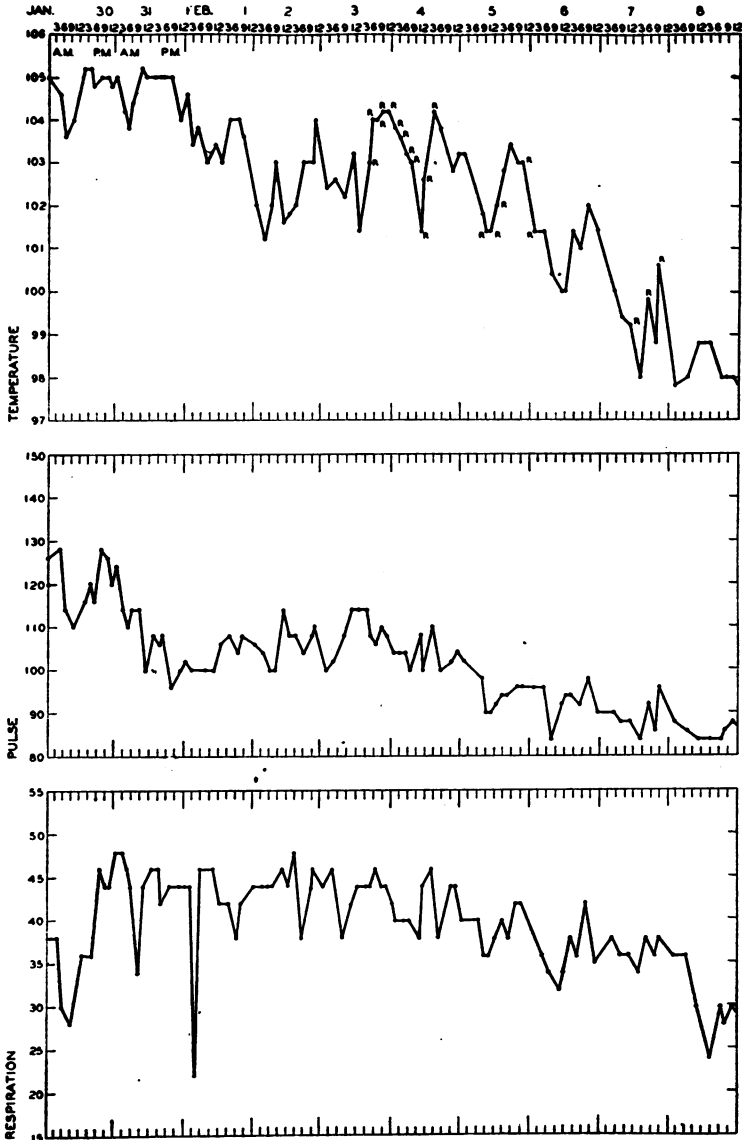


Figure 8. Part 2

February 21, the thirty-second day of illness, and was discharged from the hospital on February 27.

The patient lost 14 pounds during her illness. She did not remember anything about her illness after the first 2 days except the hallucinations during her delirium, which still remained vivid in her mind after 1 year. The patient showed signs

of mental deterioration, becoming very childish for the 2 months following recovery. During this interval she lost her hair, which later grew back. Her mental condition improved, and she became mentally responsible and resumed her work. She still tired easily in the afternoon and was emotionally more unstable than before the illness.

*Laboratory findings*

Date (1943)	Blood counts		Casts	Red blood cells	Urine examinations		
	White blood cells	Red blood cells			White blood cells	Sugar	Albumin
Jan. 21	7,060	-----	Neg.	-----	Few	Trace	-----
Jan. 23	8,860	-----	Few granular	-----	Many	do.	-----
Jan. 24	5,600	5,550,000	-----	Occ.	do.	do.	-----
Jan. 25	5,840	5,250,000	Few granular	-----	do.	do.	-----
Jan. 26	6,320	4,950,000	-----	Rare	do.	4+	-----
Jan. 27	6,100	4,865,000	-----	-----	Few	4+	-----
Jan. 28	6,600	4,250,000	-----	-----	Rare	2+	-----
Jan. 29	7,400	4,775,000	-----	-----	Few	4+	-----
Jan. 30	7,700	<sup>2</sup> 4,750,000	-----	Rare	do.	4+	-----
Feb. 1	8,860	4,200,000	-----	do.	Occ.	3+	-----
Feb. 2	8,800	4,275,000	-----	Few	Few	3+	-----
Feb. 3	-----	-----	-----	-----	-----	3+	-----
Feb. 4	5,900	4,200,000	-----	Rare	Few	2+	-----
Feb. 5	<sup>1</sup> 5,520	4,400,000	-----	do.	Occ.	2+	-----
Feb. 6	4,900	4,125,000	-----	do.	Rare	Trace	-----
Feb. 7	6,400	4,200,000	-----	do.	Few	-----	-----

<sup>1</sup> Differential on Feb. 5, 1943. Polymorphonuclears, 64 percent, lymphocytes, 30 percent, monocytes, 3 percent, eosinophils, 3 percent—no immature forms.

<sup>2</sup> Urine on Jan. 30, 1943—catheterized specimen.

*Therapy:*

*Sulfathiazole:* Total of 24 gm. orally given the first 4 days of illness.

*Sulfadiazine:* Total of 37 gm. orally given from January 24 to February 3, 1943, 5 gm. given intravenously in divided doses on January 29, a total of 42 gm. administered.

*Aspirin:* A total of 15 was gr. per day given on January 20 through January 23, and on January 25. None was given on January 24 nor after January 27.

*Intravenous glucose:* 1,000 cc. of 5 percent glucose was given each day from January 23 through January 26, with 5 units of insulin.

*Case 8.*—Mrs. J. S., nurse, age 23 (patient of Dr. Y. Ardoin). Became ill on January 21, 1943, and was admitted to the sanatorium with a temperature of 99° F., complaining of headache, backache, and generalized body aches. Her temperature rose rapidly to 103.8° F., and she began to perspire profusely. Sulfapyridine therapy, 1 gm. orally every 4 hours, was begun on the second day of illness. On the evening of the second day she became nauseated and vomited repeatedly. She had repeated chills, followed by profuse perspiration, and the backache persisted. Sulfapyridine was discontinued on the third day (January 23) and sulfadiazine was substituted—6 gm. in the first 12 hours and then 1 gm. every 4 hours. The nausea and vomiting persisted, despite treatment with codeine, morphine, and glucose intravenously. On the fourth day of illness she developed a cough, which persisted. Her temperature, pulse, and respiration are given in figure 9. Digitalis orally, 1½ gr. every 4 hours, was given from the fourth

to the seventh day of illness. On the seventh day her condition became critical, her pulse volume very poor. Digitalis was discontinued orally and given intramuscularly. She was seen by a consultant (Dr. K.) at 1 a. m. on the ninth day, at which time her blood pressure was 104/60. She was given 2.5 gm. of sulfadiazine intravenously at 1:30 a. m. on this day. Digitalis was discontinued. An X-ray taken on the ninth day showed an area of density in the midzone of the left lung field; the right lung field was clear. She became delirious on the tenth day. A thick, tenacious, blood-streaked, mucoid sputum was raised. Sulfone therapy was begun—1 gm. of sulfanilamide or sulfadiazine alternately orally every 8 hours. Her condition showed marked improvement beginning on the eleventh day, although her delirium persisted until the twelfth day. The fever gradually subsided, reaching normal on the thirtieth day. On the thirty-second day of her illness (February 21) she was allowed to get up, but was confined to her room until she was discharged from the hospital on February 27. She recovered after a long, uneventful convalescence.

#### Laboratory findings

Date, 1943	Blood counts		Casts	Urine examinations		Sugar	Albumin
	White blood cells	Red blood cells		Red blood cells	White blood cells		
Jan. 23	11,400	4,500,000	-----	-----	Many	-----	-----
Jan. 24	7,600	5,275,000	-----	Rare	do.	Trace	-----
Jan. 25	7,400	5,350,000	Occ.	-----	do.	do.	-----
Jan. 26	7,120	5,000,000	Granular	Rare	do.	-----	-----
Jan. 27	7,800	4,300,000	-----	-----	do.	-----	-----
Jan. 28	8,260	4,950,000	-----	-----	do.	-----	-----
Jan. 29	10,400	4,500,000	-----	-----	do.	3+	-----
Jan. 31	11,800	4,800,000	-----	Occ.	do.	4+	-----
Feb. 1	11,600	4,652,000	-----	do.	do.	2+	-----
Feb. 2	16,600	4,650,000	-----	do.	do.	-----	-----
Feb. 4	7,500	4,950,000	-----	-----	do.	2-	-----
Feb. 5	8,120	5,275,000	-----	-----	do.	-----	-----
Feb. 6	8,320	4,850,000	-----	Rare	do.	-----	-----
Feb. 7	8,200	5,100,000	-----	Occ.	do.	-----	-----
			(Catheter- ized)	-----	Few	-----	-----

<sup>1</sup> Differential count.—Polymorphonuclear, 59 percent; lymphocytes, 31 percent; monocytes, 7 percent; eosinophils, 2 percent; basophils, 1 percent.

#### Therapy:

*Sulfapyridine*: A total of 8 gm. was given orally on the second and third days.

*Sulfadiazine*: A total of 43 gm. was given orally from the third until the fourteenth day; 2.5 gm. were given intravenously on the ninth day of illness. Total, 45.5 gm.

*Sulfanilimide*: A total of 10 gm. was given orally from the ninth to the thirteenth day of disease.

*Aspirin*: 15 gr. of aspirin were given orally on January 22, 24, 26, and 27.

*Intravenous glucose*: 1,000 cc. of 10 percent glucose were given on the following days: January 24, 25, 26, and 29.

**Case 17.**—Miss B., age 39, nurse (patient of Dr. E. Landry). Became ill March 8, 1943, while on duty nursing case 16. Her initial complaint was headache and general malaise. The following day chilly sensations in the region of the back and legs, mild low lumbar backache, and a dry, hacking, nonproductive cough developed. Her temperature ranged from 99° to 101° F.

When seen by the authors on the third day of illness the patient was resting in bed. She did not appear ill, was mentally alert, cooperative, apprehensive over her condition, and eagerly desired to know if she had the same pneumonia as the case she was nursing. Her past medical history revealed nothing significant except pneumonia twice previously and a long-standing bronchial asthma. Musical

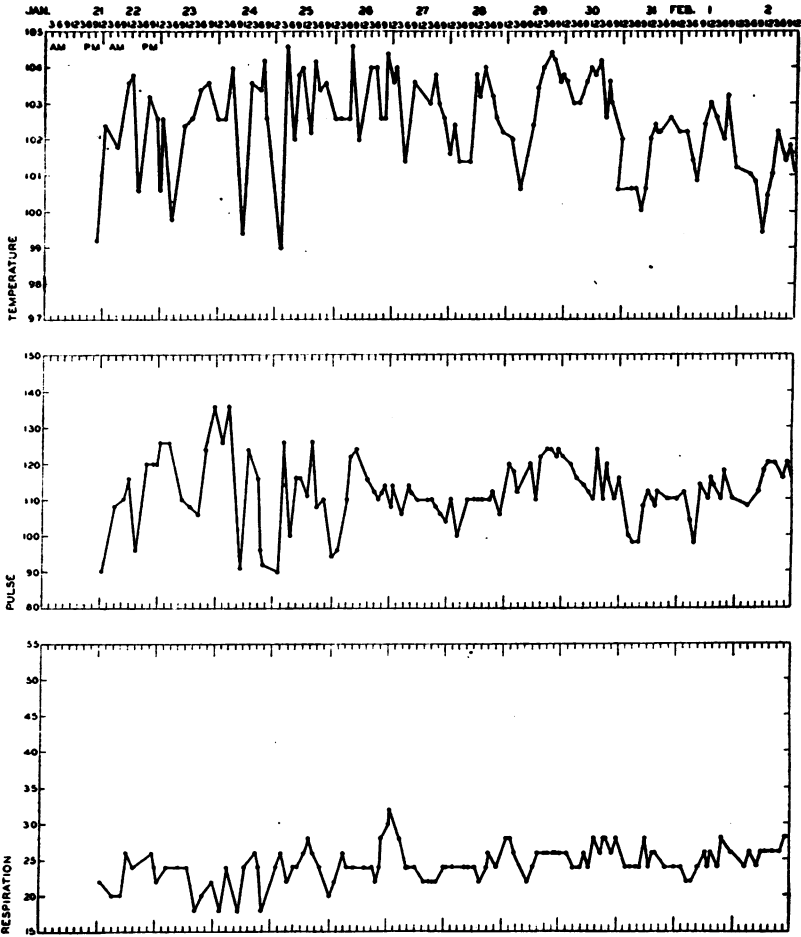


FIGURE 9.—Case 8. Temperature, pulse, and respiration from January 21, 1943, the first day of illness, until February 15, the 26th day of illness

râles typical of a fairly severe asthma were heard over the entire chest. Over a small area in the right base, showers of faint, high-pitched, crepitant râles were heard at the end of deep inspiration. They disappeared after forced coughing and reappeared only after a period of regular breathing. Respiration was normal in rate, but there was a definite prolongation of the expiratory phase. An X-ray picture revealed a probable area of pneumonitis in the right base. A diagnosis

of pneumonitis and bronchial asthma was made. The patient on learning the diagnosis accepted her condition with equanimity. On the fourth day of illness she first appeared seriously ill. Her temperature was 105° F., pulse rate 116, and respirations rapid (40) and shallow (fig. 10). Cyanosis of the face and lips developed. Oxygen-helium was administered at 15-minute intervals, relieving the cyanosis. This episode of respiratory distress may have been due to an exacerbation

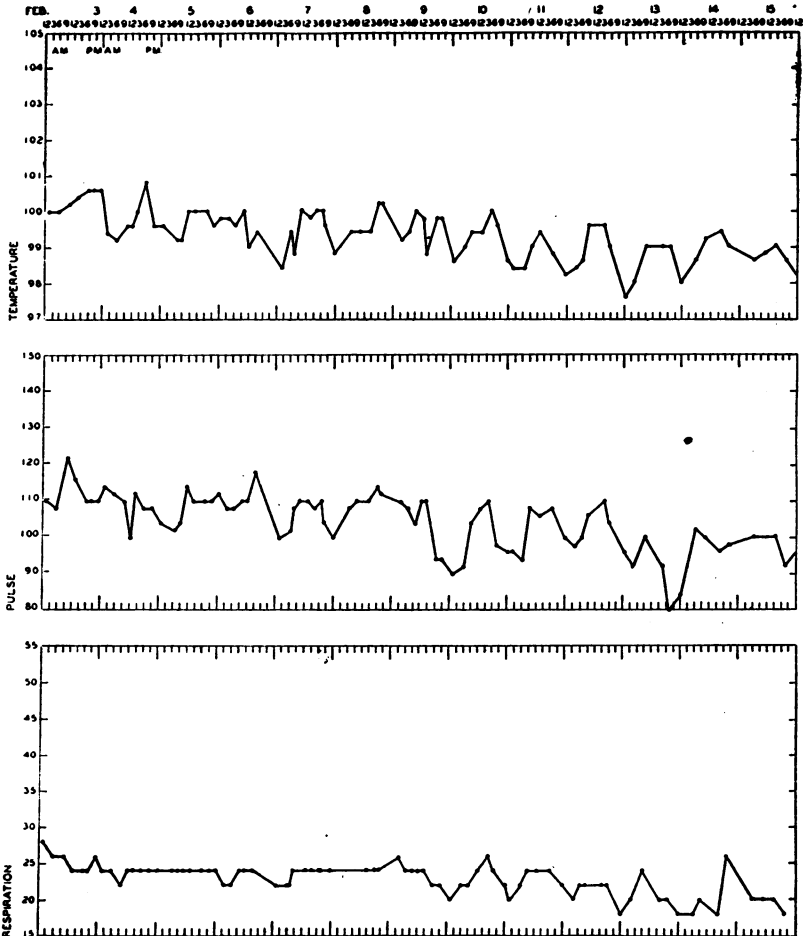


Figure 9. Part 2.

tion of chronic asthma of long duration, as a chest X-ray revealed no important extension of the pneumonitis.

On the fifth day of illness she became irrational. The pulse suddenly increased to 136, with no other clinical change. On the sixth day of illness she was semicomatose; a transfusion of 500 cc. of nonimmune whole blood was given, resulting in temporary, slight improvement. Thick, mucoid, blood-tinged sputum was expectorated for the first time. Abdominal distention developed. Her general con-



dition became progressively worse. Oxygen-helium was administered continuously from the sixth day of illness to death. An X-ray on the seventh day of illness showed that two areas of pneumonitis had now developed in the left lung field. Abdominal distention required constant treatment with enemas, rectal tube, and prostigmine. On the ninth day of illness, 250 cc. of plasma from case 14, convalescent, was given intravenously, followed by 1,000 cc. of 5 percent glucose. Later in the afternoon of this day her pulse rate became very rapid, followed later by a sharply increased respiratory rate. She was treated with coramine, caffeine sodium benzoate, and digitalis intramuscularly. She was in deep coma which persisted until death on the tenth day of illness.

*Laboratory findings*

Date (1943)	Blood counts		Urine examinations	
	White blood cells	Red blood cells	Casts	Albumin
Mar. 10.....	<sup>1</sup> 11, 700	4, 260, 000	-----	-----
Mar. 14.....	<sup>2</sup> 4, 750	4, 330, 000	-----	-----
Mar. 16.....	-----	-----	Few granular	2+

<sup>1</sup> Differential count: Neutrophils, 79 percent; lymphocytes, 20 percent; basophils, 1 percent.

<sup>2</sup> Differential count: Neutrophils, 40 percent; lymphocytes, 52 percent; monocytes, 3 percent; eosinophils, 5 percent.

*Therapy:*

*Sulfathiazole.*—Sulfathiazole was taken by the patient for the first 2 days of illness.

*Aspirin.*—Aspirin given during illness was not charted.

**Case 18.**—Miss B., nurse, age 41 (patient of Dr. E. Landry). The first 3 days reported in detail exemplify the mild onset characteristic of the disease:

First day (March 8, 1943): The patient had only a feeling of general malaise. She took her own temperature at 6 p. m., which was 99.2° F.

Second day (March 9, 1943): In the morning on arising she felt a dull pain in the base of her neck. At about 11 a. m. she noticed a dull pain in the lumbar region of the spine. At noon she went to bed. There were no further symptoms, and the patient slept well that night.

Third day (March 10, 1943): the patient was seen by the authors on this day. She had a dull backache and slight pain at the "base of neck" when she turned her head. Her temperature rose to 102° F.

The past history revealed nothing of medical significance except an abdominal operation several years previously. The patient stated she had experienced the same symptoms of general malaise, backache, and low-grade fever 3 years before when she was fatigued from overwork. She was a sturdy, well-developed woman, resting comfortably in bed, mentally alert, and completely cooperative. She did not appear to be ill. Physical examinations revealed significant findings only in the chest; showers of high-pitched crepitant râles were heard in the base of the right lung at the end of deep respiration. These râles disappeared on forced coughing and only reappeared after a period of normal breathing. A tentative diagnosis of pneumonitis in the base of the right lung was made. This was confirmed by X-ray. (X-ray findings are given in detail on page 1332.) Respiration and pulse were not abnormal. There was very little change in the general appearance of the patient from the fourth to the tenth day of illness. Her temperature rose to 105° F. each day except on the seventh day, when it rose to 105.6° F. (fig. 11). There was a gradual increase in respiratory rate. On the sixth day of illness, cyanosis of the lips and fingernails was apparent. She was then placed in an oxygen tent for the remainder of her illness. During this entire interval the patient was mentally alert, cooperative, and cheerful. Beyond the high fever, there was little to suggest that she was seriously ill. On the eighth day she was

given 250 cc. of diluted (50 percent) convalescent plasma from case 14 at 3 p. m. It will be noted from figure 11 that this was soon followed by a marked lowering of her temperature and decreased pulse rate, but the respiratory rate was relatively

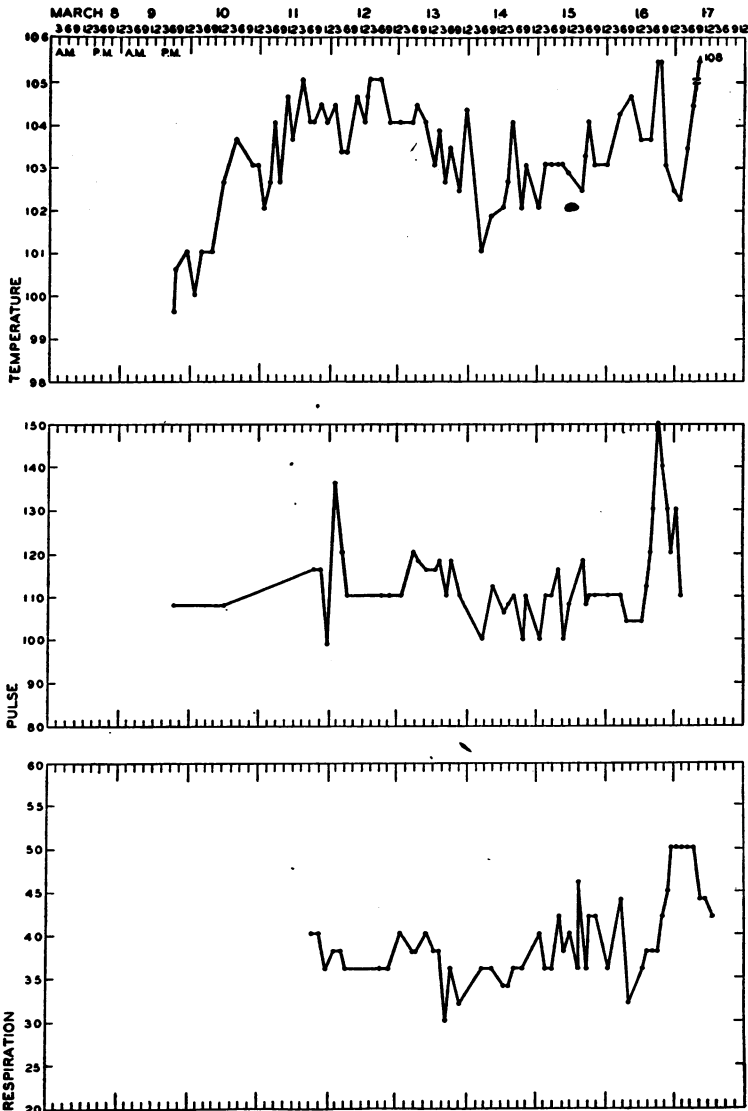


FIGURE 10.—Case 17. Temperature, pulse, and respiration from March 9, 1943, the second day of illness until death on March 17, the tenth day of illness

unaffected. Digitalization by mouth was begun. This slight improvement was temporary, as her condition thereafter became progressively worse. Respiration became shallow and forced despite oxygen therapy. Digitalis was discontinued when the pulse rate dropped. On the twelfth day a cough productive of foamy,

blood-tinged sputum developed. She became irrational. On this day she was given a whole-blood transfusion with nonimmune blood. Her condition deteriorated, and she expired on the thirteenth day of illness.

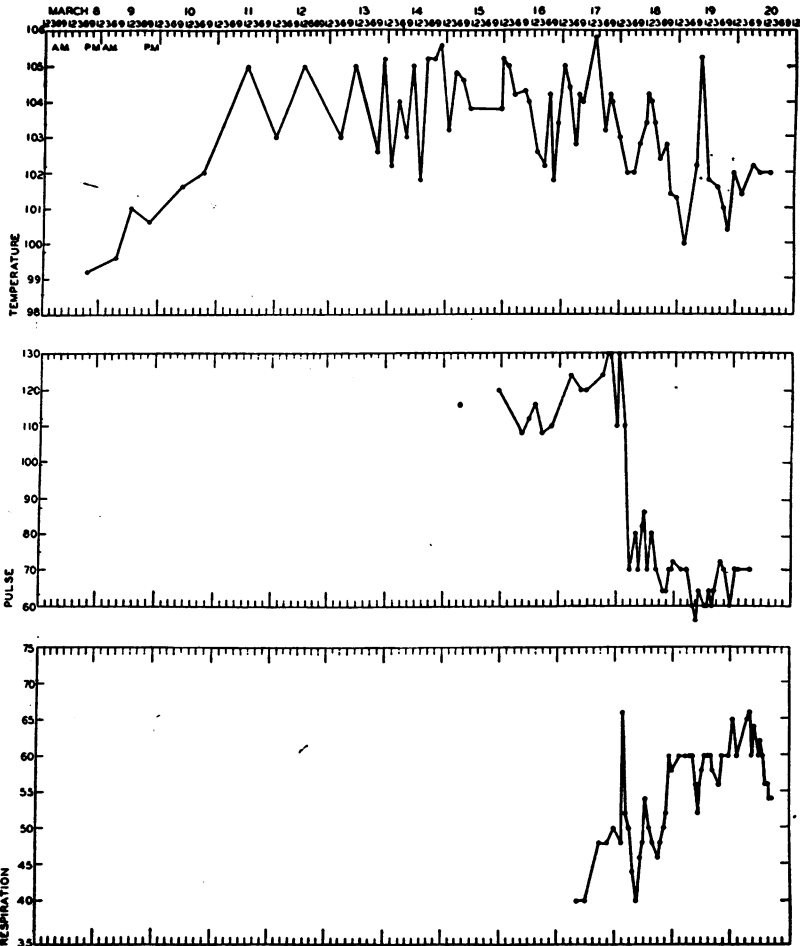


FIGURE 11.—Case 18. Temperature, pulse, and respiration from March 8, 1943, the first day of illness, until death on March 20, the thirteenth day of illness.

*Laboratory findings*

Date (1943)	Blood counts		Urine examinations	
	White blood cells	Red blood cells	Hemoglobin (percent)	Albumin
Mar. 10-----	1 8,500	4,250,000	74	-----
Mar. 14-----	2 4,500	4,450,000	-----	-----
Mar. 15-----	-----	-----	-----	1+
Mar. 19-----	4,720	4,570,000	72	1+

<sup>1</sup> Differential count: Neutrophils, 74 percent; lymphocytes, 26 percent.

<sup>2</sup> Differential count: Neutrophils, 71 percent; lymphocytes, 21 percent; monocytes, 2 percent; eosinophiles 1 percent.

*Therapy:*

*Aspirin.*—Small doses of aspirin were taken but not recorded.

**Case 19.**—Mrs. G., nurse, age 28 (patient of Dr. E. Landry). Became ill on April 1, 1943, with the only symptom a dull pain “between her shoulder blades.” Her temperature was not taken. The following day she complained of general malaise and chilly sensations and went to bed with a temperature of 101° F. A headache and backache which developed late that day were temporarily relieved by aspirin, but these symptoms persisted, as did the chilly sensations. She was seen by the authors on the fourth day of illness. Her past medical history was negative. Physical examination revealed a well-developed and well-nourished individual, resting in bed. She was very apprehensive and worried about her condition. An X-ray of her chest revealed an area of pneumonitis in the right base about 9 by 5 cm. in diameter. She became emotionally upset when informed of the X-ray findings and became very pessimistic about her chances of survival. This acute anxiety state continued throughout her illness. This is understandable, as she had nursed two fatal cases. She was given 1 unit (250 cc.) of normal plasma intravenously this day. The following day at 4 p. m. she was given a transfusion of 500 cc. whole blood from case 11, followed by 500 cc. saline. A severe reaction followed immediately, with chills, hives, and cyanosis. This was

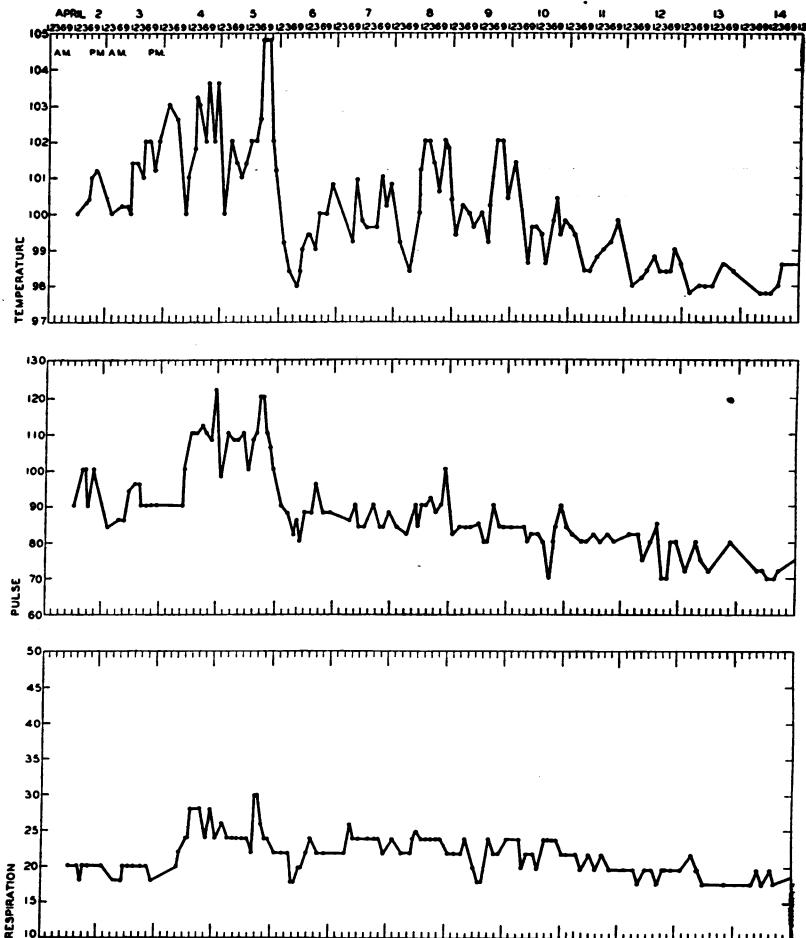


FIGURE 12.—Case 19. Temperature, pulse, and respiration from April 2, 1943, the second day of illness, until April 14, the fourteenth day of illness.

treated with oxygen and adrenalin. At 8:30 p. m. reddish-brown urine was voided. The reaction subsided. On the evening of the fifth day she raised a small amount of rusty sputum. A small ulcer of the buccal mucosa was noted. Her temperature, pulse, and respiration were normal on the morning of the sixth day (fig. 12). This markedly improved her morale and mental attitude. Her only complaint was a headache. On the seventh day the headache became severe, and she complained of chilly sensations. She was given 1 unit (250 cc.) of pooled nonimmune plasma intravenously. On the eighth day she complained bitterly of the severe headache and became lethargic late in the day. She was given 250 cc. of immune plasma from case 12 intravenously. Despite her low fever, she appeared definitely worse; X-ray at this time showed an extension of the pneumonitis in the involved lobe. Because of her lethargy, a spinal puncture was considered but deemed inadvisable. On the ninth day she appeared definitely better. She was given 250 cc. of pooled nonimmune plasma intravenously. This was followed on the tenth day with 250 cc. of immune plasma given case 6. She expectorated rusty mucoid sputum again on the tenth day. Her improvement continued, and she became convalescent. For several months after recovery there was a marked change in personality, which in the following year returned to normal.

#### Laboratory findings

Date (1945)	Blood counts		Urine examination
	White blood cells	Red blood cells	
Apr. 2.....	6, 350	-----	Negative
Apr. 7.....	8, 600	3, 950, 000	-----

#### SUMMARY OF CASES

Table 1 gives a summary of characteristic symptoms and physical findings, duration of fever, and outcome of all cases. It is to be noted that no particular symptom or finding has any prognostic value in an individual case. Considering all cases, cyanosis appeared earlier in fatal than in nonfatal cases. Case 4 is questionable on epidemiological grounds, as previously discussed (1), and on clinical grounds. The onset, course, and severity of illness and lack of response to therapy was similar to the cases under study; but in the opinion of a competent physician who saw case 4 and also case 6 in the epidemic, case 4 did not represent the same disease.

Death occurred in seven cases between the seventh and the fifteenth days and in one case on the thirty-fourth day of illness. The latter, case 3, appeared to have partially recovered but refused to remain in bed, suffered a relapse, and died. The occurrence of death was not influenced by age but may have been influenced by sex, as discussed on page 1306 of the preceding article (1). The three males who contracted the disease died. (Case 4 is excluded.)

TABLE 1.—Occurrence of certain findings by cases

Case No.	Age	Sex	Headache	Backache	Chills or chilly sensation	Profuse perspiration	Cough <sup>1</sup>	Bloody sputum <sup>1</sup>	Area of pneumonitis by lung fields				Cyanosis <sup>1</sup>	Collapse <sup>1</sup>	Delirium	Coma <sup>1</sup>	Abdominal distension	Day of death	Day afebrile
									Right <sup>1</sup>	Left <sup>1</sup>	Bilateral <sup>1</sup>	Unspecified							
1...	48	F	+	+	+	+	13	13	---	---	9	+	14	14	0	14	0	15	---
2...	23	F	+	+	+	+	10	13	---	---	10	---	11	11	+	11	0	14	---
3...	48	M	+	(?)	+	+	Late	Late	---	---	---	+	(?)	(?)	(?)	(?)	(?)	34	---
5...	61	F	+	+	+	+	7	7	4	---	7	---	7	7	+	0	0	9	---
13...	68	M	0	0	+	+	5	5	2	---	---	---	7	7	0	5	0	7	---
15...	26	M	+	+	+	+	1	7	3	---	7	---	7	9	+	6	+	9	---
17...	39	F	+	+	+	+	6	6	3	---	---	---	6	6	0	6	6	10	---
18...	41	F	+	+	+	+	12	12	3	---	7	---	6	12	0	13	0	13	---
4...	62	M	+	+	+	+	Late	Late	---	+	---	+	4	0	14-21	0	0	---	20
6...	22	F	+	+	+	+	8	8	---	12	---	+	31	0	0	31	0	---	35
7...	23	F	+	+	+	+	7	7	---	10	---	---	12	8	0	8	8	---	33
8...	23	F	+	+	+	+	4	10	9	---	---	---	0	0	0	0	0	---	30
10...	36	F	+	+	+	+	3	8	---	---	---	+	8	8	0	5	0	---	16
11...	68	F	+	+	+	+	8	8	8	---	16	---	18	8	0	0	0	---	32
12...	66	F	0	0	+	0	(?)	4	---	---	---	---	7	+	12	0	0	---	28
14...	46	F	+	0	0	+	0	0	5	---	8	---	0	0	0	0	0	---	20
16...	19	F	+	+	+	+	0	0	5	---	---	---	0	0	0	0	0	---	13
19...	28	F	+	+	+	+	5	5	4	---	---	---	5	0	0	0	0	---	14
9...	49	F	Patient had typical course. Notes not available.																

<sup>1</sup> Numerals indicate day of illness findings were first noted. + indicates findings occurred. 0 indicates findings did not occur.

<sup>2</sup> Insufficient data.

Only case 16 could be considered mild; case 14 moderately severe. The remainder were severe. The febrile period was from 13 days in case 16 to 35 days in case 6. The latter patient's illness was complicated by pregnancy, and there was a dramatic improvement following miscarriage on the thirty-third day of illness. Convalescence in all cases was prolonged; it was months before complete recovery and return to a state of well-being. Three patients lost their hair between 1 and 3 months after the beginning of convalescence, but it grew back.

Autopsy findings on cases 17 and 18 are reported in a later article (2).

#### CONCLUSIONS

The clinical features of 19 cases (1 questionable) of a severe pneumonitis occurring in the bayou region of Louisiana are described. The onset of disease was mild, with headache and backache, followed by slight chills and concurrent abrupt rise of temperature. Pneumonitis was demonstrable early by physical or X-ray examination, although its presence might not be suspected in view of the characteristic general picture of clinical well-being, which persisted into the second week of illness and terminated abruptly in a state of collapse, often accompanied by delirium or cyanosis, which in some instances recurred at intervals until recovery or proved fatal upon the first occurrence or upon relapse. A characteristic of this disease was the disparity between the extent and severity of findings discovered upon physical examination and the superficial appearance of well-being which the patients exhibited. Eight of the 19 cases terminated in death.

## ACKNOWLEDGMENTS

The authors wish to acknowledge the interest and labors of Dr. Edwin L. Landry, of New Iberia, La., who gave unstintingly of his time and effort without recompense in the behalf of his patients (cases 17, 18, and 19), and for his assistance in the collection of data on his cases.

Acknowledgment is also made of the assistance and cooperation of Dr. Arthur Vidrine, of Ville Platte, La., in the collection of data contained herein (specifically, cases 5, 6, 11, 12, 13, and 14) and for his aid and criticism in this presentation.

The authors also acknowledge the aid and cooperation of Dr. Ernest C. Faulk, Rayne, La. (cases 15 and 16); Dr. Hunter C. Jones, Bunkie, La. (case 10); Dr. E. Lafleur, Opelousas, La. (case 4); and Dr. Yves Ardoin<sup>2</sup> and associates, Ville Platte, La. (cases 1, 2, 7, and 8).

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## CONTROL OF *Aedes aegypti* IN SAVANNAH

By C. A. HENDERSON, M. D., *Commissioner of Health, Savannah-Chatham County Health Department*

In March 1943, an *Aedes aegypti* Control Unit was established by the United States Public Health Service in Savannah, Ga., to operate as a unit of Malaria Control in War Areas, under the immediate jurisdiction of the Savannah-Chatham County Health Department. The unit had as its principal objective the reduction of the population of *Aedes aegypti* mosquitoes in this critical war area, to such an extent that the occurrence of an epidemic of either yellow fever or dengue in Savannah would be very unlikely.

*Aedes aegypti*, the only known vector of yellow fever and dengue in this country, has been found to be very common in Savannah. During the latter half of July 1943 the inspectional staff of the control unit found that *Aedes aegypti* mosquitoes were breeding on over one-third of the premises in Savannah. The situation was serious indeed, since an *Aedes aegypti* breeding index as low as 1 to 5 percent, i. e., 1 to 5 percent of the premises in a city with active breeding places, is sufficient to permit an outbreak of yellow fever to increase to epidemic proportions.

<sup>2</sup> Deceased.

There was also a real possibility that under present conditions of intercontinental travel yellow fever might be introduced from tropical regions where the disease is endemic. In addition, dengue, known also as breakbone fever, has been common in the United States, epidemics having occurred along the Gulf and South Atlantic Coasts within the last 10 years. If the vector of these diseases be allowed to exist in sufficient numbers in the urban areas of this country, the probability of an outbreak increasing to epidemic proportions must be admitted.

Active immunization is possible against the virus of yellow fever, but, in the case of dengue, no prophylactic vaccine has been developed. It is evident that under present conditions all of the exposed population could not be immunized against yellow fever. The best protection against both yellow fever and dengue is a concerted attack against the vector of these diseases, the *Aedes aegypti* mosquito.

The *Aedes aegypti* Control Unit in Savannah has accomplished much toward the elimination of the breeding places of this mosquito, as shown by the recessive breeding indices since the formation of the Unit. In June 1943, about 14 percent of the inspected premises showed breeding; while in June 1944 the breeding index was less than 2 percent. The rainfall and temperature during and preceding each of these periods were not sufficiently dissimilar to account for an appreciable variation in the breeding index. Inspectors of the unit have made several thorough inspections of every home in the city of Savannah. During such visits all potential or actual breeding places were destroyed; or, in instances where the task was too great for him to handle, the inspector instructed the occupant of the premises how this should be done. A check was made one week later to ascertain if the correction had been made. In most instances full cooperation was obtained. In only a few cases was the health officer obliged to invoke city sanitary ordinances to effect a clean-up.

In the *Aedes aegypti* control work, incidental control of certain other mosquitoes was effected. The breeding places of some *Culex* mosquitoes, certain species of which are vectors of filariasis in certain areas, were destroyed. The suppression of house-pest mosquitoes was accomplished incidental to yellow fever mosquito control, and was of considerable morale value.

The small inspectional force of the Savannah Unit, ranging from 5 to 10 inspectors, was not expected to bring about an immediate appreciable reduction of *Aedes aegypti* breeding. With this small force, the period of time between inspections of individual premises has been approximately 4 months. To control breeding completely by means of inspection alone, it would be necessary to visit premises about every 10 days to coincide with the life cycle of the mosquito.



Realizing that such a small inspectional force would be inadequate, for a city of approximately 150,000 population, the health department used every available means to educate the citizens so that they would apply control measures in their own homes and places of business. Newspapers, radio, movies, and bulletins distributed by the inspectors, were some of the publicity methods employed. Special programs were conducted in the schools. This public education, together with the personal contacts made by the inspectors themselves, has helped tremendously. As a result of the information thus obtained, the population of Savannah has increased its interest in and assistance to the local program. In fact, owing to the educational and inspectional program of the *Aedes aegypti* unit, there has been a decided improvement in general sanitary conditions throughout the city. Reports and complaints from local residents about sanitation problems have decreased during the last year. Removal of containers which would permit *Aedes aegypti* breeding has also caused, indirectly, a clean-up of garbage, rubbish, and debris throughout the city. The general improvement in sanitary conditions alone is well worth the cost of the program.

A permanent *Aedes aegypti* control program is economically sound. Aside from the cost of medical care, the average loss of time from an attack of dengue is about 2 weeks, many cases lasting longer. The partial cessation of business accompanying an epidemic of dengue or yellow fever would seriously handicap the activities of any city. The work of the Savannah Control Unit has indicated the feasibility of practical *Aedes aegypti* mosquito control and it is hoped that this work can be continued after the present emergency has subsided.

### DEATHS DURING WEEK ENDED SEPTEMBER 30, 1944

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

	Week ended September 30, 1944	Correspond- ing week, 1943
<b>Data for 92 large cities of the United States:</b>		
Total deaths.....	7,946	8,441
Average for 3 prior years.....	8,189	-----
Total deaths, first 39 weeks of year.....	349,704	357,184
Deaths, under 1 year of age.....	602	639
Average for 3 prior years.....	609	-----
Deaths under 1 year of age, first 39 weeks of year.....	23,959	25,825
<b>Data from industrial insurance companies:</b>		
Policies in force.....	66,743,450	65,874,191
Number of death claims.....	13,221	11,687
Death claims per 1,000 policies in force, annual rate.....	10.4	9.3
Death claims per 1,000 policies, first 39 weeks of year, annual rate.....	10.1	9.8

# PREVALENCE OF DISEASE

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

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## UNITED STATES

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### REPORTS FROM STATES FOR WEEK ENDED OCTOBER 7, 1944

#### Summary

The decline in the incidence of poliomyelitis, although less sharp than in the preceding week, continued through the fifth consecutive week. A total of 877 cases was reported, as compared with 976 last week, 515 for the corresponding week last year, and a 5-year (1939-43) median of 456. Although decreases occurred in all of the 9 geographic divisions of the country except the New England, West North Central, and Pacific, increases were recorded in 9 of the 15 States reporting more than 13 cases each, as follows (last week's figures in parentheses): *Increases*—Pennsylvania 54 (52), Ohio 73 (63), Wisconsin 26 (12), Minnesota 40 (32), Iowa 15 (9), Virginia 30 (23), Kentucky 27 (24), Washington 18 (8), California 23 (18); *decreases*—Massachusetts 20 (22), New York 294 (366), New Jersey 33 (52), Illinois 33 (37), Michigan 23 (46), Maryland 22 (29).

The total for the year to date is 15,424, as compared with 9,824, or 79 percent of the total, for the corresponding period last year. For the same period in 1931 (the year of highest incidence since 1916), 83 percent of the total of 15,745 cases for that year was reported.

A total of 142 cases of meningococcus meningitis was reported, as compared with 127 last week, 191 for the corresponding week last year, and a 5-year median of 29. Increases occurred in all areas except the New England, Middle Atlantic, and East South Central. However, the only States reporting more than 9 cases are California (16), Ohio (15), and New York (12). The cumulative total is 13,998, as compared with 14,714 for the same period last year and a 5-year median of 1,618.

Current incidence of diphtheria, measles, scarlet fever, smallpox, typhoid fever, and whooping cough is below the corresponding 5-year medians; and that of influenza is slightly above the median.

Both current and cumulative figures for typhus fever, 165 and 3,907 cases, respectively, are above the corresponding figures for any prior year.

Deaths recorded in 92 large cities of the United States for the week totaled 8,272, as compared with 7,958 last week and a 3-year (1941-43) average of 8,356. The cumulative total is 358,525, as compared with 366,068 for the same period last year.

Telegraphic morbidity reports from State health officers for the week ended October 7, 1944, and comparison with corresponding week of 1943 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none was reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1939-43	Week ended—		Median 1939-43	Week ended—		Median 1939-43	Week ended—		Median 1939-43
	Oct. 7, 1944	Oct. 9, 1943		Oct. 7, 1944	Oct. 9, 1943		Oct. 7, 1944	Oct. 9, 1943		Oct. 7, 1944	Oct. 9, 1943	
<b>NEW ENGLAND</b>												
Maine.....	0	1	0	-----	1	-----	1	55	28	0	5	0
New Hampshire.....	0	0	0	-----	-----	-----	6	4	4	0	0	0
Vermont.....	0	0	0	-----	-----	-----	0	50	10	0	0	0
Massachusetts.....	4	3	3	-----	-----	-----	47	50	53	3	14	1
Rhode Island.....	0	0	0	6	-----	-----	0	1	2	0	2	1
Connecticut.....	0	0	0	1	5	1	8	3	4	2	8	1
<b>MIDDLE ATLANTIC</b>												
New York.....	11	9	9	11	15	15	11	92	76	12	29	3
New Jersey.....	1	2	2	6	4	4	4	100	29	5	14	0
Pennsylvania.....	4	4	7	2	-----	-----	21	41	60	5	11	2
<b>EAST NORTH CENTRAL</b>												
Ohio.....	11	11	21	8	1	4	13	90	18	15	5	2
Indiana.....	5	12	12	1	11	11	1	25	4	5	6	0
Illinois.....	13	10	10	6	6	4	11	37	19	8	17	2
Michigan <sup>1</sup> .....	11	6	7	-----	-----	-----	20	182	30	9	11	2
Wisconsin.....	0	4	1	6	25	19	58	148	39	2	3	1
<b>WEST NORTH CENTRAL</b>												
Minnesota.....	7	9	2	-----	-----	-----	4	182	4	2	1	0
Iowa.....	2	5	5	-----	-----	-----	1	12	6	1	1	0
Missouri.....	3	1	4	2	-----	-----	1	1	1	5	6	0
North Dakota.....	2	2	2	-----	5	5	0	102	6	0	0	0
South Dakota.....	2	3	3	-----	-----	-----	1	5	3	0	0	0
Nebraska.....	0	6	1	4	-----	-----	3	1	10	2	0	0
Kansas.....	3	1	3	-----	2	3	7	4	4	2	1	1
<b>SOUTH ATLANTIC</b>												
Delaware.....	0	0	1	-----	-----	-----	0	1	0	0	0	0
Maryland <sup>2</sup> .....	15	2	3	-----	1	1	0	7	5	7	3	1
District of Columbia.....	0	0	3	2	-----	-----	1	1	1	0	1	0
Virginia.....	10	15	36	57	83	83	12	46	19	2	7	2
West Virginia.....	8	12	10	-----	6	6	4	5	1	1	1	1
North Carolina.....	25	48	90	6	12	2	2	20	15	1	1	1
South Carolina.....	16	25	25	154	189	139	2	28	7	6	1	0
Georgia.....	21	31	32	87	4	15	2	2	3	1	4	0
Florida.....	10	5	6	-----	12	2	2	5	2	0	2	0
<b>EAST SOUTH CENTRAL</b>												
Kentucky.....	4	12	15	1	2	1	2	3	9	1	6	1
Tennessee.....	5	25	12	5	2	5	6	1	6	1	2	0
Alabama.....	53	29	29	25	27	12	2	5	5	3	3	1
Mississippi <sup>2</sup> .....	20	13	23	-----	-----	-----	-----	-----	-----	0	3	1
<b>WEST SOUTH CENTRAL</b>												
Arkansas.....	7	5	18	28	22	20	6	3	2	3	0	0
Louisiana.....	11	4	9	1	3	5	1	17	3	1	2	0
Oklahoma.....	21	8	12	22	12	17	1	3	3	0	0	0
Texas.....	52	34	44	580	677	357	25	14	15	7	7	2
<b>MOUNTAIN</b>												
Montana.....	2	1	2	7	2	2	2	37	12	0	0	0
Idaho.....	0	0	0	9	-----	-----	2	0	2	1	0	0
Wyoming.....	4	0	0	-----	8	2	1	25	4	1	1	0
Colorado.....	8	3	5	5	15	15	7	2	12	1	1	0
New Mexico.....	5	1	1	-----	-----	-----	0	2	2	0	0	0
Arizona.....	1	0	1	36	80	46	0	6	6	2	2	0
Utah <sup>2</sup> .....	0	0	0	-----	1	1	4	7	5	1	1	0
Nevada.....	0	0	0	1	1	-----	0	13	0	1	0	0
<b>PACIFIC</b>												
Washington.....	10	11	4	-----	-----	-----	17	23	23	6	2	1
Oregon.....	3	1	1	4	24	8	38	21	20	1	1	0
California.....	19	13	12	7	5	20	114	41	56	16	6	2
Total.....	409	387	550	1,080	1,246	974	470	1,523	824	142	191	29
40 weeks.....	8,815	9,450	10,180	343,550	87,071	154,626	594,371	544,415	470,869	13,998	14,714	1,618

<sup>1</sup>New York City only.

<sup>2</sup>Period ended earlier than Saturday.

Telegraphic morbidity reports from State health officers for the week ended October 7, 1944, and comparison with corresponding week of 1943 and 5-year median—Con.

Division and State	Pollomyelitis			Scarlat fever			Smallpox			Typhoid and paratyphoid fever <sup>1</sup>		
	Week ended—		Median 1939-43	Week ended—		Median 1939-43	Week ended—		Median 1939-43	Week ended—		Median 1939-43
	Oct. 7, 1944	Oct. 9, 1943		Oct. 7, 1944	Oct. 9, 1943		Oct. 7, 1944	Oct. 9, 1943		Oct. 7, 1944	Oct. 9, 1943	
<b>NEW ENGLAND</b>												
Maine.....	2	1	0	13	25	4	0	0	0	1	0	0
New Hampshire.....	4	0	1	2	18	3	0	0	0	0	1	0
Vermont.....	2	2	2	6	0	4	0	0	0	0	0	0
Massachusetts.....	20	10	6	72	164	81	0	0	0	2	4	3
Rhode Island.....	0	5	0	2	5	3	0	0	0	0	0	0
Connecticut.....	13	10	2	8	22	13	0	0	0	0	1	3
<b>MIDDLE ATLANTIC</b>												
New York.....	294	52	52	88	144	101	0	0	0	8	13	11
New Jersey.....	33	4	10	25	41	38	0	0	0	3	3	3
Pennsylvania.....	55	7	11	89	102	102	0	0	0	14	16	15
<b>EAST NORTH CENTRAL</b>												
Ohio.....	73	14	14	142	186	122	0	0	0	4	4	12
Indiana.....	12	10	3	27	56	44	1	1	1	4	3	3
Illinois.....	33	91	27	97	79	103	0	1	0	1	5	11
Michigan <sup>2</sup> .....	23	16	19	65	67	71	0	0	0	4	3	4
Wisconsin.....	26	14	10	58	129	69	0	1	0	1	1	1
<b>WEST NORTH CENTRAL</b>												
Minnesota.....	40	22	22	38	61	32	0	0	0	0	0	0
Iowa.....	15	17	14	39	48	34	0	1	0	0	0	2
Missouri.....	10	9	7	15	37	36	0	0	0	1	7	9
North Dakota.....	2	0	1	0	6	6	0	0	0	0	2	1
South Dakota.....	1	2	2	5	23	12	0	0	0	1	0	0
Nebraska.....	6	7	5	19	4	9	0	0	0	0	0	0
Kansas.....	5	23	4	45	66	55	0	0	0	1	0	2
<b>SOUTH ATLANTIC</b>												
Delaware.....	7	1	1	1	3	4	0	0	0	0	0	0
Maryland <sup>2</sup> .....	22	2	2	30	16	18	0	0	0	3	2	4
District of Columbia.....	5	2	1	5	13	13	0	0	0	0	0	1
Virginia.....	30	0	1	44	22	24	0	0	0	2	4	6
West Virginia.....	13	1	2	81	77	46	0	1	0	1	6	6
North Carolina.....	12	2	4	54	122	77	0	0	0	4	2	4
South Carolina.....	3	0	3	8	15	15	0	0	0	5	9	7
Georgia.....	3	1	2	21	31	31	0	0	0	16	7	7
Florida.....	1	0	1	3	4	4	0	0	0	3	1	1
<b>EAST SOUTH CENTRAL</b>												
Kentucky.....	27	3	6	29	35	35	0	0	0	5	3	11
Tennessee.....	7	0	2	38	36	54	0	0	0	9	4	6
Alabama.....	3	0	0	33	23	29	0	0	0	4	0	3
Mississippi.....	3	1	1	19	10	13	0	0	0	6	7	3
<b>WEST SOUTH CENTRAL</b>												
Arkansas.....	3	0	2	12	10	10	0	0	0	0	3	9
Louisiana.....	1	2	1	2	3	3	0	0	0	6	1	6
Oklahoma.....	1	6	3	13	8	14	0	0	0	2	4	5
Texas.....	8	15	7	36	31	21	0	0	0	11	9	16
<b>MOUNTAIN</b>												
Montana.....	0	1	1	10	14	11	0	0	0	0	0	0
Idaho.....	2	0	0	16	28	9	0	0	0	2	2	1
Wyoming.....	0	3	0	1	2	3	0	0	0	0	1	0
Colorado.....	4	15	3	22	11	15	0	0	0	0	0	3
New Mexico.....	0	3	2	5	5	5	0	0	0	5	5	7
Arizona.....	2	4	0	5	5	4	0	0	0	4	1	1
Utah <sup>2</sup> .....	0	24	5	10	12	8	0	0	0	0	0	2
Nevada.....	0	1	0	0	2	0	0	0	0	0	0	0
<b>PACIFIC</b>												
Washington.....	18	30	7	29	46	21	0	0	0	0	1	1
Oregon.....	11	33	2	30	14	14	0	0	0	3	0	0
California.....	23	49	10	124	113	83	0	0	0	3	9	9
<b>Total</b> .....	<b>877</b>	<b>515</b>	<b>456</b>	<b>1,536</b>	<b>1,994</b>	<b>1,632</b>	<b>1</b>	<b>5</b>	<b>5</b>	<b>139</b>	<b>144</b>	<b>250</b>
40 weeks.....	15,424	9,824	6,850	154,498	106,353	106,353	321	635	1,216	4,475	4,496	6,731

<sup>1</sup> Period ended earlier than Saturday.

<sup>2</sup> Including paratyphoid fever cases reported separately as follows: Massachusetts, 2; New York, 2; Ohio, 1; Michigan, 3; South Carolina, 2; Georgia, 6; Kentucky, 1; Tennessee, 2; Louisiana, 2; Texas, 1; Idaho, 1; California, 1.

Telegraphic morbidity reports from State health officers for the week ended October 7, 1944, and comparison with corresponding week of 1943 and 5-year median—Con.

Division and State	Whooping cough			Week ended Oct. 7, 1944								
	Week ended—		Median 1939-43	An-thrax	Dysentery			En-ceph-alitis, infec-tious	Lep-rosy	Rocky Mt. spotted fever	Tula-remia	Ty-phus fever
	Oct. 7, 1944	Oct. 9, 1943			Ame-bic	Bacil-lary	Un-speci-fied					
<b>NEW ENGLAND</b>												
Maine.....	5	13	13	0	0	0	0	0	0	0	0	0
New Hampshire.....	0	0	2	0	0	0	0	0	0	0	0	0
Vermont.....	51	20	20	0	0	0	0	0	0	0	0	0
Massachusetts.....	76	80	117	0	0	7	0	1	0	0	0	1
Rhode Island.....	22	14	16	0	0	0	0	0	0	0	0	0
Connecticut.....	29	16	47	0	1	9	0	0	0	0	0	0
<b>MIDDLE ATLANTIC</b>												
New York.....	150	262	286	0	0	27	0	3	0	0	0	0
New Jersey.....	54	100	100	0	0	0	0	0	0	0	0	0
Pennsylvania.....	91	129	204	0	0	0	0	0	0	0	0	0
<b>EAST NORTH CENTRAL</b>												
Ohio.....	132	160	160	0	0	0	0	1	0	1	2	0
Indiana.....	6	28	23	0	0	0	0	0	0	0	1	0
Illinois.....	40	136	182	0	3	0	0	1	0	0	0	0
Michigan <sup>1</sup> .....	38	136	210	0	1	9	0	1	0	0	0	0
Wisconsin.....	81	226	151	0	0	0	0	0	0	0	0	0
<b>WEST NORTH CENTRAL</b>												
Minnesota.....	18	48	47	0	2	0	0	0	0	0	0	0
Iowa.....	33	7	10	0	0	0	0	0	0	0	0	0
Missouri.....	12	14	14	0	0	0	0	0	0	0	0	0
North Dakota.....	13	11	12	0	0	0	0	0	0	0	0	0
South Dakota.....	9	2	2	0	0	0	0	1	0	0	0	0
Nebraska.....	8	12	5	0	0	0	0	0	0	0	0	0
Kansas.....	21	27	27	0	0	3	0	0	0	0	0	0
<b>SOUTH ATLANTIC</b>												
Delaware.....	0	0	1	0	0	0	0	0	0	0	0	0
Maryland <sup>2</sup> .....	68	46	57	0	0	0	0	0	0	0	0	0
District of Columbia.....	1	7	14	0	0	0	0	0	0	0	0	0
Virginia.....	18	44	25	0	0	0	116	0	0	2	0	2
West Virginia.....	15	46	14	0	0	0	0	0	0	0	0	0
North Carolina.....	84	70	70	0	0	0	0	0	0	1	0	6
South Carolina.....	57	73	23	0	1	9	0	0	0	0	0	10
Georgia.....	4	3	10	0	0	6	0	0	0	0	0	37
Florida.....	11	31	7	0	2	0	0	0	0	0	0	7
<b>EAST SOUTH CENTRAL</b>												
Kentucky.....	12	54	58	0	0	0	0	0	0	0	0	0
Tennessee.....	10	30	27	0	0	0	8	0	0	0	0	3
Alabama.....	12	47	24	0	0	0	0	0	0	0	0	24
Mississippi <sup>2</sup> .....				0	0	0	0	0	0	0	2	0
<b>WEST SOUTH CENTRAL</b>												
Arkansas.....	37	19	10	0	3	45	0	0	0	0	0	0
Louisiana.....	0	0	2	0	2	2	0	0	0	0	0	16
Oklahoma.....	5	3	4	0	0	0	0	0	0	0	0	0
Texas.....	159	102	85	0	50	432	21	3	0	0	0	58
<b>MOUNTAIN</b>												
Montana.....	35	15	8	0	0	0	0	0	0	0	0	0
Idaho.....	0	0	0	0	0	0	0	0	0	0	0	0
Wyoming.....	5	14	3	0	0	0	0	0	0	0	0	0
Colorado.....	10	38	30	0	0	0	0	0	0	0	0	0
New Mexico.....	1	0	8	0	0	3	4	0	0	0	0	0
Arizona.....	9	15	9	0	0	0	16	0	0	0	0	0
Utah <sup>2</sup> .....	7	14	14	0	0	0	0	0	0	0	1	0
Nevada.....	0	0	0	0	0	0	0	0	0	0	0	0
<b>PACIFIC</b>												
Washington.....	11	52	23	0	0	0	0	0	0	0	0	0
Oregon.....	8	28	11	0	0	0	0	0	0	0	0	0
California.....	78	114	154	0	2	6	0	5	0	0	0	1
<b>Total</b> .....	<b>1,546</b>	<b>2,306</b>	<b>2,350</b>	<b>0</b>	<b>67</b>	<b>558</b>	<b>165</b>	<b>16</b>	<b>0</b>	<b>4</b>	<b>6</b>	<b>165</b>
Same week 1943.....	2,306			1	41	253	122	9	2	5	6	123
Same week 1942.....	2,350			4	45	189	106	16	1	4	9	88
40 weeks 1944.....	75,109			35	1,368	17,692	7,038	525	23	437	450	3,907
40 weeks 1943.....	149,965			50	1,675	13,137	6,360	563	21	418	666	3,199
40 weeks 1942.....	141,736		143,682	67	921	9,825	5,605	445	37	438	730	4,168

<sup>1</sup> Period ended earlier than Saturday.

<sup>2</sup> 5-year median 1939-43.

## WEEKLY REPORTS FROM CITIES

City reports for week ended September 23, 1944

This table lists the reports from 89 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
<b>NEW ENGLAND</b>												
<b>Maine:</b>												
Portland.....	0	1	0	0	1	0	1	3	2	0	0	2
<b>New Hampshire:</b>												
Concord.....	0	0	0	0	0	0	1	1	0	0	0	0
<b>Vermont:</b>												
Barre.....	0	0	0	0	0	0	0	0	0	0	0	0
<b>Massachusetts:</b>												
Boston.....	2	0	0	0	22	2	9	7	24	0	1	18
Fall River.....	0	0	0	0	0	0	0	0	0	0	0	1
Springfield.....	0	0	0	0	0	0	0	4	2	0	0	0
Worcester.....	0	0	0	0	0	0	3	2	11	0	0	8
<b>Rhode Island:</b>												
Providence.....	0	0	0	0	0	0	1	0	5	0	0	11
<b>Connecticut:</b>												
Bridgeport.....	0	0	0	0	0	1	1	1	0	0	0	0
Hartford.....	0	0	0	0	0	0	2	4	0	0	0	4
New Haven.....	0	0	1	1	0	0	0	0	0	0	0	6
<b>MIDDLE ATLANTIC</b>												
<b>New York:</b>												
Buffalo.....	0	0	1	0	0	0	2	31	2	0	0	0
New York.....	8	0	0	3	7	36	109	33	0	0	4	62
Rochester.....	0	0	0	2	0	0	15	0	0	0	0	6
Syracuse.....	0	0	0	0	1	2	3	1	0	0	0	8
<b>New Jersey:</b>												
Camden.....	0	0	0	1	0	0	0	0	0	0	0	0
Newark.....	0	0	0	2	0	4	3	6	0	0	0	17
Trenton.....	0	0	0	0	0	2	3	0	0	0	1	0
<b>Pennsylvania:</b>												
Philadelphia.....	0	0	0	2	3	12	20	6	0	0	4	14
Pittsburgh.....	0	0	1	0	1	10	14	13	0	0	0	8
Reading.....	0	0	0	1	0	0	0	1	0	0	0	0
<b>EAST NORTH CENTRAL</b>												
<b>Ohio:</b>												
Cincinnati.....	0	0	1	0	0	0	0	12	10	0	0	6
Cleveland.....	0	0	0	3	1	3	13	12	0	0	0	24
Columbus.....	1	0	0	0	0	3	3	4	0	0	0	14
<b>Indiana:</b>												
Fort Wayne.....	0	0	0	0	0	0	0	2	0	0	0	0
Indianapolis.....	4	0	0	2	0	6	7	2	0	0	0	0
South Bend.....	0	0	0	0	0	0	0	2	0	0	0	4
Terre Haute.....	0	0	0	0	0	1	0	0	0	0	0	0
<b>Illinois:</b>												
Chicago.....	2	0	1	0	7	6	10	10	16	0	1	56
Springfield.....	0	0	0	0	0	0	0	1	0	0	0	1
<b>Michigan:</b>												
Detroit.....	3	1	0	3	0	14	22	10	0	1	1	34
Flint.....	0	0	0	0	0	2	2	0	0	0	0	0
Grand Rapids.....	0	0	0	0	0	1	4	1	0	0	0	8
<b>Wisconsin:</b>												
Kenosha.....	0	0	0	0	0	0	1	0	0	0	0	18
Milwaukee.....	0	0	0	1	3	2	5	1	0	0	0	32
Racine.....	0	0	0	0	0	0	0	0	0	0	0	8
Superior.....	0	0	0	0	0	0	5	0	0	0	0	0
<b>WEST NORTH CENTRAL</b>												
<b>Minnesota:</b>												
Duluth.....	0	0	0	0	0	1	2	1	0	0	0	2
Minneapolis.....	11	0	0	3	0	5	17	4	0	0	0	8
St. Paul.....	1	0	0	0	1	2	7	2	0	0	0	23

City reports for week ended September 23, 1944—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Polymyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
<b>WEST NORTH CENTRAL—continued</b>												
<b>Missouri:</b>												
Kansas City .....	0	0	0	0	0	0	8	0	3	0	0	0
St. Joseph .....	0	0	0	0	0	0	0	3	0	0	0	0
St. Louis .....	0	0	0	0	0	6	6	9	8	0	4	9
<b>Nebraska:</b>												
Omaha .....	1	0	0	0	0	0	1	1	0	0	0	0
<b>Kansas:</b>												
Topeka .....	0	0	0	1	0	0	0	0	3	0	0	0
Wichita .....	0	0	0	0	0	0	3	0	1	0	0	3
<b>SOUTH ATLANTIC</b>												
<b>Delaware:</b>												
Wilmington .....	0	0	0	0	0	0	0	3	1	0	0	0
<b>Maryland:</b>												
Baltimore .....	7	0	0	0	2	3	7	5	0	0	0	47
Cumberland .....	0	0	0	0	0	0	0	0	0	0	0	0
Frederick .....	0	0	0	0	0	0	0	0	0	0	0	0
<b>District of Columbia:</b>												
Washington .....	2	0	0	1	1	6	14	6	0	0	0	1
<b>Virginia:</b>												
Lynchburg .....	0	0	0	0	0	1	7	3	0	0	0	0
Richmond .....	0	0	0	0	0	1	7	5	0	0	0	0
Roanoke .....	0	0	0	0	0	0	2	0	0	0	0	0
<b>West Virginia:</b>												
Charleston .....	0	0	0	0	0	0	0	2	0	0	0	0
Wheeling .....	0	0	1	0	0	0	0	1	1	0	0	0
<b>North Carolina:</b>												
Raleigh .....	0	0	0	0	0	0	1	0	2	0	0	2
Wilmington .....	2	0	0	0	0	0	0	2	2	0	0	5
Winston-Salem .....	0	0	0	1	0	0	0	2	2	0	0	3
<b>South Carolina:</b>												
Charleston .....	1	0	1	0	0	0	0	3	1	0	0	0
<b>Georgia:</b>												
Atlanta .....	1	0	0	1	0	2	0	5	0	0	2	3
Brunswick .....	0	0	0	1	0	0	0	0	0	0	0	0
Savannah .....	0	0	0	0	0	0	0	0	0	0	0	1
<b>Florida:</b>												
Tampa .....	1	0	0	0	0	0	1	0	1	0	2	0
<b>EAST SOUTH CENTRAL</b>												
<b>Tennessee:</b>												
Memphis .....	3	0	0	0	0	11	0	1	0	0	0	7
Nashville .....	0	0	0	0	1	2	0	0	0	0	0	1
<b>Alabama:</b>												
Birmingham .....	0	0	4	0	1	0	2	0	2	0	0	1
Mobile .....	0	0	0	0	0	0	0	1	0	0	0	0
<b>WEST SOUTH CENTRAL</b>												
<b>Arkansas:</b>												
Little Rock .....	0	0	0	0	0	0	0	0	0	0	0	0
<b>Louisiana:</b>												
New Orleans .....	1	0	1	0	0	6	3	2	0	0	4	0
Shreveport .....	2	0	0	0	0	4	2	0	0	0	1	0
<b>Texas:</b>												
Dallas .....	5	0	0	0	0	3	0	1	0	0	1	4
Galveston .....	0	0	0	0	0	0	0	0	0	0	0	0
Houston .....	1	0	0	0	1	2	0	2	0	0	2	0
San Antonio .....	0	0	1	1	0	3	0	0	0	0	0	0
<b>MOUNTAIN</b>												
<b>Montana:</b>												
Billings .....	0	0	0	0	0	1	0	0	0	0	0	3
Great Falls .....	0	0	0	0	0	0	0	0	0	0	0	0
Helena .....	0	0	0	0	0	0	0	0	0	0	0	10
Missoula .....	0	0	0	0	1	0	0	0	0	0	0	0

## City reports for week ended September 23, 1944—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Pollomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
<b>MOUNTAIN—continued</b>												
Idaho:												
Boise.....	0	0	0	0	0	0	0	0	0	0	0	0
Colorado:												
Denver.....	1	0	0	0	0	0	6	1	3	0	0	3
Pueblo.....	0	0	0	0	0	0	0	0	1	0	0	1
Utah:												
Salt Lake City.....	0	0	0	0	3	0	0	0	1	0	0	11
<b>PACIFIC</b>												
Washington:												
Seattle.....	0	0	0	0	4	1	2	0	2	0	0	3
Spokane.....	0	0	0	0	2	1	1	0	3	0	0	0
Tacoma.....	0	0	0	0	0	0	0	0	3	0	0	0
California:												
Los Angeles.....	6	0	2	1	10	3	0	2	22	0	0	3
Sacramento.....	0	0	0	0	1	0	0	0	1	0	0	0
San Francisco.....	3	0	1	0	10	2	12	2	3	0	0	2
Total.....	69	2	15	5	90	44	224	396	276	0	28	526
Corresponding week, 1943.....	72	---	34	9	176	---	239	---	395	0	22	837
Average, 1939-43.....	62	---	40	10	154	---	1241	---	304	1	28	977

<sup>1</sup> 3-year average 1941-43.

<sup>2</sup> 5-year median 1939-43.

*Anthrax*.—Cases: Boston, 1.

*Dysentery, amebic*.—Cases: Boston, 2; Chicago, 2; Detroit, 1.

*Dysentery, bacillary*.—Cases: Providence, 1; Buffalo, 33; New York, 5; Rochester, 16; Syracuse, 1; Chicago, 1; Detroit, 13; Charleston, S. C., 18; Memphis, 3; Nashville, 3; Shreveport, 1; Los Angeles, 9.

*Dysentery, unspecified*.—Cases: Richmond, 1; Shreveport, 2.

*Leptosy*.—Cases: New York, 1.

*Tularemia*.—Cases: Shreveport, 1.

*Typhus fever, endemic*.—Cases: New York, 1; Wilmington, N. C., 2; Atlanta, 2; Savannah, 6; Birmingham, 2; Mobile, 3; New Orleans, 4; Dallas, 4; Galveston, 4; Houston, 3; San Antonio, 3.

*Rates (annual basis) per 100,000 population, by geographic groups, for the 89 cities in the preceding table (estimated population, 1943, 54,366,400)*

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Pollomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England.....	5.2	2.6	2.6	2.6	60	7.8	47.1	57.5	115	0	2.6	131
Middle Atlantic.....	3.7	0	.5	.9	5	5.6	31.5	91.6	29	0	4.2	53
East North Central.....	6.1	0.6	1.2	0	10	6.1	25.5	51.1	37	0	1.3	125
West North Central.....	26.1	0	0	0	8	14.1	52.3	72.4	50	0	8.0	91
South Atlantic.....	22.9	0	0	0	7	4.9	24.3	75.2	59	0	6.5	101
East South Central.....	17.7	0	3.3	0	6	5.9	88.3	0	24	0	0	53
West South Central.....	25.8	0	5.7	2.9	3	2.9	51.7	14.3	14	0	28.0	11
Mountain.....	7.9	0	0	0	3	0	55.6	7.9	40	0	0	222
Pacific.....	14.2	0	4.7	1.6	43	11.1	23.7	6.3	54	0	0	13
Total.....	10.5	.3	2.3	.8	14	6.7	34.1	60.2	42	0	4.3	80



## FOREIGN REPORTS

### CANADA

*Provinces—Communicable diseases—Week ended September 9, 1944.*—During the week ended September 9, 1944, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox.....		16		15	16	8	4	12	9	80
Diphtheria.....	4	12		20		5				41
Dysentery (bacillary).....				4						4
Encephalitis, infectious.....						1	1			2
German measles.....				1	3		2	1	18	25
Influenza.....		3			12				27	42
Measles.....				32	34	5	4	4	2	81
Meningitis, meningococcus.....					4				1	5
Mumps.....				14	17	1	8	23	11	74
Poliomyelitis.....		1	12	2	130	12	1	5	2	165
Scarlet fever.....		2	8	42	50	9	4	9	16	140
Tuberculosis (all forms).....		2		76	32	8	39	1	40	198
Typhoid and paratyphoid fever.....				23		1				24
Undulant fever.....				2	3				1	6
Whooping cough.....		38		130	64	16	4	22	64	338

<sup>1</sup> Includes 2 cases, delayed reports.

### CUBA

*Habana—Communicable diseases—4 weeks ended September 16, 1944.*—During the 4 weeks ended September 16, 1944, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths
Diphtheria.....	26	
Dysentery.....	5	
Leprosy.....	4	
Malaria.....	3	
Measles.....	6	
Tuberculosis.....	14	4
Typhoid fever.....	33	3

### GERMANY

*Infectious diseases—Week ended February 12, 1944, and period January 1 to February 5, 1944—Comparative.*—The following numbers of cases of certain infectious diseases were reported in Germany <sup>1</sup> for

<sup>1</sup> Although not stated in the report, it is assumed that the figures are for the old German Reich.

the week ended February 12, 1944, and for the period January 1 to February 5, 1944, compared with the same period of 1943:

Disease	Week ended February 12, 1944	January 1— February 5, 1944	Correspond- ing period 1943
Anthrax.....	1	3	2
Cerebrospinal meningitis.....	63	328	265
Diphtheria.....	6, 572	34, 820	29, 200
Dysentery.....	24	157	350
Inflammation of the brain.....	19	84	36
Malaria.....	3	13	6
Polioomyelitis.....	15	78	95
Pittacosis.....	.....	14	1
Ptomaine poisoning.....	4	121	45
Scarlet fever.....	6, 245	33, 912	29, 656
Trachoma.....	258	577	268
Tuberculosis (all forms).....	2, 894	12, 378	12, 994
Typhoid fever.....	171	1, 037	2, 247
Typhus fever.....	25	190	642
Undulant fever.....	2	15	11
Well's disease.....	1	3	6
Whooping cough.....	1, 162	6, 267	16, 228

### NEW ZEALAND

*Notifiable diseases—4 weeks ended September 9, 1944.*—During the 4 weeks ended September 9, 1944, certain notifiable diseases were reported in New Zealand as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Cerebrospinal meningitis.....	24	1	Puerperal fever.....	5	2
Dengue.....	1	.....	Scarlet fever.....	755	2
Diphtheria.....	76	1	Tetanus.....	1	.....
Dysentery (bacillary).....	6	.....	Trachoma.....	3	.....
Erysipelas.....	25	.....	Tuberculosis (all forms).....	191	59
Food poisoning.....	2	.....	Typhoid fever.....	7	.....
Influenza.....	2	.....	Undulant fever.....	2	.....
Malaria.....	73	.....			

### REPORTS OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER RECEIVED DURING THE CURRENT WEEK

NOTE.—Except in cases of unusual incidence, only those places are included which had not previously reported any of the above-named diseases, except yellow fever, during the current year. All reports of yellow fever are published currently.

A table showing the accumulated figures for these diseases for the year to date is published in the PUBLIC HEALTH REPORTS for the last Friday of each month.

(Few reports are available from the invaded countries of Europe and other nations in war zones.)

### Plague

*China.*—Under date of September 21, 1944, 104 cases of plague with 62 deaths were reported in Nanchang, Kiangsi Province, China, since the beginning of the outbreak in August. Plague has also been reported in Wenchow, Chekiang Province, China.

*Ecuador—Loja Province—Paltas County.*—Plague has been reported in Paltas County, Loja Province, Ecuador, as follows: July 1944, 1 case, 1 death; August 1944, 3 cases, 1 death.

**Smallpox**

*Mexico.*—During the month of July 1944, 237 cases of smallpox were reported in Mexico. States reporting the highest incidence are: Dúran-go, 64 cases; Guerrero, 25; Oaxaca, 22; Vera Cruz, 42 cases.

*Venezuela.*—For the month of August 1944, 79 cases of smallpox (alastrim) with 3 deaths were reported in Venezuela, including 56 cases reported in Caracas, and 7 cases each in Falcon State and Miranda State.

**Typhus Fever**

*Colombia—Narino Department—Ipiales.*—Typhus fever has been reported in Ipiales, Narino Department, Colombia, as follows: July 1944, 11 cases, 1 death; August 1944, 17 cases, 1 death; September 1-13, 1944, 13 cases, 1 death.

*Ecuador.*—For the month of July 1944, 33 cases of typhus fever with 8 deaths were reported in Ecuador, including 21 cases, 2 deaths in Quito, and 5 cases with 1 death in Tulcan, Carchi Province. For the month of August 1944, 32 cases of typhus fever with 7 deaths were reported, including 26 cases, 6 deaths in Quito, 3 cases in Tulcan, Carchi Province, and 3 cases in Ibarra, Imbabura Province.

*Germany.*—For the period January 1 to February 12, 1944, 215 cases of typhus fever were reported in Germany, presumably in the old German Reich.

*Guatemala.*—For the month of August 1944, 158 cases of typhus fever with 21 deaths were reported in Guatemala. Departments reporting the highest incidence are: Alta Verapaz, 50 cases, 5 deaths; Quezaltenango, 31 cases, 4 deaths; San Marcos, 18 cases, 4 deaths; Totonicapan, 27 cases, 6 deaths.

*Hungary.*—For the week ended September 2, 1944, 33 cases of typhus fever (including 25 cases in Subcarpathia) were reported in Hungary.

*Mexico.*—For the month of July 1944, 122 cases of typhus fever were reported in Mexico. States reporting the highest incidence are: Mexico, D. F., 20; Mexico State, 27; Nuevo Leon, 14; Queretaro, 12.

*Peru.*—For the month of July 1944, 97 cases of typhus fever were reported in Peru, including 28 cases in Cuzco Department, 35 cases in Junin Department, and 13 cases in Puno Department.

*Spain.*—For the period June 11 to July 22, 1944, 35 cases of typhus fever were reported in Spain.

*Yugoslavia.*—For the period August 1-14, 1944, 185 cases of typhus fever were reported in Yugoslavia.

**Yellow Fever**

*Venezuela—Tachira State—San Domingo.*—Under date of September 16, 1944, it is reported (unofficially) that yellow fever exists in San Domingo, Tachira State, Venezuela, and the surrounding lowlands, but is not yet spreading to Lake Maracaibo district.