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NUTRITION SURVEY OF POPULATION GROUPS¹

REPORT OF A CONFERENCE ON METHODS AND PROCEDURES²

INTRODUCTION

Recent advances in our knowledge of nutrition have stimulated great interest in the application of this newer knowledge in the field of public health. Two circumstances in particular have emphasized the place of nutrition in public health and the need to include services in nutrition in public health practice. These are (1) the growing recognition of the frequency of mild or early nutritional deficiencies in the general population, and (2) the development of methods and procedures for detecting them. The rapid progress, however, has left some doubt and uncertainty regarding the suitability and reliability of the procedures and tests which are used for the detection and identification of dietary deficiencies. Confronted with the necessity of incorporating work in nutrition in public health practice, administrators and directors of public health services have felt the need of assistance and advice from those who have had special experience in this field in determining what procedures, methods, and tests are established as suitable and reliable for use in surveys and assessments of nutrition. For this reason, at the suggestion and request of The Rockefeller Foundation, a number of those who have had special experience in this field, and have made a special study of some of the problems, met for the purpose of discussing the various tests and procedures and selecting those on which general agreement could be reached regarding their suitability and reliability for use in public health practice.

Many factors and circumstances had to be taken into consideration in the discussions, and must be taken into account in any consideration of the conclusions which were reached. To begin with, the pur-

¹ From the International Health Division of The Rockefeller Foundation.

² Members of the conference, which was held at Atlantic City, N. J., October 18, 1941, were Dr. John B. Youmans, Nashville, Tenn.; Dr. N. Jolliffe, New York City; Dr. W. H. Sebrell, Washington, D. C.; Dr. H. D. Kruse, New York City; Dr. E. W. McHenry, Toronto, Canada; Dr. V. P. Sydenstricker, Augusta, Ga.; Dr. D. F. Milam, Chapel Hill, N. C.; Dr. E. W. Patton, Nashville, Tenn.; and Dr. W. D. Robinson, Ann Arbor, Mich. The group elected Dr. Youmans chairman and Dr. Jolliffe secretary.

Observers included Dr. J. N. Baker, Montgomery, Ala.; Dr. G. C. Payne, Mexico City, Mexico; Dr. W. A. McIntosh, New York City; and Dr. J. A. Ferrell, New York City.

pose for which these tests and procedures are to be used, namely, for mass surveys of populations or groups of the population, must be kept in mind and distinguished from their use in clinical practice or experimental investigation. Secondly, the conclusions reached are valid only for the present and until later and additional discoveries make necessary a revision. In view of the rapid progress now under way, this may be expected to be soon. Thirdly, the discussions deal with surveys of nutrition of a general type, namely, those in which as many as possible of the various nutritive factors are studied. Surveys for special and limited purposes may alter the conditions and circumstances. Fourthly, it must be kept in mind that the value of a method does not depend on the amount of deficiency found by that method, providing the method is adequate to detect the deficiency. The fact that a given deficiency does not exist in a group may be as important as that it is present in 20 percent of the subjects. However, the inclusion or exclusion of an established, acceptable method may be decided on the basis of the probable incidence of a deficiency so detected, though in general it will be unwise to omit accepted methods in general surveys unless a previous survey has been made or a pilot survey run.

It will be seen that the number of procedures and tests which have received general acceptance is small. This is the result of the attempt to designate as acceptable and established only those tests which received general agreement as to their suitability and reliability after a careful consideration of all the factors involved. It should not be taken to mean that other tests should not be used in surveys of nutrition. Many others may be used and in fact should be used in order that they may be studied and their value established. Even now there are other tests which some workers believe are useful and reliable means of detecting a particular deficiency but which have not as yet received sufficient trial and study to warrant a decision as to their acceptability.

The results of the discussions have been condensed in the general form of opinions and recommendations. These are given below and carry the endorsement of the entire group. Obviously their value is only such as derives from the experience and judgment of the members of the conference.

DIETARY STUDIES

Dietary surveys.—It was the opinion of the group that diet and food consumption records are an essential part of surveys of nutrition. They should preferably consist of food inventory and purchase records on a family basis and/or individual records of food consumption, both covering a period of a week. The individual records are particularly indicated for comparison with the individual examination.

Calculation of data obtained by diet studies and records.—In order

that surveys by different groups of workers may be more satisfactorily compared, it is recommended that common tables be used in the calculation of the nutritive composition of foods. To make this possible the group recommends that the Nutrition Division of Defense, Health, Welfare and Related Services be asked to prepare from existing data working tables giving the nutritional composition of foods. Such tables should give acceptable mean values for calculation of the data, as well as an indication of the variability of the values.

Nutritive requirements.—It is recommended that the standard of reference for nutritive requirements be the National Research Council's Committee on Food and Nutrition's Table of Recommended Daily Allowances.

CLINICAL EXAMINATION

Medical history.—It is recommended that a complete medical history with emphasis on food habits, intercurrent illness, and symptoms which may be of nutritional origin be obtained, together with a complete physical examination.

Physical examination.—The examination should be of the character recommended by the Food and Nutrition Committee of the National Research Council, which follows:

TENTATIVE CLINICAL CRITERIA FOR THE RECOGNITION OR SUSPICION OF EARLY NUTRITIONAL FAILURE IN INFANTS AND CHILDREN AND IN ADOLESCENTS AND ADULTS

Implicit in the definition of the problem and in the foregoing statements is the fact that no symptoms or physical sign can be accepted as diagnostic of early nutritional failure. Certain symptoms and physical signs, however, when verified by a competent physician and when other possible causes have been ruled out, should be considered as significant indications.

A. Symptoms and signs suggestive of early deficiency states in infants and children

<i>Symptoms</i>		<i>Physical signs</i>	
1. Lack of appetite	(L)	1. Lack of sub-skin fat	(L)
2. Failure to eat adequate breakfast	(L)	2. Wrinkling of skin on light stroking	(N)
3. Failure to gain steadily in weight	(L)	3. Poor muscle tone	(D)
4. Late period of sitting, standing, walking	(L)	4. Pallor	(L)
5. Aversion to normal play	(L)	5. Rough skin (toad skin)	(N)
6. Chronic diarrhea	(L)	6. Hemorrhage of newborn (K)	(L)
7. Inability to sit	(L)	7. Bad posture	(N)
8. Pain on sitting and standing	(L)	8. Nasal blackheads and white-heads	(N)
9. Poor sleeping habits	(L)	9. Sores at angles of mouth	(L)
10. Backwardness in school	(L)	10. Rapid heart	(N)
11. Repeated respiratory infections	(L)	11. Red tongue	(N)
12. Photophobia	(L)	12. Square head, wrists enlarged, rib beading	(N)

Symbols: L=suitable for laymen, teachers, etc.; N=suitable for nurses; D=suitable for physicians only.

<i>Symptoms</i> —Continued		<i>Physical signs</i> —Continued
13. Lacrimation	(L)	13. Vincent's angina, thrush (N)
		14. Serious dental abnormalities (N)
		15. Corneal and conjunctival changes—slit lamp (D)

B. Symptoms and signs suggestive of early deficiency states in adolescents and adults which may exist in absence of underweight or other evidence of under-nourishment

<i>Symptoms</i>		<i>Physical signs</i>
1. Lack of appetite	(L)	1. Nasolabial sebaceous plugs (N)
2. Lassitude and chronic fatigue	(L)	2. Cheilosis (N)
3. Loss of weight	(L)	3. Vincent's angina (D)
4. Lack of mental application	(L)	4. Minimal changes in color or texture of tongue (D)
5. Loss of strength	(L)	5. Red, swollen lingual papillae (D)
6. History of sore mouth or tongue	(L)	6. Glossitis (N)
7. Chronic diarrhea	(L)	7. Papillary atrophy of tongue (D)
8. Nervousness and irritability	(L)	8. Stomatitis (D)
9. Paresthesias	(L)	9. Spongy bleeding gums (L)
10. Night blindness	(N)	10. Muscle tenderness, extremities (D)
11. Photophobia	(L)	11. Poor muscle tone (D)
12. Burning or itching of eyes	(L)	12. Loss of vibratory sensation (D)
13. Lacrimation	(L)	13. Increase or decrease of tendon reflexes (D)
14. Muscle and joint pains, muscle cramps	(L)	14. Hyperesthesia of skin (D)
15. Sore bleeding gums	(L)	15. Bilateral symmetrical dermatitis (D)
16. Tendency to bleed	(L)	16. Purpura (L)
		17. Dermatitis; facial butterfly, Casel's necklace, perineal, scrotal, vulval (N)
		18. Thickening and pigmentation of skin over bony prominences (D)
		19. Nonspecific vaginitis (D)
		20. Follicular hyperkeratosis of extensor surfaces of extremities (D)
		21. Rachitic chest deformity (D)
		22. Anemia not responding to iron (D)
		23. Fatigue of accommodation (D)
		24. Vascularization of cornea (D)
		25. Conjunctival changes (D)

Symbols: L=suitable for laymen, teachers, etc.; N=suitable for nurses; D=suitable for physicians only.

SPECIAL TESTS IN THE ASSESSMENT OF NUTRITION OF POPULATIONS

VITAMIN A

Adaptometry.—Adaptometry is not yet an established method suitable for detection of vitamin A deficiency in population groups.

Blood vitamin A and blood carotene.—These determinations are technically workable and give information on the current vitamin A status, but their complete significance remains to be established.

Conjunctival changes.—Conjunctival changes detectable grossly and/or by the slit lamp may offer significant information as to the vitamin A status. It is recommended that they be studied and recorded in surveys of population groups.

THIAMIN

Determinations of thiamin in body fluids by the fermentation and thiochrome methods are technically satisfactory, but their use in surveys for detection of thiamin deficiency on population groups is not feasible.

NICOTINIC ACID

Neither the chemical nor the microbiologic methods for determination of nicotinic acid can yet be considered feasible for use in detection of nicotinic acid deficiency in population groups. No other established laboratory methods are as yet available.

RIBOFLAVIN

Both the chemical and the microbiologic methods are satisfactory for the determination of riboflavin, but their application for the detection of riboflavin deficiency in population groups is not established.

Slit lamp and biomicroscopic examination for capillary invasion of the cornea.—Characteristic capillary invasion of the cornea is an index of riboflavin deficiency, and it is recommended that this examination be used in group assessments of the nutritional status.

VITAMIN C

Plasma ascorbic acid determination is a reliable index of vitamin C sub-nutrition. It appears to be established that plasma levels below 0.6 milligrams indicate an unsatisfactory state of vitamin C nutrition.

VITAMIN D, CALCIUM, PHOSPHORUS

X-ray in the diagnosis of rickets.—The X-ray is an established method for the diagnosis of active and healing rickets at a stage when it cannot be detected by physical examination.

X-ray in diagnosis of demineralization.—The X-ray, even with use of the densitometer, is not an acceptable method as yet for detection of less than moderate grades of demineralization.

Serum phosphatase and phosphorus determinations are acceptable laboratory methods for the detection of early rickets and may be used in studies of population groups.

Serum calcium determinations.—The determination is technically satisfactory, but its usefulness in population groups is limited.

VITAMIN K DEFICIENCY

Methods for the detection of prothrombin deficiency are technically satisfactory, but the determination would have little or no usefulness in nutritional surveys, except in special groups such as expectant mothers.

ANEMIA

Routine hemoglobin determinations by a reliable method (such as by photoelectric colorimetry) should be done on all subjects in a survey group. Red blood cell counts and packed cell volumes should be determined when indicated.

PROTEIN

Serum albumin determinations by the Kjeldahl (macro or micro) or by the biuret methods are technically satisfactory, the former being somewhat more accurate. This determination should be made in studies of population groups, especially those in whom protein deficiency is suspected.

ANTHROPOMETRIC MEASUREMENTS

Special anthropometric measurements are not recommended for studies in general population groups.

SUMMARY

To summarize the discussion of this group it may be said that an assessment of the nutritional status of a population can be done at present by conducting, on a suitable sample, a properly planned dietary and food intake survey, together with an adequate physical and medical examination, the latter to include a slit-lamp examination of the eyes and the securing of blood samples for the determination of hemoglobin, plasma ascorbic acid concentration, and the concentration of blood serum or plasma albumin. While it is recognized that appraisal on this basis will give only partial information, more complete studies must await the development of additional methods.

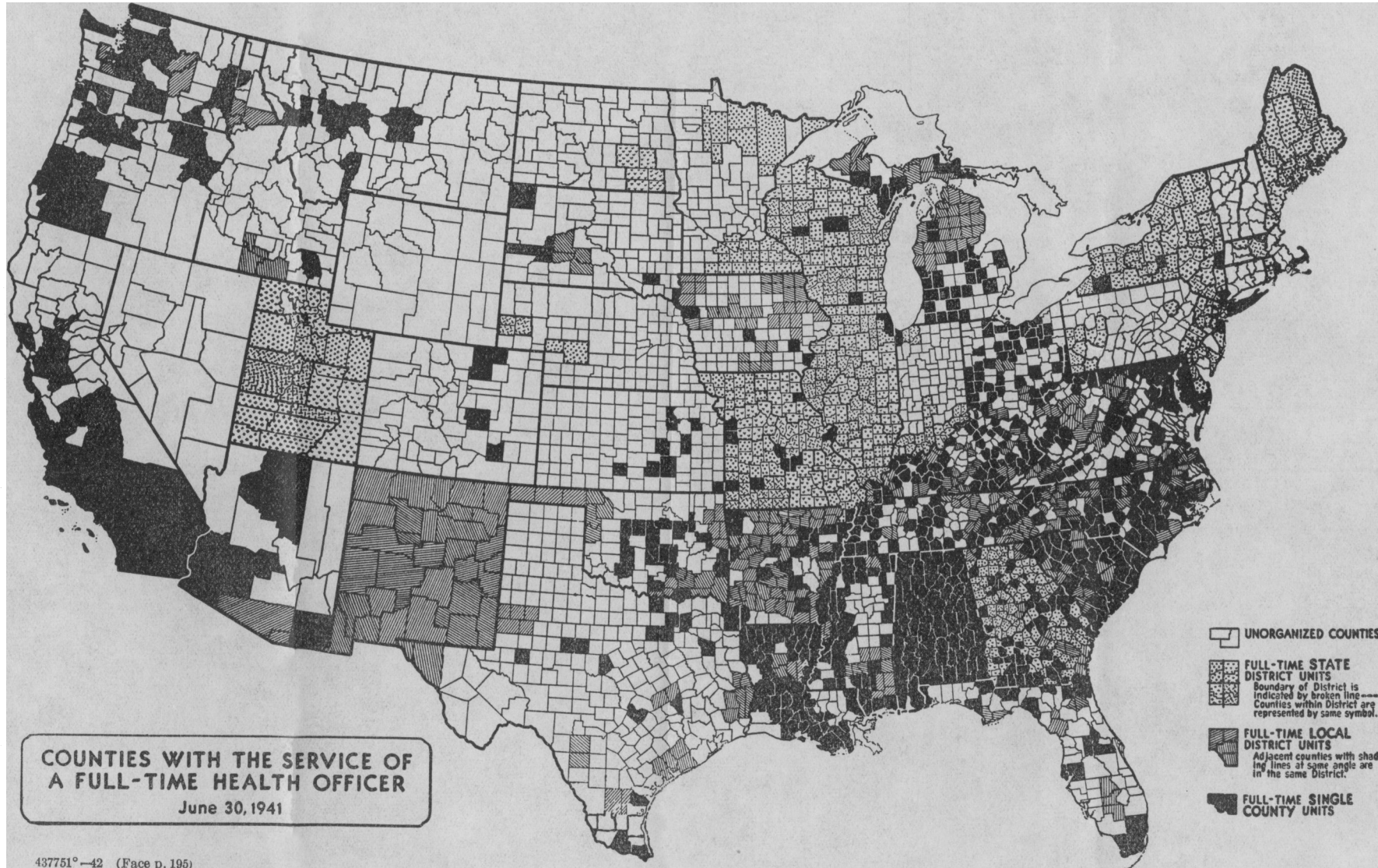
THE PRESENT STATUS OF FULL-TIME LOCAL HEALTH ORGANIZATION ¹

By F. W. KRATZ, *Surgeon, United States Public Health Service*

The level of health organization in the Nation as a whole is frequently gauged by the number of counties having full-time local health service. This method is subject to some criticism in that it does not take into account localities served by independent municipal health units. Nevertheless, since the county is by far the predominant type of administrative unit employed for local health services, a Nation-wide survey of counties affords a legitimate means of over-all evaluation.

Full-time local public health service is a comparatively recent development. Almost all such services now in existence were estab-

¹ From the States Relations Division.



**COUNTIES WITH THE SERVICE OF
A FULL-TIME HEALTH OFFICER**
June 30, 1941





-  **UNORGANIZED COUNTIES**
-  **FULL-TIME STATE DISTRICT UNITS**
Boundary of District is indicated by broken line—
Counties within District are represented by same symbol.
-  **FULL-TIME LOCAL DISTRICT UNITS**
Adjacent counties with shading lines of same angle are in the same District.
-  **FULL-TIME SINGLE COUNTY UNITS**

FIGURE 1.

lished within the last 25 years, and considerably more than half of them within the last 6 years. In 1915 there were in the entire country only 14 counties with full-time local service. From 1915 to 1935 there was a gradual but steady increase in the number of counties with such service, until at the end of the latter year 762 counties were served by full-time local units. Passage of the Social Security Act in 1935 stimulated and accelerated this development until on June 30, 1940, there were 1,577 counties under full-time local service. During the year ended June 30, 1941, full-time service was extended to 92 more counties, bringing the total to 1,669, or 54 percent of the 3,070 counties within the boundaries of the continental United States.

The accompanying map (fig. 1) indicates the geographical distribution of full-time local health services in the United States on June 30, 1941. It also indicates the distribution of such services according to types of administrative unit. The three types of units shown are (1) the single-county unit, (2) the local-district unit comprising two or more counties under local administration, and (3) the State-district unit comprising two or more counties under the centralized administration of the State health department.

Of the 1,669 counties with full-time service on June 30, 1941, 663 or 40 percent, were served by single-county units, 426, or 25 percent, by local-district units, and 580, or 35 percent, by State-district units.

In addition to the 1,669 counties with full-time service, there were on June 30, 1941, 103 cities with full-time municipal health units whose budgets were reported to the Public Health Service. The combined population of the 1,669 counties and 103 cities represented approximately 70 percent of the total population of the 48 States and the District of Columbia.

In recent years, the ratio of counties with the single-county unit type of organization to the total number of counties served by full-time units has undergone a marked decline. Conversely, the percentages of counties provided with service under local-district and State-district forms of organization have increased (see table 1).

TABLE 1.—*Ratio of counties with each type of full-time local health service to total number of counties with full-time local service*

Type of unit	December 31, 1935		June 30, 1941	
	Counties served	Percent of total	Counties served	Percent of total
Single-county unit.....	486	64	663	40
Local-district unit.....	124	16	426	25
State district unit.....	152	20	580	35
Total.....	762	100	1,669	100

It is probable that the trend toward a multiple-county rather than a single-county form of organization will continue. The areas remaining unorganized are chiefly those in which population is relatively sparse and in which local resources are limited.² A multiple-county unit is, for obvious reasons, likely to be an advantageous form of organization in such areas.

Since June 30, 1941, the organization of full-time local services has been completed in several additional counties, notably in hitherto unorganized regions which have assumed importance as military or war-industry concentration points. The chief impetus to this development has been the Public Health Service emergency health and sanitation program which has made personnel available for service in these areas. Between June 30 and December 1, 1941, full-time service was established in 30 counties in 9 States. Of these 30 counties, 15 were provided with single-county units and 15 either formed new local-district units or were incorporated into existing local-district units.

Negotiations are now being carried on for the establishment of full-time service in many additional defense areas. In a number of these areas it is proposed to establish full-time joint city-county units which will replace existing part-time city units and part-time county units with overlapping authority. Such part-time services are usually unsatisfactory, and can frequently be combined and placed on a full-time basis with considerable increase in efficiency and little or no additional cost to the communities involved.

PROVISIONAL MORTALITY RATES FOR THE FIRST 9 MONTHS OF 1941

The mortality rates in this report are based upon preliminary data for 36 States, the District of Columbia, and Alaska for the first 9 months of 1941. Comparative data by quarters for 1939 and 1940 are presented for 33 States and the District of Columbia.

This report is made possible through arrangement with the respective States which voluntarily furnish provisional monthly tabulations of current birth and death statistics to the United States Public Health Service, which analyzes and publishes the data. Because of lack of uniformity in the method of classifying deaths according to cause as well as some delay in filing certificates, these data are preliminary and may differ in some instances from the final figures subsequently published by the Bureau of the Census.

² Certain unshaded areas on the accompanying map (fig. 1) which are nevertheless relatively densely populated, such as eastern Massachusetts, Connecticut, and southeastern Michigan, are served by full-time municipal health units.

In the past these preliminary reports have accurately reflected the trend in mortality rates for the country as a whole. Some deviation from the final figures for individual States, especially for figures of specific causes of death, may be expected because of the provisional nature of the information. Nevertheless, it is believed that the trend in mortality within each State is correctly represented. Comparisons of specific causes of death for different States may be subject to some error because of variations in tabulation procedure and promptness of filing the original certificates.

During the first 9 months of 1941 the death rate from all causes was 10.5 per 1,000 population compared with 10.6 and 10.4 for the corresponding period in 1940 and 1939, respectively (fig. 1). Twenty-

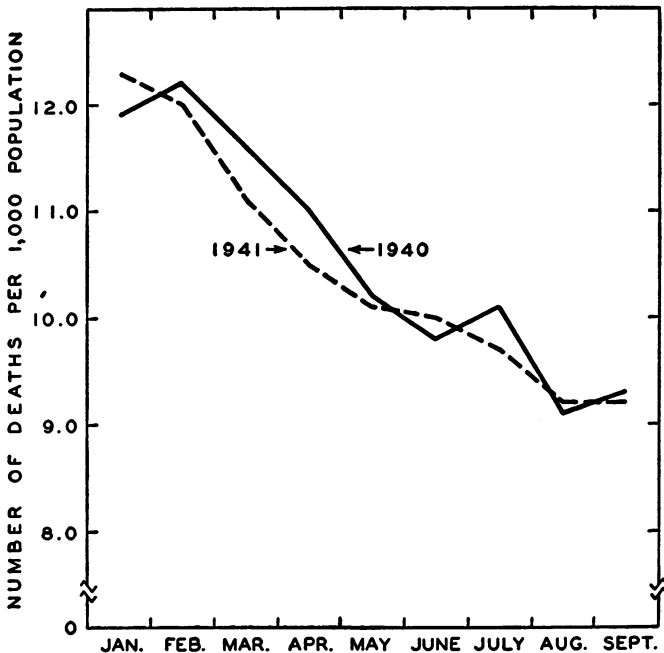


FIGURE 1.—Death rates per 1,000 population, by months, 1941 and 1940.

two of the 33 States reported a rate as low as or lower than for 1940.

The decrease in the general mortality rate resulted from a decrease in most of the important causes of death. Deaths from tuberculosis, diabetes, cerebral hemorrhage, heart disorders, pneumonia, diseases of the digestive system, and nephritis were relatively less numerous than during the first 9 months of 1940. The death rates for two of the four principal diseases of childhood, scarlet fever and diphtheria, were also lower than last year, but this decrease was more than counterbalanced by an increase in the death rates for measles and whooping cough so that the rate for the four diseases combined was nearly 50 percent higher than in 1940.

The most important increases in mortality rates as compared with the previous year were in the rates for influenza, cancer, and accidents. Most of the increase in the accident rate is due to an increase in fatal automobile accidents; the rate for accidents exclusive of automobile increased from 46.2 per 100,000 population to 47.3 per 100,000, or about 2 percent, while the rate for automobile accidents alone increased from 21.8 to 25.7 per 100,000, or 18 percent.

During the third quarter of the year the most severe epidemic of encephalitis on record occurred in a group of northwestern States adjacent to the Canadian border. The epidemic was most fatal in North Dakota where the death rate for the first 9 months of 1941 was 24.5 per 100,000 compared with a corresponding rate of 1.7 per 100,000 population in 1940. In South Dakota the respective rates were 6.9 and 0.2 per 100,000. Although the disease was also epidemic in Minnesota, Montana, and Nebraska the number of cases and the number of deaths were considerably less in these States.

Both the maternal and infant mortality rates continued to decline; the decrease in the maternal mortality rate was widespread, 30 of the 32 States reporting a rate as low as or lower than that for the corresponding period in 1940.

An increase in the birth rate was reported by 27 States. The rate, 18.1 per 1,000 population, was 5 percent higher than that for last year.

Provisional mortality from certain causes in the first 9 months of 1941, with comparative provisional data for the corresponding period in preceding years

State and period	All causes, rate per 1,000 population (annual basis)		Death rate per 100,000 population (annual basis)														Rate per 1,000 live births						
	Births (exclusive of stillbirths) per 1,000 population (annual basis)	Total infant mortality	Typhoid fever (1-2)	Cerebrospinal meningococcus meningitis (6)	Scarlet fever (8)	Whooping cough (9)	Diphtheria (10)	Tuberculosis, all forms (13-22)	Influenza (grippe) (33)	Measles (35)	Acute poliomyelitis and acute poliomyelitis (36)	Acute infectious encephalitis (lethargic) (37)	Cancer, all forms (45-55)	Diabetes mellitus (61)	Cerebral hemorrhage, embolism, and thrombosis (83a, b)	Diseases of the heart (90-95)	Pneumonia, all forms (107-109)	Diseases of the digestive system (115-129)	Diarrhea and enteritis, under 2 years (119)	Nephritis, all forms (130-132)	All accidents, including automobile accidents (169-195)	Automobile accidents (170a, b, c)	
34 STATES ¹																							
January-September:																							
1941	18.1	46	4	0.7	0.3	2.9	0.9	44.3	18.4	1.9	0.5	0.7	119.1	26.3	88.0	291.7	48.4	54.5	7.8	72.3	71.9	25.7	
1940	10.6	17.2	47	6.1	1.0	2.0	1.9	43.1	15.5	0.6	0.6	6	118.4	26.7	91.1	292.6	53.7	57.7	7.7	76.8	69.1	21.5	
1939	10.4	16.9	48	6.3	1.4	2.3	1.1	46.0	17.8	0.9	0.4	5	114.5	25.6	86.4	276.7	60.6	60.3	8.7	71.6	67.1	20.2	
January-March:																							
1941	11.8	53	4.5	4	6	3.0	8	46.8	44.6	1.6	3	5	119.0	30.9	98.0	340.2	80.8	50.2	3.6	82.4	67.4	23.3	
1940	11.9	52	5.5	5	7	1.9	1.7	46.9	33.3	1.8	3	6	119.7	31.3	102.5	336.1	86.9	53.2	4.0	86.1	87.5	19.3	
1939	11.8	50	5.8	7	7	2.4	1.7	47.3	33.8	1.2	1	5	115.5	23.8	96.6	318.7	105.9	55.6	4.0	81.3	62.9	18.2	
April-June:																							
1941	10.2	47.6	45	5.6	4	3.1	3	48.8	8.6	3.6	3	5	119.0	26.0	87.9	287.1	36.9	52.0	5.6	72.6	69.5	24.0	
1940	10.4	47.0	47	6.4	7	5	2.0	47.2	10.4	3.9	2	6	117.1	25.7	89.3	290.4	47.1	55.8	7.5	77.5	64.8	20.8	
1939	10.3	46.5	48	6.2	1.0	2.4	7	48.6	10.4	1.2	3	4	114.5	25.4	86.5	275.2	51.2	58.5	8.4	72.7	65.7	18.8	
July-September:																							
1941	9.4	19.8	41	6.3	2	2.6	6	39.6	2.6	7	1.0	1.1	119.4	23.1	78.4	248.7	25.1	61.2	14.2	62.1	78.7	29.6	
1940	9.5	18.5	41	6.5	1.7	3	2.1	41.5	3.2	2	1.5	6	118.4	23.2	81.7	251.6	27.3	63.9	11.1	66.8	74.8	25.0	
1939	9.2	17.8	41	6.8	2.3	2.0	9	42.2	3.4	3	9	6	113.3	21.7	76.3	236.9	25.5	66.6	13.1	61.1	72.4	23.9	
Metropolitan Life Insurance Co. Industrial policyholders (January-September): ²																							
1941	7.6			4	5	1.3	6	43.9	9.1	1.0			104.2	27.9	61.4	211.8					50.9	20.2	
1940	7.7			6	1.2	8	45.1	8.6	4				102.3	29.2	61.3	212.1					46.4	16.8	
1939	7.8			7	1.8	1.1	45.9	11.1	7				100.3	28.0	60.1	207.9					46.2	16.1	

See footnotes at end of table.

Provisional mortality from certain causes in the first 9 months of 1941, with comparative provisional data for the corresponding period in preceding years—Continued

State and period	Death rate per 100,000 population (annual basis)																									
	All causes, rate per 1,000 population (annual basis)	Births (exclusive of stillbirths) per 1,000 population (annual basis)	Rate per 1,000 live births		Typhoid fever (1-2)	Cerebrospinal meningitis (6)	Scarlet fever (8)	Whooping cough (9)	Diphtheria (10)	Tuberculosis, all forms (13-22)		Influenza (grippe) (33)	Measles (35)	Acute poliomyelitis and acute poliomyelitis (36)	Acute infectious encephalitis (lethargic) (37)	Cancer, all forms (45-55)	Diabetes mellitus (61)	Cerebral hemorrhage, embolism, and thrombosis (83a, b)	Diseases of the heart (90-95)	Pneumonia, all forms (107-109)	Diseases of the digestive system (115-129)	Diphtheria and enteritis, under 2 years (119)	Nephritis, all forms (130-132)	All accidents, including automobile accidents (109-195)	Automobile accidents (170a, b, c)	
			Total infant mortality	Maternal mortality																						
Alaska:																										
1941.....	19.3	27.7	5.2	3.6	1.8	1.8	7.1	5.6	443.3	80.4	59.0	3.6	94.7	5.4	82.2	202.0	218.1	174.5	126.9	57.2	5.4	35.7	199.5	(9)		
1940.....	18.4	24.0	2.3	2.3	1.8	1.8	29.1	5.6	363.5	14.5	178.1	(9)	70.9	3.6	85.4	218.1	218.1	174.5	174.5	24.1	3.6	20.0	141.8	(9)		
1939.....	19.1	20.3	3.7	3.7	(9)	(9)	29.7	1.9	343.6	24.1	3.7	(9)	1.9	3.7	69.4	219.4	133.7	133.7	133.7	40.9	(9)	29.7	144.9	(9)		
Colorado:																										
1941.....	10.6	18.8	3.0	3.0	0.6	0.6	5.9	1.9	50.8	21.4	1.6	7.7	108.1	16.3	82.1	270.7	265.5	62.7	62.7	69.5	10.7	78.1	69.1	22.4		
1940.....	10.9	18.9	5.2	4.1	0.4	0.4	3.0	1.3	51.5	12.5	1.5	1.3	120.1	17.7	81.4	265.5	70.8	70.7	70.7	70.7	9.9	76.3	87.0	25.5		
1939.....	11.2	18.5	4.6	4.6	1.9	1.8	5.6	3.0	55.9	21.8	1.6	1.8	116.3	17.0	88.2	237.7	96.2	96.2	96.2	65.4	9.9	76.3	87.0	25.5		
Connecticut:																										
1941.....	9.2	13.2	3.2	2.7	2.2	2.2	5.6	2.2	32.4	5.5	1.1	2.2	130.3	31.6	78.0	311.1	29.0	29.0	45.3	45.3	1.8	62.3	85.5	19.4		
1940.....	9.8	12.3	3.9	3.2	3.4	3.4	3.3	2.2	32.8	5.1	2.1	2.1	142.4	30.4	108.0	304.0	42.5	42.5	45.2	45.2	2.1	56.8	64.4	16.6		
1939.....	10.0	12.9	3.7	3.2	4.1	4.1	1.3	4.4	35.5	5.8	1.6	1.1	140.0	29.0	83.5	281.5	47.0	47.0	48.0	48.0	2.2	77.4	85.0	16.4		
Delaware:																										
1941.....	12.9	18.4	4.4	1.9	2.0	2.0	2.5	3.0	54.9	13.8	2.0	5.5	120.6	26.2	94.4	354.5	53.4	53.4	57.9	57.9	8.9	132.0	81.6	34.1		
1940.....	12.4	16.9	5.1	4.4	1.0	1.0	1.5	2.5	49.5	12.5	(9)	2.0	150.9	31.5	105.5	335.9	59.0	59.0	62.5	62.5	4.0	138.9	72.5	33.2		
1939.....	12.1	16.4	4.6	4.6	2.0	2.0	3.0	1.0	60.7	12.6	(9)	(9)	115.9	33.9	112.3	368.8	74.4	74.4	64.6	64.6	9.1	111.3	74.9	33.4		
District of Columbia:																										
1941.....	13.0	26.8	5.1	2.7	1.0	1.0	2.0	4.4	66.1	5.4	0.8	1.4	160.6	27.8	91.7	324.0	77.3	77.3	90.1	90.1	20.0	111.7	78.3	23.6		
1940.....	12.9	22.3	4.5	3.0	1.0	1.0	1.3	4.4	66.8	7.9	(9)	1.4	145.9	34.2	92.7	339.2	51.2	51.2	51.2	51.2	9.8	117.9	70.6	20.4		
1939.....	12.7	21.6	4.7	5.1	2.8	2.8	2.1	6.6	69.2	10.7	0.4	0.4	156.2	26.1	78.4	332.4	73.7	73.7	80.9	80.9	11.7	105.4	75.1	21.8		
Florida:																										
1941.....	12.0	18.2	6.4	6.7	1.0	1.0	1.9	0.9	46.9	32.3	1.2	2.0	102.8	21.3	112.4	281.1	49.8	49.8	71.0	71.0	9.0	88.0	113.1	39.6		
1940.....	12.1	16.4	5.6	7.0	1.2	1.2	1.8	1.0	51.8	31.9	4.4	3.3	96.7	19.2	112.0	263.4	57.8	57.8	65.6	65.6	7.1	93.9	64.8	26.3		
1939.....	11.1	16.2	6.9	6.6	1.4	1.4	3.5	1.6	49.3	23.5	0.9	0.9	91.8	19.4	92.8	236.7	52.9	52.9	77.7	77.7	11.5	91.4	90.1	34.8		
Georgia:																										
1941.....	9.8	20.7	6.0	4.5	1.7	1.7	4.7	1.5	42.3	38.1	6.1	1.1	63.6	11.9	93.7	179.8	83.0	83.0	56.4	56.4	15.4	108.0	64.8	26.3		
1940.....	10.0	19.5	5.9	5.3	2.0	2.0	5.2	2.9	48.6	33.8	9.9	2.2	60.5	10.8	98.1	192.3	66.5	66.5	49.0	49.0	13.3	102.5	66.8	20.7		
1939.....	9.9	19.4	5.8	5.2	2.1	2.1	4.2	1.9	46.9	29.6	2.1	1.4	60.0	11.4	90.4	162.9	67.9	67.9	59.2	59.2	14.8	90.0	65.7	18.5		

Idaho:	1941	8.4	23.7	34	2.3	1.0	.5	4.7	(¹)	14.2	12.2	.2	2	1.0	85.7	19.5	72.2	209.3	51.7	45.2	1.5	54.9	89.6	33.0	
	1940	9.0	22.6	36	3.4	1.0	.8	1.8	1.0	18.0	12.2	1.3	.6	1.0	88.2	17.9	57.3	232.2	31.4	50.3	5.8	54.8	102.7	36.2	
	1939	9.2	21.6	45	2.5	3.1	1.5	.5	2.3	1.0	18.8	13.5	1.0	.5	1.5	85.9	21.1	61.9	240.0	59.0	54.1	4.4	49.8	94.1	30.7
Indiana:	1941	11.1	17.4	38	3.0	.6	.5	1.6	1.7	37.4	23.0	2.1	3	.2	121.1	15.1	137.9	272.1	48.6	(¹)	5.8	65.8	90.7	39.7	
	1940	11.5	16.6	42	3.0	.8	.2	2.6	.9	38.9	24.7	1.2	2.3	.3	121.3	13.4	143.8	310.7	45.3	(¹)	3.3	79.3	79.5	29.8	
	1939	11.3	15.8	42	4.1	1.3	.4	1.5	1.8	1.4	41.9	31.1	.2	2.2	.5	113.6	16.6	131.6	230.2	73.9	(¹)	5.8	63.1	72.1	27.4
Iowa:	1941	9.6	17.5	38	2.8	.2	.4	1.7	.3	13.6	15.0	.6	2.2	.8	129.6	25.0	99.1	277.4	41.9	45.8	1.9	59.1	65.2	22.2	
	1940	10.0	16.3	38	3.7	.4	.6	1.7	.6	17.0	18.9	.5	2.1	.8	130.3	25.2	107.0	287.2	45.9	51.3	1.9	66.1	65.2	18.7	
	1939	10.1	17.1	37	2.4	.7	.5	1.1	1.8	.5	18.9	28.4	1.4	.5	.6	124.9	26.3	103.1	299.1	54.2	56.9	2.4	54.7	65.6	18.7
Kansas:	1941	10.5	16.9	39	2.2	.3	.6	3	4.0	24.4	25.9	2.4	2.4	3	1.6	122.4	24.5	105.8	270.6	37.3	55.2	2.5	96.4	89.0	29.6
	1940	10.4	15.7	38	4.1	.6	.6	1.6	.7	25.0	21.4	1.1	2.2	1.0	122.6	25.6	101.3	276.1	57.3	56.7	4.1	100.9	70.7	25.3	
	1939	10.3	15.8	40	4.0	.7	.4	.7	.6	4	23.0	19.3	.1	2	1.4	123.5	27.0	97.6	296.8	46.1	61.7	4.2	98.8	102.6	21.6
Kentucky:	1941	10.5	20.9	60	4.6	2.4	1.0	1.1	8.4	9	69.9	44.3	6.8	8	.1	83.4	15.7	94.3	291.8	69.3	67.0	20.4	75.7	73.8	27.3
	1940	10.3	20.3	51	4.0	2.3	1.1	1.8	4.6	1.5	67.2	30.2	6.6	1.4	.5	83.6	13.9	106.4	213.3	68.5	38.0	12.0	72.5	70.8	23.3
	1939	9.9	20.5	49	4.2	4.0	1.3	1.0	1.8	2.2	64.9	36.8	1.4	.7	77.0	12.3	97.3	206.4	68.0	66.9	19.5	64.1	71.1	20.3	
Maine:	1941	12.5	18.4	48	2.7	.5	1.3	.2	2.0	3	31.3	23.2	1.3	3	.5	150.9	31.9	122.4	372.8	56.0	53.7	6.1	91.3	74.3	23.2
	1940	12.0	17.5	53	4.1	.6	1.3	.9	2.0	.8	28.2	12.3	1.4	3	.3	146.7	30.7	124.3	396.5	59.0	53.5	5.0	57.7	70.8	20.9
	1939	12.8	17.9	52	4.0	1.3	.2	.3	3.3	2.5	33.9	22.5	.6	1.0	.5	150.2	28.2	128.8	381.3	73.7	53.6	5.6	79.8	71.8	20.9
Maryland:	1941	12.0	18.7	53	1.9	.8	1.2	1	4.3	(¹)	77.7	11.4	.9	2	.6	141.6	31.0	91.7	343.0	61.0	53.7	10.9	117.4	77.6	29.0
	1940	12.3	16.5	49	2.7	.5	.4	1.4	3.4	1.0	82.9	9.7	1.1	.3	.4	139.0	27.9	97.6	331.7	66.9	40.0	5.3	131.4	70.4	24.2
	1939	11.6	15.9	49	3.2	1.0	.7	1.1	1.1	1.0	73.7	10.4	1.2	.1	.4	132.2	31.9	94.2	312.3	70.1	53.6	7.7	115.9	69.4	21.0
Massachusetts:	1941	11.9	(¹)	(¹)	(¹)	(¹)	.7	3	1.1	1	38.5	8.3	.1	(¹)	.4	176.0	36.4	105.6	432.7	64.2	54.9	4.6	64.9	62.4	15.6
	1940	11.7	(¹)	(¹)	(¹)	(¹)	.2	2	1.3	.2	38.9	3.4	.3	(¹)	.3	171.1	38.3	103.9	413.4	60.0	53.3	2.3	71.5	60.9	13.8
	1939	11.4	15.0	38	3.0	.4	.5	.4	1.3	.2	37.2	6.3	.5	(¹)	.2	167.4	35.5	101.4	402.0	74.9	54.6	2.1	65.1	59.1	12.8
Michigan:	1941	9.8	19.4	39	2.9	.2	.1	6	1.8	3	32.6	9.6	1.6	3	.2	116.3	25.8	86.7	290.0	42.9	51.1	4.4	53.2	50.8	28.9
	1940	9.8	18.5	41	3.3	.2	.2	.9	1.0	.4	34.8	5.0	.4	1.3	.2	116.9	27.0	91.2	293.1	44.6	53.7	3.5	54.9	72.4	26.9
	1939	10.0	18.0	42	3.1	.5	.3	1.6	1.6	.5	36.9	18.1	.7	.8	.2	115.3	26.0	82.2	284.7	55.0	56.9	4.8	54.3	70.2	23.6
Montana:	1941	10.2	20.6	38	1.7	.2	1.2	1.2	2.9	38.0	20.2	.2	1.0	3.3	110.2	14.0	95.3	298.7	47.3	64.0	4.3	56.8	69.6	33.3	
	1940	10.0	19.4	52	3.4	.2	1.0	2.1	2.1	41.3	12.6	1.2	1.0	1.2	111.2	10.7	97.6	230.4	47.5	71.3	6.5	59.8	80.2	24.1	
	1939	10.6	19.5	43	3.4	2.4	1.2	1.0	3.6	1.2	44.8	21.6	3.8	(¹)	1.2	116.2	19.2	88.9	228.7	57.8	63.9	4.5	56.8	64.2	25.9
Nebraska:	1941	9.6	16.7	37	2.6	.2	.6	1	2.9	.2	16.1	31.3	.5	9	1.5	125.7	25.2	106.7	238.8	39.1	43.8	1.5	67.8	63.4	18.2
	1940	9.8	16.5	35	2.5	.3	.3	.9	2	.7	18.9	22.5	.5	7	.8	129.7	26.9	119.5	243.1	47.8	45.1	2.4	61.8	65.6	16.5
	1939	9.4	16.5	34	3.5	.5	.2	1.0	1.4	1.0	17.4	26.3	1.6	.3	.2	115.0	25.4	90.6	218.6	59.4	57.1	2.2	57.6	51.3	19.7
Nevada:	1941	(¹)	18.4	44	3.9	3.6	(¹)	1.2	(¹)	55.8	8.3	(¹)	(¹)	1.2	111.5	15.4	71.2	310.8	69.4	78.3	4.7	54.6	231.3	104.4	
	1940	12.0	19.0	47	5.1	1.2	1.2	3.6	1.2	68.8	7.2	(¹)	1.2	(¹)	111.0	20.5	66.3	304.0	45.1	71.2	3.6	57.9	104.4	70.0	
	1939	11.1	17.0	43	5.1	1.2	1.2	(¹)	(¹)	50.4	6.1	2.5	(¹)	(¹)	102.0	9.8	71.3	265.7	87.3	38.1	4.1	41.8	207.9	68.8	
New Jersey:	1941	10.5	15.6	36	2.2	.2	.3	.2	.7	.2	44.1	6.4	.8	3	.3	131.9	35.7	93.5	355.3	64.3	53.1	3.0	76.1	63.7	21.8
	1940	10.9	14.2	36	2.8	.4	.1	.5	.5	.5	43.8	4.8	.3	1	.4	143.8	36.7	90.7	260.2	46.3	54.7	2.3	78.1	63.1	19.5
	1939	10.5	13.8	39	3.0	.4	.4	.5	1.3	.5	45.1	6.8	(¹)	.7	.6	137.9	33.4	85.2	332.2	49.6	50.5	2.8	68.3	56.9	18.3

See footnotes at end of table.

Pennsylvania:	10.8	18.2	38	2.4	5	3	3	1.6	3	39.7	12.8	8	1.3	7	7	123.0	34.8	84.4	337.3	44.5	48.6	4.3	84.5	18.1
1941	11.0	16.3	43	2.7	6	7	5	1.2	4	40.5	12.2	4	1.1	3	6	124.2	35.6	84.6	336.5	51.1	54.9	2.7	96.6	15.3
1940	10.7	16.5	44	3.3	6	6	5	1.6	6	41.3	14.0	1	1.1	3	7	124.2	33.8	82.9	321.6	52.3	53.4	4.7	84.4	10.2
1939	10.1	16.1	37	2.3	(*)	4	4	2	(*)	38.3	8.8	2	2	6	2	149.2	33.8	83.4	331.9	48.7	48.7	2.6	104.1	10.2
1941	11.2	15.2	38	2.5	1.3	9	9	2.4	4	32.9	4.3	6	2	4	2	150.3	38.7	96.5	308.7	54.6	54.8	1.9	96.0	10.9
1940	10.9	14.6	39	3.2	(*)	4	4	2.6	2	32.7	6.4	2	2	2	(*)	152.2	32.3	85.9	354.8	62.2	61.5	4.3	95.5	10.1
1939	10.7	22.5	82	6.2	2.3	1.0	3	12.0	1.1	44.5	44.6	9	9	2	2	56.1	13.5	92.9	190.2	73.1	48.1	9.0	91.1	31.6
1941	10.0	20.9	75	7.0	5.4	1.1	2.3	2.3	1.7	46.7	43.3	8	8	6	3	51.3	12.7	104.0	206.6	72.9	51.0	6.7	94.9	27.1
1940	10.7	20.2	71	6.3	4.9	1.5	1.5	4.2	8.7	44.6	30.5	7	7	3.0	2	51.3	12.7	95.1	188.1	67.9	43.0	7.9	88.6	23.4
1939	9.0	19.2	43	1.9	4	4	2	4.2	2.1	28.5	17.1	2	2	6.9	100.4	25.2	84.1	207.4	42.9	44.8	2.5	55.4	71.2	
1941	9.0	19.0	39	4.0	(*)	4	4	4	4	37.4	16.4	6	6	2	102.2	23.0	81.6	206.8	36.3	53.8	4.8	50.9	66.0	
1940	8.9	17.7	44	3.4	1.4	8	1.4	3.8	2.7	28.7	20.4	5.8	1.6	6	98.7	28.9	75.1	200.6	60.7	62.7	6.6	43.3	48.9	
1939	9.8	19.1	58	3.9	1.5	1.1	3	6.1	1.0	80.3	39.0	5.5	1.1	6	87.9	12.4	79.1	174.7	64.7	56.7	12.8	64.6	60.8	
1941	10.2	17.8	56	5.4	2.1	6	5	3.6	1.1	74.9	35.8	4.1	6	5	71.8	14.2	85.0	195.4	75.1	60.7	10.6	61.6	62.7	
1940	9.6	16.9	55	5.5	3.0	5	6	3.3	1.6	78.2	30.3	1.5	1.6	7	69.8	12.6	79.3	168.3	69.0	66.7	13.7	58.9	60.0	
1939	9.3	(*)	(*)	(*)	2.1	5	1	3.9	1.9	56.2	34.7	1.5	8	4	78.9	13.1	59.6	189.8	47.2	59.4	16.7	62.9	74.7	
1941	9.5	(*)	(*)	(*)	2.5	4	2	4.3	2.0	58.3	23.2	4.1	6	5	74.9	14.1	62.2	179.4	54.7	88.2	34.5	56.6	66.1	
1940	8.8	17.1	67	5.0	4.6	3	3	4.1	2.2	58.3	23.6	1.6	1.1	3	66.8	12.0	60.5	163.0	60.1	78.3	29.1	53.1	61.8	
1939	8.1	24.5	29	1.3	7	2	2	2.4	1.9	37.9	17.9	7	4	7	84.9	20.7	60.1	243.4	28.1	43.0	2.9	51.7	81.8	
1941	8.5	24.5	37	2.8	5	5	1	5	2.4	15.0	12.8	4.1	1.0	5	90.6	18.9	58.4	236.2	35.1	53.8	3.4	47.5	32.9	
1940	8.2	23.1	39	3.2	5	7	2	1.0	1.0	15.6	8.8	8	2	1.0	93.2	17.1	53.8	227.4	43.5	52.3	1.7	53.0	28.4	
1939	11.6	18.4	41	2.0	7	1.1	4	(*)	(*)	37.9	12.3	1.1	1.1	4	141.7	28.3	113.8	263.7	47.6	53.2	4.5	87.0	57.3	
1941	11.1	18.3	32	3.9	1.1	4	1	2.2	2.2	36.4	28.3	1.1	1.1	4	135.7	24.5	116.7	317.1	65.4	51.7	5.0	75.5	16.4	
1940	11.7	15.8	36	3.3	(*)	4	1	1.1	7.1	41.7	25.3	1.1	1.1	4	143.4	31.7	115.8	371.6	83.3	51.8	3.4	80.4	19.0	
1939	11.4	21.0	69	4.1	9	1.5	3	7.9	1.0	61.7	34.2	7.8	5	5	84.8	19.8	101.6	255.7	62.3	55.4	15.5	100.1	35.4	
1941	11.1	19.8	59	4.7	9	1.3	3	4.0	1.7	60.5	29.3	1.0	6	6	80.3	20.5	101.8	251.3	73.1	48.7	8.6	106.8	82.1	
1940	10.7	19.3	63	5.1	1.7	1.0	3	6.0	2.7	62.3	24.2	1.1	3	3	79.3	17.2	102.6	241.9	67.1	53.3	11.2	86.4	28.2	
1939	9.0	20.3	63	3.2	1.6	1.7	6	9.0	8	44.4	29.0	4.1	6	4	75.4	16.9	79.6	168.4	51.8	56.0	18.8	86.4	80.3	
1941	8.9	20.2	52	4.5	1.8	1.5	9	5.3	2.0	46.2	19.9	2	3	6	72.8	16.4	77.4	167.2	43.2	42.9	12.8	85.5	18.2	
1940	9.0	20.3	55	3.6	3.1	2.1	9	2.1	2.0	45.5	21.3	4	4	3	73.0	16.1	76.6	168.5	61.6	60.3	16.0	86.1	72.7	
1939	9.6	17.3	36	2.7	3	1	6	9	(*)	25.5	12.2	8	3	7	130.4	28.3	89.9	289.4	37.9	(*)	2.2	52.9	70.5	
1941	10.1	17.4	37	2.8	2	2	9	9	2	25.8	13.4	4	4	1.0	134.7	28.5	96.2	299.2	46.1	(*)	3.3	57.7	76.6	
1940	10.2	17.2	42	2.8	2	3	1.1	1.6	1.1	27.7	21.0	9	6	4	127.3	27.3	87.1	301.2	51.0	(*)	4.7	88.4	21.0	
1939																								

* Includes all States except South Dakota, with data for the 9-month period of 1941, 1940, and 1939. The District of Columbia is included as a State. Estimated population July 1, 1941, 95,033,600
 † These data are taken from the October 1940 and 1941 Statistical Bulletins published by the Metropolitan Life Insurance Co. All figures are provisional and are subject to correction, since they are based on provisional estimates of lives exposed to risk. Data do not include all diseases reported to the Public Health Service.
 ‡ Excludes pericarditis, acute endocarditis, and acute myocarditis.
 § Classified as diarrhea and enteritis, age not specified.
 ¶ Chronic nephritis only.
 †† No deaths reported.
 ‡‡ Less than 0.1 per 100,000 population.
 ††† Data not available.
 †††† January to August only.

MORTALITY SUMMARY FOR LARGE CITIES IN THE UNITED STATES, 1941

The number of deaths in 88 major cities of the United States during 1941 decreased 0.4 percent as compared with 1940, the respective figures being 443,782 and 445,504, according to provisional reports recently issued by the Bureau of the Census. The percentage decrease on a rate basis, however, is much more, the rates for the respective years being 11.7 and 11.8 per 1,000 population. On the other hand, the number of infant deaths reported increased 4.9 percent; but on a rate basis this increase is changed to a decrease of 8.9 percent in 1941 as compared with 1940.

General mortality.—Except for three periods during the year, the weekly death rates for these major cities in 1941 were below the average rates for the 3 years 1938–40, inclusive. The first of these periods occurred in January and February, which corresponded with the period of the influenza epidemic. The other two occurred in June and August, respectively. These latter sharp increases in mortality were closely related to excessive temperatures which prevailed over a large portion of the country.

Infant mortality.—The 28,166 infant deaths reported in 1941 represent a numerical increase of 1,319 over the 26,847 such deaths reported in 1940. The respective rates (infant deaths per 1,000 estimated live births) for 1941 and 1940, however, are 36.9 and 40.5.

Although the figures for 1941 given in this summary are compiled from weekly telegraphic reports, it is expected, on the basis of past experience, that they will agree closely with the final figures. All mortality figures are tabulated on the basis of place of death, not place of residence. The death rates are based on populations as enumerated in the 1940 census.

	Provisional		Final
	1941	1940	1940
Total deaths, 88 cities.....	¹ 443, 782	¹ 445, 504	² 441, 136
Deaths per 1,000 population.....	³ 11.7	³ 11.8
Deaths under 1 year of age.....	¹ 28, 166	¹ 26, 847	² 27, 527
Deaths under 1 year of age per 1,000 live births.....	³ 36.9	⁴ 40.5

¹ Based upon weekly telegraphic reports from city health officers.

² Tabulation of transcripts from State registrars' offices.

³ Although figures are shown for a 53-week period for 1941, rates are computed on a calendar year basis; total death rates are per 1,000 enumerated populations as of April 1, 1940, and infant mortality rates are per 1,000 estimated live births.

⁴ The final infant death rate is the number of deaths under 1 year per 1,000 live births, based upon tabulations of transcripts received from State registrars' offices.

DEATHS DURING WEEK ENDED JANUARY 24, 1942

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

	Week ended Jan. 24, 1942	Corresponding week, 1941
Data from 85 large cities of the United States:		
Total deaths.....	9,067	10,228
Average for 3 prior years.....	9,499	
Total deaths, first 3 weeks of year.....	28,094	29,280
Deaths per 1,000 population, first 3 weeks of year, annual rate.....	13.4	14.0
Deaths under 1 year of age.....	514	537
Average for 3 prior years.....	507	
Deaths under 1 year of age, first 3 weeks of year.....	1,686	1,636
Data from industrial insurance companies:		
Policies in force.....	64,888,248	64,729,355
Number of death claims.....	13,533	14,263
Death claims per 1,000 policies in force, annual rate.....	10.9	11.5
Death claims per 1,000 policies, first 3 weeks of year, annual rate.....	10.3	11.0

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

REPORTS FROM STATES FOR WEEK ENDED JANUARY 31, 1942

Summary

The incidence of influenza for the country as a whole continues low. A total of 4,899 cases was reported for the current week, as compared with 4,332 for the preceding week, a 5-year (1937-41) median of 17,641, and 61,809 cases for the corresponding week last year. Of the current total, the South Atlantic and South Central States reported 4,224 cases, or 86 percent. (These areas constitute about 32 percent of the total population of the United States.) Texas reported 1,685 cases, South Carolina 647, Alabama 644, Virginia 392, and Arkansas 267. No other State reported more than 200 cases, and only 4 other States reported more than 100 cases during the current week.

Of the 9 common communicable diseases (first 9 listed in the following table) for which earlier weekly records are available, the incidence of only meningococcus meningitis and whooping cough was above the 5-year median expectancy. Only 26 cases of smallpox and 72 cases of typhoid fever were reported, the lowest incidence for each of these diseases for the corresponding week of any earlier year on record. The incidence of diphtheria (354 cases) is lower than for any corresponding week in prior years excepting 1941 (310 cases).

One case of anthrax was reported (in Pennsylvania), 19 cases of amebic dysentery, 51 cases of bacillary dysentery (27 in Texas), and 37 cases of dysentery, unspecified (26 in Virginia). Of 47 cases of endemic typhus fever, 17 occurred in Georgia, 10 in Alabama, and 8 in Texas. Twenty-five cases of tularemia were reported (8 in Georgia).

Urban mortality, a current index to health conditions, especially with reference to respiratory diseases at this season, has been favorable so far during the current year. The crude death rate for the week for 88 large cities in the United States was 12.5 per 1,000 population, as compared with 13.0 for the preceding week and 13.8 for the 3-year (1939-41) average. The accumulated rate for the first 4 weeks of 1942 is 13.2, as compared with 14.0 for the corresponding period last year.

Telegraphic morbidity reports from State health officers for the week ended January 31, 1942, and comparison with corresponding week of 1941 and 5-year median

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

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1937-41	Week ended—		Median 1937-41	Week ended—		Median 1937-41	Week ended—		Median 1937-41
	Jan. 31, 1942	Feb. 1, 1941		Jan. 31, 1942	Feb. 1, 1941		Jan. 31, 1942	Feb. 1, 1941		Jan. 31, 1942	Feb. 1, 1941	
NEW ENG.												
Maine.....	0	0	2	1	197	32	282	69	69	1	0	0
New Hampshire.....	1	0	0	-----	27	1	3	48	16	0	2	0
Vermont.....	3	0	0	-----	128	-----	7	12	12	0	0	0
Massachusetts.....	4	2	4	-----	-----	-----	227	438	438	4	1	1
Rhode Island.....	2	0	0	-----	23	-----	117	0	7	0	0	0
Connecticut.....	0	0	1	5	623	8	107	44	143	1	1	1
MID. ATL.												
New York.....	24	13	28	113	1,632	1,155	514	2,456	564	10	1	4
New Jersey.....	8	22	12	13	1,579	42	0	813	440	2	2	1
Pennsylvania.....	13	9	43	-----	-----	-----	1,137	2,341	140	7	5	7
E. NO. CEN.												
Ohio.....	11	9	21	15	1,903	118	152	1,051	65	3	1	2
Indiana.....	14	16	18	50	291	291	61	105	15	0	1	1
Illinois.....	25	29	32	13	138	130	120	1,339	31	0	1	4
Michigan ¹	2	11	18	2	374	14	141	1,964	427	1	0	1
Wisconsin.....	3	0	2	51	414	47	241	554	547	0	0	0
W. NO. CEN.												
Minnesota.....	2	0	3	3	2,111	5	613	14	34	0	0	0
Iowa.....	3	9	6	6	574	11	139	138	96	1	0	0
Missouri.....	5	10	19	5	245	145	55	31	8	1	0	2
North Dakota.....	1	4	3	5	101	19	117	13	13	0	0	0
South Dakota.....	2	0	1	1	13	2	2	31	31	0	0	0
Nebraska.....	2	0	0	-----	-----	-----	4	58	3	3	0	0
Kansas.....	7	6	7	7	538	143	246	185	185	0	0	0
SO. ATL.												
Delaware.....	0	3	1	-----	11	-----	1	33	11	0	1	0
Maryland ¹	11	4	8	5	577	119	259	25	26	4	0	0
Dist. of Col.....	0	2	7	1	124	24	11	14	14	4	0	1
Virginia.....	10	9	12	392	11,516	617	168	447	180	6	1	4
West Virginia.....	3	2	9	34	6,046	175	369	125	15	1	0	2
North Carolina.....	20	17	18	66	2,868	47	633	152	152	0	1	2
South Carolina.....	7	6	6	647	8,645	827	88	114	44	1	9	1
Georgia.....	12	8	8	183	3,588	600	330	93	46	0	3	2
Florida.....	6	7	10	10	212	20	75	11	30	3	2	2
E. SO. CEN.												
Kentucky.....	7	6	9	6	399	91	35	198	51	1	3	5
Tennessee.....	2	5	8	85	2,277	320	48	60	74	3	4	3
Alabama.....	15	7	12	644	4,701	466	62	68	68	3	2	2
Mississippi ¹	7	8	5	-----	-----	-----	-----	-----	-----	2	1	1
W. SO. CEN.												
Arkansas.....	18	8	8	1,267	1,625	864	1,204	120	32	0	1	1
Louisiana.....	15	8	9	26	308	121	39	3	3	1	2	1
Oklahoma.....	11	7	13	173	797	505	403	4	13	1	2	2
Texas.....	53	36	50	1,685	4,580	2,435	1,119	218	218	1	5	3
MOUNTAIN												
Montana.....	2	5	1	14	308	50	77	4	6	0	0	0
Idaho.....	1	1	1	1	922	6	25	14	64	0	0	0
Wyoming.....	0	1	1	37	182	4	20	7	7	1	0	0
Colorado.....	13	6	7	50	385	24	166	94	48	0	0	1
New Mexico.....	4	5	4	-----	37	12	100	37	29	0	0	0
Arizona.....	4	3	3	131	408	288	150	85	4	0	0	1
Utah ¹	0	2	2	15	76	9	40	4	54	0	0	0
Nevada.....	0	0	0	-----	-----	-----	3	0	0	0	0	0
PACIFIC												
Washington.....	0	0	1	58	83	83	20	81	81	0	0	0
Oregon.....	2	0	2	24	74	74	87	263	22	0	0	1
California.....	11	9	28	155	1,149	1,149	1,618	106	174	4	1	1
Total	354	310	580	4,899	61,809	17,641	10,489	14,031	10,844	65	53	55
4 weeks	1,481	1,530	2,489	16,925	433,797	65,967	36,328	54,544	36,655	230	231	210

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended January 31, 1942, and comparison with corresponding week of 1941 and 5-year median—Con.

Division and State	Polliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended—		Median 1937-41	Week ended—		Median 1937-41	Week ended—		Median 1937-41	Week ended—		Median 1937-41
	Jan. 31, 1942	Feb. 1, 1941		Jan. 31, 1942	Feb. 1, 1941		Jan. 31, 1942	Feb. 1, 1941		Jan. 31, 1942	Feb. 1, 1941	
NEW ENG.												
Maine.....	0	0	0	21	3	19	0	0	0	0	0	0
New Hampshire.....	1	0	0	25	10	8	0	0	0	0	1	0
Vermont.....	0	0	0	4	4	10	0	0	0	1	3	0
Massachusetts.....	0	0	0	324	127	194	0	0	0	2	1	2
Rhode Island.....	0	0	0	10	10	20	0	0	0	0	0	0
Connecticut.....	0	1	0	31	35	77	0	0	0	0	3	0
MID. ATL.												
New York.....	3	1	1	388	368	581	0	0	0	3	6	6
New Jersey.....	1	0	1	104	266	177	0	0	0	0	0	0
Pennsylvania.....	1	0	0	348	239	468	0	0	0	6	2	7
E. NO. CEN.												
Ohio.....	0	4	2	339	218	444	0	0	8	3	1	1
Indiana.....	5	0	0	125	145	195	2	2	4	3	0	0
Illinois.....	1	0	2	252	387	551	0	1	10	1	2	3
Michigan ¹	1	1	0	207	231	560	1	3	2	1	1	1
Wisconsin.....	0	0	0	214	145	221	0	15	13	2	0	0
W. NO. CEN.												
Minnesota.....	0	0	0	93	56	147	1	23	17	1	0	0
Iowa.....	0	1	0	47	75	123	1	0	24	1	5	2
Missouri.....	1	0	0	56	60	129	1	1	10	0	1	1
North Dakota.....	0	0	0	19	8	28	0	0	10	0	2	0
South Dakota.....	0	1	0	32	12	21	0	1	4	0	0	0
Nebraska.....	0	0	0	34	13	43	2	1	2	0	0	0
Kansas.....	0	0	0	90	81	169	1	2	11	0	2	1
SO. ATL.												
Delaware.....	0	0	0	52	12	12	0	0	0	0	0	0
Maryland ²	0	0	0	75	65	57	0	0	0	2	2	2
Dist. of Col.....	0	0	0	13	16	16	0	0	0	1	0	0
Virginia.....	0	0	0	50	53	41	0	0	0	5	1	2
West Virginia.....	0	2	0	56	30	51	0	0	0	0	2	2
North Carolina.....	0	0	1	72	53	53	0	0	0	0	0	4
South Carolina.....	2	0	0	6	11	6	0	0	0	1	1	2
Georgia.....	1	1	1	48	29	18	2	0	0	10	1	3
Florida.....	0	2	1	7	7	11	0	0	0	1	2	1
E. SO. CEN.												
Kentucky.....	0	1	1	100	92	77	0	0	0	2	0	0
Tennessee.....	0	0	0	81	67	53	3	1	1	4	4	3
Alabama.....	1	0	0	18	21	14	0	0	0	2	2	2
Mississippi ¹	0	1	1	8	19	10	1	0	0	1	0	2
W. SO. CEN.												
Arkansas.....	0	0	0	6	9	9	1	0	2	3	3	3
Louisiana.....	0	1	1	9	6	15	1	0	0	6	7	5
Oklahoma.....	0	0	0	24	9	31	1	0	0	1	1	1
Texas.....	1	1	2	64	75	108	6	5	5	5	10	10
MOUNTAIN												
Montana.....	0	0	0	32	35	35	0	0	4	0	0	0
Idaho.....	0	0	0	3	17	17	0	1	2	1	0	0
Wyoming.....	0	0	0	12	8	8	0	0	0	0	0	0
Colorado.....	0	0	0	43	30	33	0	1	4	0	2	0
New Mexico.....	1	0	0	9	6	18	0	1	0	0	1	1
Arizona.....	0	0	0	7	15	11	0	0	0	0	2	1
Utah ¹	0	0	0	38	6	23	0	0	1	0	0	0
Nevada.....	0	0	0	0	0	0	0	0	0	3	0	0
PACIFIC												
Washington.....	1	1	1	29	32	73	0	0	2	1	0	1
Oregon.....	0	0	0	11	17	34	0	0	11	1	1	0
California.....	2	1	2	110	115	221	2	1	6	1	8	5
Total.....	24	20	26	3,746	3,348	5,343	26	59	275	72	83	95
4 weeks.....	109	160	97	14,120	16,047	20,581	67	248	1,144	315	391	458

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended January 31, 1942—Continued

Division and State	Whooping cough		Week ended Jan. 31, 1942								
	Week ended—		An-thrax	Dysentery			En-cephal-itis	Lep-rosy	Rocky Mountain spotted fever	Tula-remia	Ty-phus fever
	Jan 31, 1942	Feb. 1, 1941		Ame-bic	Bacil-lary	Un-specified					
NEW ENG.											
Maine.....	47	29	0	0	0	0	0	0	0	0	0
New Hampshire.....	26	6	0	0	0	0	0	0	0	0	0
Vermont.....	57	16	0	0	0	0	0	0	0	0	0
Massachusetts.....	304	186	0	0	4	0	1	0	0	0	0
Rhode Island.....	51	11	0	0	0	0	0	0	0	0	0
Connecticut.....	132	59	0	0	1	0	1	0	0	0	0
MID. ATL.											
New York.....	683	315	0	0	6	0	0	0	0	0	1
New Jersey.....	235	132	0	1	0	0	0	0	0	0	1
Pennsylvania.....	288	364	1	0	0	0	0	0	0	0	0
E. NO. CEN.											
Ohio.....	331	336	0	0	0	0	0	0	0	1	0
Indiana.....	58	14	0	0	0	0	0	0	0	1	0
Illinois.....	213	125	0	2	3	0	1	0	0	2	0
Michigan ¹	262	301	0	1	0	0	0	0	0	0	0
Wisconsin.....	371	130	0	0	0	0	0	0	0	1	0
W. NO. CEN.											
Minnesota.....	136	76	0	1	0	0	0	0	0	1	0
Iowa.....	35	31	0	0	0	0	0	0	0	0	0
Missouri.....	14	41	0	0	0	0	0	0	0	0	0
North Dakota.....	15	15	0	0	0	0	0	0	0	0	0
South Dakota.....	11	7	0	0	0	0	0	0	0	0	0
Nebraska.....	8	46	0	0	0	0	0	0	0	0	0
Kansas.....	66	67	0	0	0	0	2	0	0	1	0
SO. ATL.											
Delaware.....	2	25	0	0	0	0	0	0	0	0	0
Maryland ²	41	92	0	0	0	5	0	0	0	0	0
Dist. of Col.....	22	8	0	2	0	0	0	0	0	0	0
Virginia.....	77	138	0	0	0	26	0	0	0	2	0
West Virginia.....	49	102	0	0	0	0	0	0	0	0	0
North Carolina.....	232	231	0	0	0	0	0	0	0	0	2
South Carolina.....	100	91	0	0	0	0	0	0	0	0	1
Georgia.....	34	18	0	0	6	0	0	0	0	8	17
Florida.....	28	4	0	1	0	0	0	0	0	0	2
E. SO. CEN.											
Kentucky.....	106	72	0	1	0	0	0	0	0	1	0
Tennessee.....	14	73	0	0	1	0	0	0	0	4	1
Alabama.....	26	45	0	0	0	0	1	0	0	0	10
Mississippi ³			0	0	0	0	0	0	0	0	1
W. SO. CEN.											
Arkansas.....	15	28	0	2	0	0	0	0	0	1	0
Louisiana.....	5	9	0	0	0	0	1	0	0	2	1
Oklahoma.....	8	15	0	0	0	0	0	0	0	0	0
Texas.....	139	343	0	3	27	0	0	0	0	0	8
MOUNTAIN											
Montana.....	11	21	0	0	0	0	0	0	0	0	0
Idaho.....	6	22	0	0	0	0	0	0	0	0	0
Wyoming.....	10	0	0	1	0	0	0	0	0	0	0
Colorado.....	27	44	0	0	0	0	0	0	0	0	0
New Mexico.....	39	21	0	1	0	0	0	0	0	0	1
Arizona.....	83	26	0	0	0	6	0	0	0	0	0
Utah ³	37	57	0	0	0	0	0	0	0	0	0
Nevada.....	0	0	0	0	0	0	0	0	0	0	0
PACIFIC											
Washington.....	136	113	0	0	0	0	0	0	0	0	0
Oregon.....	36	2	0	0	0	0	0	0	0	0	0
California.....	202	419	0	3	3	0	1	0	0	0	1
Total.....	4,828	4,326	1	19	51	37	8	0	0	25	47
Four weeks.....	17,374	21,336									

¹ New York City only.² Period ended earlier than Saturday.³ Figures for Arkansas are inclusive of delayed reports as follows: Diphtheria, 1; influenza, 11; measles, 1; scarlet fever, 1; typhoid fever, 2.

WEEKLY REPORTS FROM CITIES

City reports for week ended January 17, 1942

This table lists the reports from 99 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	Etiophallitis, 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								
Atlanta, Ga.....	1	0	7	0	6	0	6	0	0	0	0	0
Baltimore, Md.....	1	0	7	3	132	9	19	0	17	0	0	31
Barre, Vt.....	0	0	0	0	0	0	0	0	0	0	0	0
Billings, Mont.....	0	0	0	0	0	0	1	1	2	0	0	0
Birmingham, Ala.....	1	0	17	1	2	0	7	0	8	0	0	0
Boise, Idaho.....	0	0	0	0	3	0	0	0	0	0	0	0
Boston, Mass.....	0	0	2	2	33	0	15	0	94	0	1	43
Bridgeport, Conn.....	0	0	1	0	3	1	2	0	3	0	0	0
Brunswick, Ga.....	0	0	0	0	0	0	0	0	0	0	0	0
Buffalo, N. Y.....	1	0	0	0	3	0	7	0	24	0	0	4
Camden, N. J.....	0	0	1	1	2	0	4	0	5	0	0	3
Charleston, S. C.....	0	0	57	0	1	0	2	0	1	0	0	0
Charleston, W. Va.....	0	0	0	0	1	0	4	0	0	0	0	0
Chicago, Ill.....	18	0	14	3	25	0	28	0	88	0	1	101
Cincinnati, Ohio.....	3	0	1	2	0	1	5	0	22	0	0	29
Cleveland, Ohio.....	0	0	32	2	12	1	20	0	54	0	0	31
Columbus, Ohio.....	0	0	1	1	8	0	7	0	9	0	0	7
Concord, N. H.....	0	0	0	0	0	0	2	0	1	0	0	0
Cumberland, Md.....	0	0	0	0	3	0	0	0	0	0	0	0
Dallas, Tex.....	1	1	0	0	62	0	7	0	5	0	0	3
Denver, Col.....	8	0	20	0	42	0	7	0	8	0	0	9
Detroit, Mich.....	7	0	2	0	31	0	20	0	113	0	1	78
Duluth, Minn.....	0	0	0	0	5	0	5	0	6	0	0	3
Fall River, Mass.....	1	0	0	0	3	0	0	0	47	0	0	0
Fargo, N. Dak.....	0	0	0	0	0	0	1	0	0	0	0	0
Flint, Mich.....	0	0	0	0	0	0	4	0	9	0	0	11
Fort Wayne, Ind.....	0	0	0	0	3	0	2	0	1	0	0	0
Frederick, Md.....	0	0	0	0	2	0	0	0	0	0	0	0
Galveston, Tex.....	0	0	0	1	0	0	3	0	0	0	1	0
Grand Rapids, Mich.....	0	0	0	0	8	0	2	0	4	0	0	4
Great Falls, Mont.....	0	0	0	0	27	0	1	0	5	0	0	2
Hartford, Conn.....	0	0	0	0	6	0	1	0	7	0	0	5
Helena, Mont.....	0	0	0	0	0	0	1	0	0	0	0	3
Houston, Tex.....	6	0	0	0	5	0	12	0	1	0	0	0
Indianapolis, Ind.....	1	0	1	4	0	10	0	25	0	1	0	20
Kansas City, Mo.....	0	0	1	8	0	5	0	19	0	0	0	5
Kenosha, Wis.....	0	0	0	7	0	0	0	2	0	0	0	8
Little Rock, Ark.....	1	0	9	0	3	0	0	2	0	0	0	0
Los Angeles, Calif.....	7	0	25	2	55	3	16	0	30	0	1	14
Lynchburg, Va.....	0	0	0	0	0	0	1	0	0	0	0	1
Memphis, Tenn.....	0	0	22	4	8	0	2	0	8	0	0	6
Milwaukee, Wis.....	0	0	0	0	13	0	1	0	27	0	0	97
Minneapolis, Minn.....	0	0	1	5	0	4	1	13	0	1	0	11
Missoula, Mont.....	0	0	0	0	0	0	0	0	0	0	0	0
Mobile, Ala.....	0	0	1	2	0	0	0	2	0	0	0	0
Nashville, Tenn.....	0	0	0	0	0	4	0	7	0	0	0	9
Newark, N. J.....	0	0	4	0	26	0	6	1	19	0	0	31
New Haven, Conn.....	0	0	0	0	59	0	1	0	1	0	1	10
New Orleans, La.....	2	0	2	1	1	1	8	0	3	0	0	4
New York, N. Y.....	21	2	14	2	27	2	92	2	137	0	0	293
Omaha, Nebr.....	0	0	0	3	0	7	0	7	0	0	0	1
Philadelphia, Pa.....	1	0	3	1	7	0	29	0	114	0	0	60
Pittsburgh, Pa.....	1	1	1	10	1	10	0	10	0	0	0	10
Portland, Me.....	0	0	1	0	8	0	3	0	8	0	0	9
Providence, R. I.....	4	0	0	9	0	2	0	7	0	0	0	48
Pueblo, Colo.....	0	0	0	0	108	0	1	0	4	0	0	1
Racine, Wis.....	1	0	0	0	4	0	0	1	0	0	0	10
Raleigh, N. C.....	0	0	0	1	0	1	0	0	0	0	0	1
Reading, Pa.....	0	0	1	2	0	1	0	1	0	0	0	1
Richmond, Va.....	2	0	2	2	0	1	3	0	3	0	0	0

City reports for week ended January 17, 1942—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								
Roanoke, Va.....	0	0	0	0	0	0	0	0	2	0	0	0
Rochester, N. Y.....	0	0	0	0	2	0	0	0	3	0	0	5
Sacramento, Calif.....	2	0	0	0	83	0	3	0	0	0	0	7
St. Joseph, Mo.....	0	0	1	3	0	0	0	0	0	0	0	1
St. Louis, Mo.....	1	0	2	1	8	2	16	0	18	1	1	3
St. Paul, Minn.....	0	0	0	0	96	0	3	0	4	0	0	28
Salt Lake City, Utah.....	0	0	0	1	0	0	1	0	4	0	1	3
San Antonio, Tex.....	2	0	16	2	2	0	7	0	0	0	0	1
San Francisco, Calif.....	1	0	6	2	9	1	9	1	5	0	1	10
Savannah, Ga.....	0	0	9	1	37	0	1	0	0	0	0	0
Seattle, Wash.....	0	0	0	2	1	0	4	0	3	0	0	34
Shreveport, La.....	0	0	0	0	0	0	6	0	1	0	0	0
South Bend, Ind.....	0	0	0	0	0	0	0	0	10	0	0	1
Spokane, Wash.....	0	0	0	0	2	0	3	0	3	0	0	3
Springfield, Ill.....	0	0	0	0	1	0	1	0	0	0	0	0
Springfield, Mass.....	0	0	0	0	5	1	6	0	17	0	0	29
Superior, Wis.....	0	0	0	0	2	0	0	0	0	0	0	12
Syracuse, N. Y.....	0	0	0	0	0	1	1	0	5	0	0	50
Tacoma, Wash.....	0	0	0	0	0	0	3	0	0	0	0	0
Tampa, Fla.....	0	0	0	0	0	0	2	0	2	0	0	0
Terra Haute, Ind.....	0	0	0	0	0	0	1	0	1	0	0	0
Topeka, Kans.....	0	0	0	0	4	0	1	0	4	0	0	7
Trenton, N. J.....	0	0	2	1	0	0	3	0	4	0	0	2
Washington, D. C.....	4	0	1	0	8	0	10	0	12	0	0	32
Wheeling, W. Va.....	0	0	0	1	56	0	3	0	0	0	0	2
Wichita, Kans.....	0	0	0	0	11	0	6	0	2	0	0	3
Wilmington, Del.....	2	0	0	0	0	0	3	0	18	0	0	1
Wilmington, N. C.....	0	0	0	0	58	0	2	0	1	0	0	2
Winston-Salem, N. C.....	1	0	12	0	43	0	2	0	1	0	0	0
Worcester, Mass.....	0	0	0	0	2	1	6	0	20	0	1	22

Rates (annual basis) per 100,000 population for a group of 89 selected cities (population, 1942, 34,042,779)

Period	Diphtheria cases	Influenza		Measles cases	Pneumonia deaths	Scarlet fever cases	Smallpox cases	Typhoid fever cases	Whooping cough cases
		Cases	Deaths						
Week ended Jan. 17, 1942...	15.32	44.42	6.74	173.39	77.81	172.32	0.15	1.84	195.14
Average for week, 1937-41...	21.18	390.05	21.18	388.19	130.02	206.39	4.33	2.94	169.90

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended January 3, 1942.—
 During the week ended January 3, 1942, 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 ¹	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Cerebrospinal meningitis.....		3			10			2	3	18
Chickenpox.....	2	46			321	70	27	5	94	565
Diphtheria.....		26	7		3	3		1	1	41
German measles.....	2				20	4	5	11	15	57
Influenza.....	2	33			2				47	84
Measles.....		1	1		124	45	36	21	29	257
Mumps.....		2			215	31	110	28	145	531
Pneumonia.....	8	9			12		1		11	41
Poliomyelitis.....			2							2
Scarlet fever.....	4	12	7		251	8	21	44		365
Tuberculosis.....	1	12	14		28	1	1		18	57
Typhoid and paratyphoid fever.....			2		4				2	8
Undulant fever.....					4				1	5
Whooping cough.....	1	36	2		63		9	7	53	171
Other communicable diseases.....	9	14			215	1	1		11	251

¹ Part of the figures for this week are included in the year 1941, the remainder will be reported in the week ended Jan. 10.

CUBA

Habana—Communicable diseases—4 weeks ended December 13, 1941.—
 During the 4 weeks ended December 13, 1941, certain communicable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Diphtheria.....	13		Scarlet fever.....	1	
Malaria.....	37		Tuberculosis.....	6	2
Measles.....	15		Typhoid fever.....	14	
Poliomyelitis.....	1				

GREAT BRITAIN

England and Wales—Infectious diseases—13 weeks ended September 27, 1941.—
 During the 13 weeks ended September 27, 1941, cases of certain infectious diseases were reported in England and Wales as follows:

Disease	Cases	Disease	Cases
Diphtheria.....	10, 558	Puerperal pyrexia.....	1, 721
Dysentery.....	1, 343	Scarlet fever.....	11, 832
Ophthalmia neonatorum.....	1, 178	Typhoid and paratyphoid fever.....	2, 939
Pneumonia.....	5, 987		

England and Wales—Vital statistics—Third quarter 1941.—The following vital statistics for the third quarter of 1941 for England and Wales are taken from the Quarterly Return of Births, Deaths, and Marriages, issued by the Registrar-General and are provisional:

	Number	Annual rate per 1,000 population		Number	Annual rate per 1,000 population
Live births.....	147,406	14.1	Deaths under 1 year of age..	6,411	1.43
Stillbirths.....	5,009	.48	Deaths from diarrhea (under 2 years of age).....	731	15.0
Deaths, all causes.....	101,337	9.7			

¹ Per 1,000 live births.

NOTE.—All deaths are of civilians only.

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

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

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

Yellow Fever

Colombia—Intendencia of Meta—San Martin—Acacias.—On December 14, 1941, 1 death from yellow fever was reported in Acacias, San Martin, Intendencia of Meta, Colombia.

THE MECHANISM OF CARBON MONOXIDE POISONING¹

A Review

The mechanism of CO poisoning was studied in dogs anesthetized with sodium amytal by measuring changes of the spinal and intracranial pressures, the arterial and venous blood pressures, the heart and respiratory rates, and the minute and respiratory volumes. In addition, the CO, CO₂, and O₂ contents of the blood were determined at intervals. It was found that the exposure of dogs, anesthetized with sodium amytal, to air containing 1 percent CO causes a progressive rise of the spinal pressure which is closely associated with an increase of the respiratory rate and a primary rise and subsequent fall of the blood pressure. The intracranial pressure follows closely the changes of the spinal pressure and both remain above their initial level after the heart and circulation have stopped.

With exposure to 0.25 percent CO in air the response is similar but more delayed, and several phases of the poisoning which may overlap

¹ Studies on the mechanism of carbon monoxide poisoning as observed in dogs anesthetized with sodium amytal. By W. F. von Oettingen, D. D. Donahue, P. J. Valaer, and J. W. Miller. Public Health Bulletin No. 274. Government Printing Office, 1941. Available from the Superintendent of Documents, Washington, D. C., at 10 cents per copy.

each other may be distinguished: (1) A primary stimulation of the medullary center, resulting in increased respiration, rise of the arterial and venous pressures, and slowing of the heart rate; (2) a depression of the peripheral vascular tone, characterized by a fall of the arterial and venous blood pressures; (3) a depression of the cardiac action, illustrated by a fall of the arterial pressure and a rise of the venous pressure; and (4) a final rise of the venous pressure shortly before death because of a reduction of the intrathoracic space caused by stasis and, possibly, edema of the lungs. During the first two phases the spinal and intracranial pressures tend to increase; during the latter stages they are usually on the decline, presumably because of a shift in the distribution of the blood from the periphery into the splanchnic organs.

If animals are exposed to 0.25 percent CO in air until approximately 60 percent of their available hemoglobin is saturated with CO and then allowed to inhale pure air, the spinal pressure first continues to increase, this rise being paralleled by the dysfunctioning of the peripheral and central circulatory apparatus. As it recovers from the acute exposure the spinal pressure decreases but remains at an elevated level for 3 to 4 hours, during which time the circulation has apparently recovered from the acute toxic effects of CO. After this time the heart and circulation start to give evidence of beginning failure. This is paralleled by a secondary rise of the spinal pressure. If the cardiac failure progresses further, especially if it is associated with loss of the vascular tone, the spinal pressure will fall again, perhaps because of a shift of the blood to the splanchnic area. The delayed failure of the circulatory apparatus occurs at a time when the concentration of CO in the blood is reduced to values which are usually considered to be of no clinical significance. Following discontinuation of the exposure to CO the stimulation of the respiration persists for some time until the concentration of CO hemoglobin in the blood has been reduced to approximately 45 percent, indicating that it is caused by an anoxic stimulation of the carotid sinus. After this time the respiration is slowed but is still materially above normal. It increases again with the beginning of the secondary rise of the spinal pressure. Since at this time the CO has been almost completely eliminated, this secondary rise cannot be due to a stimulation of the carotid sinus. During this period the respiration becomes irregular and because this is associated with fluctuations of the blood pressure and the pulse rate and with a significant and abrupt rise of the body temperature, it is assumed that this is, in part, of central origin. It is suggested that this labored respiration may be a contributing factor to the circulatory failure.

COURT DECISION ON PUBLIC HEALTH

Repeal of statutory provision creating office of State dairy commissioner.—(Arizona Supreme Court; *Johnson v. Frohmiller*, 115 P.2d 244; decided July 16, 1941.) Chapter 82 of the 1931 Arizona session laws, an act consisting of over 50 sections, created the office of State dairy commissioner and provided for the full and complete regulation of the dairy industry. This statute, which placed upon the dairy commissioner the duty of enforcing its provisions, appeared in the Arizona Code of 1939 as article 9 of chapter 50. Section 2 of said chapter 82 was the section which created the office of State dairy commissioner, and this section was codified in the 1939 code as section 50-902. Chapter 105 of the 1941 session laws, which was an act creating, and defining the powers and duties of, the State department of health, made mention in its title of the repeal of section 50-902 of the 1939 code and in section 15 provided: "Sections * * * and 50-902, Arizona Code of 1939 (* * * and section 2, chapter 82, laws of 1931), are hereby repealed. * * *"

The State auditor and the governor rejected a claim for traveling expenses incurred by the State dairy commissioner on the ground that chapter 105, Laws of 1941, repealed section 50-902 of the code which created the office of dairy commissioner. In a mandamus proceeding by the dairy commissioner against the auditor it was contended before the State supreme court by the commissioner that chapter 105 did not repeal section 50-902, but if it did that section 1-107 of the code was applicable. Said section 1-107 provided: "A person who at the time an act takes effect holds office under a law by such act repealed, continues to hold the office according to the tenure of the law repealed, unless the duties of such office are expressly transferred to some other office." The court said that it seemed clear from a reading of chapter 105 that the legislature not only abolished the office of dairy commissioner but that it intended to do so, pointing out that in repealing section 50-902 the legislature not only specifically mentioned that section in both the title and section 15 but also designated section 2 of chapter 82, Laws of 1931, of which section 50-902 was merely a codification. This, said the court, removed any possibility of doubt as to the legislative purpose to repeal that particular section.

The court then went on to say that it did not appear why the legislature repealed section 50-902 of the dairy code and at the same time made no reference to the other 50-odd sections contained in it. However, the court took the view that it had not been the law-making body's intention to deprive the dairy industry of the protection which it had enjoyed for so many years, because it would undoubtedly have accomplished such purpose by repealing article 9 of chapter 50 of the

code instead of only one of its 54 sections. The conclusion was reached that chapter 105, the repealing act, did not transfer the duties of the dairy commissioner to the State department of health, and the court held that, under the above-quoted section 1-107 of the code, the petitioner, who was holding the office of dairy commissioner under section 50-902 when chapter 105 took effect, continued to hold it according to the tenure of section 50-902.